

Interstate 805 Managed Lanes South Project

SAN DIEGO COUNTY, CALIFORNIA
DISTRICT 11 – SD – 805, PM 4.4/15.8
EA 11-081610

Draft Environmental Impact Report/ Environmental Assessment



**Prepared by the
State of California Department of Transportation**

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.



August 2010

GENERAL INFORMATION ABOUT THIS DOCUMENT

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Environmental Impact Report/Environmental Assessment (EIR/EA), which examines the potential environmental impacts of the alternatives being considered for the proposed Project located in San Diego County, California. The document describes why the Project is being proposed; the existing environment that could be affected by the Project; the potential impacts from each of the alternatives; and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this EIR/EA. Additional copies of this document, as well as the technical studies, are available for review at Caltrans District 11 office, 4050 Taylor Street, San Diego, CA. This document also is available for review at:

San Diego City Libraries:

Paradise Hills Branch
5922 Rancho Hills Drive
San Diego, CA 92139

North Park Branch
3795 31st Street
San Diego, CA 92104

Mountain View/Beckwourth Branch
721 San Pasqual Street
San Diego, CA 92113

Chula Vista Library
South Chula Vista Branch
389 Orange Avenue
Chula Vista, CA 91911

San Diego County Library
Lincoln Acres Branch
2725 Granger Avenue
National City, CA 91950

- Attend one of the public hearings:

Date: September 21, 2010
Time: 5 p.m. to 8 p.m.
Location: Loma Verde Recreational Center,
1420 Loma Lane,
Chula Vista, CA 91911

Date: September 22, 2010
Time: 5 p.m. to 8 p.m.
Location: Jackie Robinson Family YMCA
151 YMCA Way
San Diego, CA 92102

- We welcome your comments. If you have any comments regarding the proposed Project, please send your written comments to Caltrans by the deadline.
 - Submit comments via postal mail to:

California Department of Transportation, District 11
Attention: David Nagy, Senior Environmental Planner, Branch B Chief
4050 Taylor Street, MS 242, San Diego, CA 92110
 - Submit comments via email to David_L_Nagy@dot.ca.gov or
 - Submit comments by the deadline: October 13, 2010

What happens next:

After comments are received from the public and reviewing agencies, Caltrans, as assigned by the FHWA may: (1) give environmental approval to the proposed Project, (2) undertake additional environmental studies, or (3) abandon the Project. If the Project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the Project.

For individuals with sensory disabilities, this document can be made available in Braille, large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: David L. Nagy, Senior Environmental Planner, Branch B Chief, 4050 Taylor Street, San Diego, CA 92110; (619) 688-0224 Voice, or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

Construct Managed Lane and HOV/transit lanes and associated multi-modal facilities along Interstate 805 south from approximately 1,700 feet south of the East Palomar Street overcrossing in the City of Chula Vista (post mile [PM] 4.4) to the Landis Street overcrossing in the City of San Diego (PM 15.8) within the cities of San Diego, Chula Vista, and National City, and portions of the unincorporated County

DRAFT ENVIRONMENTAL IMPACT REPORT / ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation

RESPONSIBLE AGENCIES

City of San Diego
City of National City
City of Chula Vista
County of San Diego
California Transportation Commission
California Department of Fish and Game
San Diego Regional Water Quality Control Board

8/23/10
Date of Approval

Allan Kumpson
Laurie Berman
District 11 Director
California Department of Transportation
NEPA Lead Agency

8/23/10
Date of Approval

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The following persons may be contacted for additional information concerning this document:

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SUMMARY

SUMMARY

The California Department of Transportation (Caltrans) proposes to construct the Interstate 805 (I-805) Managed Lanes South Project (herein referred to as the "Project") through the cities of San Diego, Chula Vista, and National City, and portions of the unincorporated County. The Project is a joint project by Caltrans and the Federal Highway Administration (FHWA), and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans is the lead agency under CEQA. In addition, FHWA's responsibility for environmental review, consultation, and any other action required in accordance with applicable federal laws for this Project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 United States (U.S.) Code (USC) 327.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the Project as a whole, it is quite often the case that a "lower level" document is prepared for NEPA. One of the most commonly seen joint document types is an Environmental Impact Report (EIR)/Environmental Assessment (EA).

Following receipt of public comments on the Draft EIR/EA and circulation of the Final EIR/EA, Caltrans will be required to take actions regarding the environmental document. Caltrans will determine whether to certify the EIR and adopt Findings and a Statement of Overriding Considerations under CEQA (as appropriate), and to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement (EIS) under NEPA.

S.1 OVERVIEW OF PROJECT AREA

The Project site extends along I-805 south, approximately 1,700 feet south of the East Palomar Street overcrossing in the City of Chula Vista (post mile [PM] 4.4) continuing to the Landis Street overcrossing in the City of San Diego (PM 15.8). The total length of the Project site is approximately 11.4 miles.

Within the Project limits, I-805 consists of an 8- to 10-lane freeway with 12-foot-wide travel lanes, 10-foot-wide outside and 8-foot wide inside shoulders and auxiliary lanes. There are no existing managed or high occupancy vehicle (HOV) lanes along I-805 south and only one bus route operates along the freeway in this area.

The Project is proposed within mostly developed, urbanized areas comprised of a variety of land uses. Most of the land along I-805 south has been developed up to the freeway right-of-way (R/W). Existing land uses within the Project area are diverse, and generally include a mixture of single- and multi-family residential, mobile home parks, commercial/office, institutional, industrial, cemeteries, schools, churches, park/recreational facilities, and public services.

S.2 PURPOSE AND NEED

Purpose of the Project

The purpose of the Project is to provide a backbone of multi-modal transportation facilities for the I-805 south Project area, providing safe and efficient regional movement of people and goods through design year 2030.

Project objectives include:

- Provide facilities to accommodate HOV and a Bus Rapid Transit (BRT) system
- Improve transportation choices for users of the I-805 south corridor
- Provide consistency with the 2030 San Diego Regional Transportation Plan (RTP): Pathways for the Future, where feasible and in compliance with federal and state regulations
- Maintain or improve forecasted 2030 No Build traffic levels of service and travel times within the I-805 south corridor
- Protect and enhance the human and natural environment along I-805 south where feasible

Need for the Project

Capacity and Transportation Demand

Existing Capacity and Future Demand

Several northbound (NB) and southbound (SB) segments of I-805 currently operate near or over capacity during weekday peak periods. Specifically, 11 NB freeway segments along I-805 south operate at Level of Service (LOS) E or F in the morning (AM) peak period, and 15 SB segments operate at LOS E or F in the afternoon (PM) peak period. Projected population and employment growth in the region will result in additional travel demand on I-805 south. Without improvements, more segments of I-805 south are projected to operate at LOS E or F in 2030. By 2030, 26 NB freeway segments are projected to operate at LOS E or F in the AM peak period, 11 NB segments are projected to operate at LOS E or F in the PM peak period, and 27 SB segments are projected to operate at LOS E or F in the PM peak period.

Travel Demand and Goods Movement

I-805 is a principal north-south interregional freeway for movement of people and goods in the San Diego region, connecting the San Diego metropolitan area with Baja California, Mexico, and Orange and Los Angeles Counties. Sustaining effective goods movement is essential for economic vitality of the region and the state. The I-805 corridor faces the challenge of accommodating future increases in goods movement and travel as a result of continued implementation of the North American Free Trade Agreement (NAFTA) and anticipated growth in interregional travel between the San Diego region and Baja. The Goods Movement Action Plan in the 2030 RTP identifies the Project as a priority project necessary to improve the existing regional goods movement system.

Modal Interrelationships and System Linkages

There are no existing managed or HOV/transit lanes within the Project area. Transit service on local roads and along the freeway is hampered by the heavy congestion in the AM/PM peak periods, making rapid travel in the Project area unavailable. HOVs, such as carpools and vanpools, traveling along I-805 south also must utilize the freeway general purpose lanes. There is no modal choice on the I-805 for the current automobile commuter other than the congested freeway general purpose lanes.

Managed and High Occupancy Vehicles Lanes Network

The 2030 RTP envisions a flexible highway system in which transit vehicles share lanes with carpools, vanpools, and toll-paying single occupancy vehicles (SOVs). The 2030 RTP recognizes the benefits of managed lanes, and includes specific plans for improvements on the I-805 and other major freeways throughout the region. The 2030 RTP also includes an extensive network of managed/HOV lanes, designed to operate at free-flow speeds and improve travel times for transit, HOVs, and in some cases SOVs (for those paying a toll). The 2030 RTP recommends development of more than 200 miles of a managed lane/HOV network along Interstates 5, 15, and 805 and State Routes (SR) 52, 78, 94, and 125.

Transit

BRT routes are planned along other freeway corridors in the region including I-805 (north), I-15, and SR 94. The Project serves as a critical link in the regional BRT system providing users from outlying residential areas connection to downtown San Diego and other major employment centers. In terms of the planned BRT service that would utilize the Managed Lanes system, other BRT routes would link South Bay communities, East San Diego County, and the northern inland communities with downtown San Diego and other major employment centers. The Project, in conjunction with other planned route improvements, would allow BRT commuters to bypass general purpose lane congestion through the Project area.

The regional BRT network would compliment the existing and planned investments in the San Diego Trolley, NCTD's Sprinter and Coaster facilities, providing similar levels of service, travel speed, and customer experience.

The Project would accommodate existing transit and planned BRT operations along I-805 south by constructing a portion of the overall regional managed/HOV lanes network and associated transit/multi-modal facilities in the Project area. In addition to the proposed Managed and HOV/transit lanes, the Project proposes to construct three transit stations, park-and-ride lots, and a DAR that would provide a direct link to the proposed Managed and HOV/transit lanes. Construction of the proposed facilities and their connectivity to other facilities implemented in accordance with the 2030 RTP would provide additional modal choices for those traveling through the Project area.

S.3 PROJECT DESCRIPTION

The Project proposes to construct four buffer-separated Managed Lanes between East Palomar Street and SR 94, and two HOV/transit lanes between SR 94 and Landis Street, in the freeway median. Intermediate Access Points (IAPs) for vehicles to enter/leave the Managed Lanes are proposed at various points within the Project limits. The Project also includes an HOV/transit direct connector ramp to SR 15. Additional proposed transit features would include in-line

transit stations at the East H Street overcrossing and at the East Plaza Boulevard undercrossing, a north-facing DAR at the East Palomar Street overcrossing, a transit station on East Palomar Street adjacent to the proposed DAR, and park-and-ride lots near the proposed transit stations and DAR. The proposed Managed Lanes facility would require minimal widening of the freeway R/W along I-805 south. The Project also would require modification or replacement of some existing overcrossing and undercrossing structures within Project limits. Retaining and noise walls would be constructed at various locations.

Two build alternatives (Build Alternative 1 and Build Alternative 2) are evaluated in detail in this Draft EIR/EA, along with design options and variations, as well as the No Build Alternative.

Build Alternatives

Build Alternative 1

Managed/High Occupancy Vehicle/Transit Lanes

Build Alternative 1 proposes to construct four Managed Lanes within the I-805 median, from the proposed DAR at the East Palomar Street overcrossing in the City of Chula Vista to the SR 94 interchange in the City of San Diego. Two 12-foot-wide NB and two 12-foot-wide SB Managed Lanes would be provided along this portion of I-805 south. Between SR 94 and the Landis Street overcrossing, one NB and one SB 12-foot-wide HOV/transit lane would be constructed within the freeway median. The NB and SB Managed and HOV/transit lanes would be separated by a concrete barrier (3 feet high) and 10-foot-wide inside shoulders. The Managed Lanes would be separated from the general purpose freeway lanes by a four-foot-wide painted buffer. The proposed roadway surface of the freeway facilities would be constructed with Portland Cement Concrete (PCC).

The proposed HOV/transit lane facility also would include an HOV/transit direct connector ramp between I-805 and SR 15. This connector ramp would provide access from the NB I-805 HOV/transit lanes to the general purpose lanes of NB SR 15, and from the SB general purpose lanes of SR 15 to the HOV/transit lanes of SB I-805. The connector ramp would consist of two 12-foot-wide HOV/transit lanes, one in each direction, separated by a concrete barrier, a 5-foot-wide inside shoulder, and a 10-foot-wide outside shoulder.

Access into and out of the proposed Managed and HOV/transit lanes would be provided by IAPs, which are at grade and adjacent to the general purpose lanes. IAPs would occur at locations in both the NB and SB directions and would allow motorists to enter and exit the Managed and HOV/transit lanes from the far left lane of the general purpose lanes (i.e., fast lanes).

Direct Access Ramp

Access to the Managed and HOV/transit lanes also would be provided by a proposed DAR that would be constructed from the East Palomar Street overcrossing and would descend from the north side of the reconstructed overcrossing and into the median of I-805. The DAR would provide direct ingress from East Palomar Street to the NB Managed Lanes, as well as direct egress from the SB Managed Lanes to East Palomar Street. The DAR structure would extend a total length of approximately 740 feet, and in each direction, would include one 12-foot-wide travel lane, two 12-foot-wide turn lanes in the vicinity of the overcrossing, a 4-foot-wide outside shoulder, and a 5-foot-wide inside shoulder. The NB and SB lanes would be separated by a concrete barrier, and additional concrete barriers would be constructed along both edges of the

DAR. A traffic signal, gantry structures, signage, lighting, and associated equipment would be installed at or near the DAR's intersection with East Palomar Street.

Transit Stations

Build Alternative 1 would include construction of three transit stations: one adjacent to East Palomar Street, on the east side of I-805, near the reconstructed East Palomar Street overcrossing and proposed DAR; one BRT in-line station in the freeway median beneath the East H Street overcrossing in Chula Vista; and one BRT in-line station on the East Plaza Boulevard undercrossing in National City.

East Palomar Street Transit Station

The East Palomar Street transit station and park-and-ride facilities would be constructed on the east side of I-805 and north of East Palomar Street. The bus stops would be located along East Palomar Street on the east side of I-805 and would include 15-foot-wide sidewalks and passenger platforms, approximately 250 feet long, on both sides of East Palomar Street with pedestrian access connecting the station to the adjacent park-and-ride lot, providing approximately 250 parking spaces.

East H Street Transit Station

The East H Street transit station would be constructed within the center of the freeway, separated from the Managed Lanes by a concrete barrier on each side. The in-line transit station would include one 12-foot-wide transit lane with a 10-foot-wide inside shoulder in each direction. Buses would enter and leave the station via a bus-only auxiliary lane within the Managed Lanes. The East H Street overcrossing in-line station is planned to provide two approximately 21-foot-wide and 320-foot-long platforms, constructed adjacent to the transit lanes for bus boarding and exiting. Pedestrian access to the station would be provided from both sides of the East H Street overcrossing by stairways and elevators that would connect to the platforms below.

East Plaza Boulevard Transit Station

The East Plaza Boulevard in-line transit station would be constructed in the center of the Managed Lanes on the East Plaza Boulevard undercrossing. The station would include a 12-foot-wide transit lane, a 10-foot-wide inside shoulder, and a 16-foot-wide by approximately 300-foot-long platform in each direction. BRT access to the transit station would be provided by a dedicated bus auxiliary lane within the Managed Lanes. Similar to the East H Street transit station, pedestrian access to the station would be provided from both sides of East Plaza Boulevard (by stairways and elevators) that would channel transit riders to the platforms on the undercrossing.

Park-and-ride Facilities

Three park-and-ride facilities are proposed to be constructed along I-805 south, near the proposed transit stations and DAR. The park-and-ride facility near the DAR at East Palomar Street would be located on the east side of I-805 between the freeway R/W and Oleander Avenue. This facility would consist of 2 lots on either side of Raven Avenue and would provide approximately 250 spaces at each lot. This facility would serve car/van pools and the proposed transit station.

The other two proposed park-and-ride lots would be located adjacent to the in-line transit stations at East H Street and East Plaza Boulevard. The East H Street lot would be constructed north of East H Street within the existing freeway R/W, west of I-805, between the SB general purpose lanes and the East H Street SB to westbound (WB) off-ramp. The lot would include approximately 390 spaces. The East Plaza Boulevard lot is proposed on the east side of I-805, north of East Plaza Boulevard and would provide up to 500 parking spaces.

Structures

Two new structures would be constructed within the Project limits, including the DAR at the East Palomar Street overcrossing and the HOV/transit direct connector ramp between I-805 and SR 15. To accommodate the proposed Managed Lanes in the freeway median, outside freeway widening would be required, which would affect several existing overcrossing and undercrossing structures along I-805 south and would require the replacement of the East 22nd Street pedestrian overcrossing (POC) structure. The Project proposes to modify or replace most of the existing overcrossing and undercrossing structures within the Project limits.

The Project also includes design variations for the I-805/43rd Street interchange, one of which would remove four existing structures, including the 43rd Street NB off-ramp overcrossings (two structures, one over I-805 and one over Division Street), the 43rd Street NB on-ramp flyover, and the 43rd Street SB on-ramp flyover. If this design variation is selected, these existing structures would be removed and replaced with a reconfigured 47th Street/Palm Avenue intersection.

Other Roadway Improvements

Implementation of Build Alternative 1 would require other roadway improvements along I-805 within the Project limits, including freeway widening to accommodate the Managed Lanes and HOV/transit lanes, freeway ramp realignments and ramp shoulder widening, and local roadway improvements.

Retaining Walls

Retaining walls are proposed within the Project limits to minimize grading and R/W impacts on adjacent land uses and environmental resources.

Noise Barriers

Construction of numerous noise barriers is being considered at various locations along I-805 south to provide noise attenuation at adjacent receptors.

Utilities

Build Alternative 1 would require relocation and/or removal of existing water, sewer, gas, electrical, and telecommunications lines located along I-805 within both the existing freeway and adjacent local streets to accommodate proposed Project features.

Drainage Improvements

Implementation of Build Alternative 1 would require additional storm drainage facilities along I-805 in the Project area. These would consist of extending existing storm drains and constructing new storm drain systems to intercept flows from the proposed Project design.

Bioswales are also proposed at various locations along the I-805 south corridor to clean storm water flowing from the Project. Existing storm drain systems that are no longer needed would be abandoned and retained in place or removed.

Non-Standard Design Features

Attempts have been made to keep non-standard features to a minimum on this Project. To avoid replacing the existing ramp bridges, rebuilding main freeway lanes and interchange ramps, and acquiring additional R/W, some design exceptions are needed. Major non-standard features for which design exception fact sheets were prepared include shoulder width reductions (at isolated locations), interchange spacing, connector ramp design speed and profile grade, traveled way cross slopes flatter than two percent, and superelevation transition rates. None of the proposed design exceptions would result in unsafe or dangerous driving conditions along I-805 south.

Easements and R/W Acquisition

The Project has been designed to minimize R/W impacts on adjacent land uses primarily by remaining within the existing freeway R/W. In some areas, however, Build Alternative 1 would require additional R/W to accommodate the proposed improvements. This would occur at the DAR and the replacement of the East Palomar Street overcrossing, the park-and-ride lots near the DAR, the ramp realignments at the East Plaza Boulevard interchange, and the park-and-ride lots near the East Plaza Boulevard transit station.

Build Alternative 1 also would require temporary construction easements and permanent easements for construction of retaining walls, sound walls, grading, and access.

Value Pricing Technologies

The Project may include a value pricing program. Value pricing allows the ability to manage any available capacity of managed lanes by allowing SOVs to pay to use the lanes. Current legislation (Assembly Bill 2032) exists for this Project to allow for excess capacity to be sold on the HOV lanes as long as a LOS C or better is maintained on the Managed Lanes. Additional equipment required for the implementation of the value pricing program would be determined during the design phase.

Construction Phasing and Schedule

The Project would be constructed in several phases. Phase 1 would construct one HOV/transit lane in each direction in the freeway median between East Naples Street and SR 94, the proposed replacement of the East Palomar Street overcrossing, modifications to East Palomar Street, the DAR, transit station and associated park-and-ride lot. Subsequent phases would construct the remaining proposed improvements. Phase 2 would include construction of an additional HOV/transit lane in each direction within the freeway median between East Naples Street and SR 94, along with facilities to enable the Managed Lanes; extension of the two HOV/transit lanes, one in each direction, from SR 94 to Landis Street; construction of in-line transit stations and adjacent park-and-ride lots; and construction of the HOV/transit lane connector ramp at SR 15. Construction of the Project is anticipated to begin in 2012 and to be completed by 2020 and open to traffic in 2021.

Build Alternative 2

Build Alternative 2 would be identical to Build Alternative 1, except that two HOV/transit lanes would be constructed in the southern portion of the Project site, between East Palomar Street and Telegraph Canyon Road. These lanes would be constructed instead of the four Managed Lanes planned within the freeway median between these two streets in Build Alternative 1. All other proposed features described above for Build Alternative 1 would be the same for Build Alternative 2.

Design Variations of the Build Alternatives

Two design variations for the I-805/43rd Street interchange are evaluated in this EIR/EA for both build alternatives. Under Option 1, the existing 43rd Street NB off-ramp overcrossing would be removed and replaced with a new overcrossing structure. Option 2 would remove the existing 43rd Street interchange and replace it with a reconfigured 47th Street/Palm Avenue interchange that would connect Palm Avenue, 47th Street, and 43rd Street. Option 2 would require the removal of four existing structures, including the 43rd Street NB off-ramp overcrossings (two structures, one over I-805 and one over Division Street), the 43rd Street NB on-ramp flyover, and the 43rd Street SB on-ramp flyover, as well as the at-grade 43rd Street SB off-ramp.

Two variations are being considered for the reconfigured 43rd Street/47th Street/Palm Avenue interchange. In Variation A, the existing SB 43rd Street exit ramp would intersect with the 43rd Street extension just west of the 47th Street/Palm Avenue intersection. Variation C proposes to connect the 43rd Street extension four-way intersection along with a new SB loop on-ramp at the northeast quadrant of the intersection, removing the existing 47th Street SB diamond entrance ramp.

No Build Alternative

The No Build Alternative is included to provide a basis against which the impacts from the build alternatives are compared and also to satisfy federal requirements for analyzing “no action” under NEPA. The No Build Alternative assumes that no Managed Lanes or HOV/transit lanes, transit stations, DAR, or other associated improvements would be constructed along I-805 south. The proposed Managed Lanes/HOV/transit lanes facility, which is consistent with the 2030 RTP, would not be implemented, and existing congestion would be exacerbated as a result of projected growth in the Project area and in the region in general. The No Build Alternative would not achieve region-wide goals to implement multi-modal transportation features to serve the region. It also would not provide the benefits to planned regional transit operations, such as the South Bay BRT.

S.4 PROJECT IMPACTS

Table S-1 summarizes Project impacts for each alternative. Detailed discussion and analysis of Project impacts are provided in Chapter 2 of this Draft EIR/EA. Avoidance, minimization, and mitigation measures are included in Appendix F, Environmental Commitments Record.

**Table S-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Potential Impact	Build Alternative 1	Build Alternative 2	No Build Alternative
Land Use	Inconsistent with two policies in the Land Use and Transportation Element of the Chula Vista General Plan related to enhanced gateway features and landscaping at freeway interchanges. Temporary access impacts would occur at two public parks.	Inconsistent with two policies in the Land Use and Transportation Element of the Chula Vista General Plan related to enhanced gateway features and landscaping at freeway interchanges. Temporary access impacts would occur at two public parks.	Inconsistent with policies contained in the Regional Comprehensive Plan (RCP), 2030 RTP, and 2008 Regional Transportation Improvement Program (2008 RTIP), as well as General and Community Plans.
Growth	No influence on growth	No influence on growth	No influence on growth.
Community	Build Alternative 1 would reduce or remove existing landscaped buffers and construct retaining walls and/or noise barriers, which would create a slightly intensified built urban environment. Build Alternative 1 would require removal of six homes requiring the relocation of people. No disproportionate impact to environmental justice communities.	Build Alternative 2 would reduce or remove existing landscaped buffers and construct retaining walls and/or noise barriers, which would create a slightly intensified built urban environment. Build Alternative 2 would require removal of six homes requiring the relocation of people. No disproportionate impact to environmental justice communities.	No impacts
Utilities/Emergency Services	Numerous relocations and/or removal of existing water, sewer, gas, electrical, and telecommunications lines would occur within existing utility easements or public R/W along I-805 south. Temporary detours or lane closures may temporarily effect emergency response times during construction; however, the project would not have permanent, adverse effects on emergency response routes or times.	Numerous relocations and/or removal of existing water, sewer, gas, electrical, and telecommunications lines would occur within existing utility easements or public R/W along I-805 south. Temporary detours or lane closures may temporarily effect emergency response times during construction; however, the project would not have permanent, adverse effects on emergency response routes or times.	No impacts
Traffic and Transportation/ Pedestrian and Bicycle Facilities	<p>Temporary impacts during construction due to planned roadway, freeway, and ramp closures.</p> <p>The proposed facilities would provide additional choices for users along I-805 that are not currently available. The Project would result in additional capacity in the I-805 general purpose lanes due to the implementation and operation of the new Managed and HOV/transit lanes and other multi-modal improvements, causing a modal shift between SOV and HOV/transit along I-805 south.</p> <p>Comparing the LOS between the 2015 and 2030 build and no build conditions, the Project would reduce the number of freeway segments along I-805 forecasted to operate at LOS E or F.</p>	<p>Temporary impacts during construction due to planned roadway, freeway, and ramp closures.</p> <p>The proposed facilities would provide additional choices for users along I-805 that are not currently available. The Project would result in additional capacity in the I-805 general purpose lanes due to the implementation and operation of the new Managed and HOV/transit lanes and other multi-modal improvements, causing a modal shift between SOV and HOV/transit along I-805 south.</p> <p>Comparing the LOS between the 2015 and 2030 build and no build conditions, the Project would reduce the number of freeway segments along I-805 forecasted to operate at LOS E or F.</p>	Traffic impacts to freeway segments (general purpose segments), local roadway segments, and intersections in 2015 and/or 2030 conditions. Traffic flows, including transit services, would experience increased delays in the future, as additional traffic is added to the freeways and local roadway system
Visual/Aesthetics	Removal of landscaping and construction of noise barriers would cause major changes to the composition of the visual environment.	Removal of landscaping and construction of noise barriers would cause major changes to the composition of the visual environment.	No impacts

**Table S-1 (cont.)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Potential Impact	Build Alternative 1	Build Alternative 2	No Build Alternative
Cultural Resources	Potential for discovery of currently unknown cultural resources and/or human remains during construction.	Potential for discovery of currently unknown cultural resources and/or human remains during construction.	No impacts
Hydrology and Floodplains	No substantial impacts. Net increase of impervious surface area by approximately 80 acres. Minor encroachment into 100-year floodplain boundary.	No substantial impacts. Net increase of impervious surface area by approximately 78.5 acres. Minor encroachment into 100-year floodplain boundary.	No impacts
Water Quality and Storm Water Runoff	No substantially adverse short-term construction or long-term operational impacts with Best Management Practices (BMPs).	No substantially adverse short-term construction or long-term operational impacts with BMPs.	No impacts
Geology/Soils/Seismic/ Topography	No seismic or non-seismic impacts with compliance with Caltrans standards, International Building Code (IBC), and California Building Code (CBC), and incorporation of geotechnical recommendations	No seismic or non-seismic impacts with compliance with Caltrans standards, IBC, and CBC, and incorporation of geotechnical recommendations	No impacts
Paleontology	Potential impacts to paleontological resources during Project grading and excavation activities.	Potential impacts to paleontological resources during Project grading and excavation activities.	No impacts
Hazardous Waste/Materials	Potential impacts associated with hazardous waste/materials which could be encountered during Project construction.	Potential impacts associated with hazardous waste/materials which could be encountered during Project construction.	No impacts
Air Quality	Short-term degradation of air quality due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and various other activities during construction. The Project is not a Project of Air Quality Concern, nor would it cause an exceedance of the state one-hour or eight-hour CO ambient air quality standards under Years 2015 and/or 2030 build conditions; no adverse operational impacts would occur to air quality.	Short-term degradation of air quality due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and various other activities during construction. The Project is not a Project of Air Quality Concern, nor would it cause an exceedance of the state one-hour or eight-hour CO ambient air quality standards under Years 2015 and/or 2030 build conditions; no adverse operational impacts to air quality.	Traffic impacts would not be alleviated, increasing the long-term air quality impacts to the region.
Noise	Noise levels at 424 receptor locations to approach or exceed the noise abatement criteria (NAC). One receptor location to experience a substantial increase in peak noise levels (12 decibels [dB] or greater) over existing conditions. Temporary construction impacts to occur.	Noise levels at 424 receptor locations to approach or exceed the NAC. One receptor location to experience a substantial increase in peak noise levels (12 dB or greater) over existing conditions. Temporary construction impacts to occur.	No impacts
Energy	No impacts	No impacts	No impacts

**Table S-1 (cont.)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Potential Impact	Build Alternative 1	Build Alternative 2	No Build Alternative
Natural Communities	<p>Temporary impacts to 0.1 acre of coastal sage scrub, 3.1 acres of disturbed coastal sage scrub, less than 0.1 acre of coastal sage scrub-chaparral, less than 0.1 acre of maritime succulent scrub, less than 0.1 acre of disturbed maritime succulent scrub, 1.2 acres of chaparral, 2.2 acres of disturbed chaparral, and 0.4 acre of southern mixed chaparral, for a total of 7.0 acres.</p> <p>Permanent impacts to 2.1 acres of coastal sage scrub, 3.1 acres of disturbed coastal sage scrub, less than 0.1 acre of coastal sage scrub-chaparral, less than 0.1 acre of maritime succulent scrub, 0.6 acre of chaparral, 3.0 acres of disturbed chaparral, and 0.2 acre of southern mixed chaparral, for a total of 9.0 acres.</p> <p>Project impacts to the MHPA at two locations along I-805 within the freeway R/W have been minimized to the maximum extent practicable.</p> <p>No indirect impacts or impacts to wildlife corridors.</p>	<p>Temporary impacts to 0.1 acre of coastal sage scrub, 3.1 acres of disturbed coastal sage scrub, less than 0.1 acre of coastal sage scrub-chaparral, less than 0.1 acre of maritime succulent scrub, less than 0.1 acre of disturbed maritime succulent scrub, 1.2 acres of chaparral, 2.2 acres of disturbed chaparral, and 0.4 acre of southern mixed chaparral, for a total of 7.0 acres.</p> <p>Permanent impacts to 2.1 acres of coastal sage scrub, 3.1 acres of disturbed coastal sage scrub, less than 0.1 acre of coastal sage scrub-chaparral, less than 0.1 acre of maritime succulent scrub, 0.6 acre of chaparral, 3.0 acres of disturbed chaparral, and 0.2 acre of southern mixed chaparral, for a total of 9.0 acres.</p> <p>Project impacts to the MHPA at two locations along I-805 within the freeway R/W have been minimized to the maximum extent practicable.</p> <p>No indirect impacts or impacts to wildlife corridors.</p>	No impacts
Wetlands and Other Waters	<p>Temporary impacts to 1.5 acres of southern willow scrub, 0.5 acre of disturbed southern willow scrub, 0.4 acre of freshwater marsh, less than 0.1 acre of disturbed wetland, and less than 0.1 acre of unvegetated channel, for a total of 2.4 acres.</p> <p>Permanent impacts to 0.6 acre of southern willow scrub and 0.1 acre of disturbed southern willow scrub, for a total of 0.7 acre.</p> <p>Temporary impacts to 1.82 acres of U.S. Army Corps of Engineers (ACOE) jurisdictional areas and 2.69 acres of California Department of Fish and Game (CDFG) jurisdictional areas.</p> <p>Permanent impacts to 0.89 acre of ACOE jurisdictional areas and 1.18 acres of CDFG jurisdictional areas.</p>	<p>Temporary impacts to 1.5 acres of southern willow scrub, 0.5 acre of disturbed southern willow scrub, 0.4 acre of freshwater marsh, less than 0.1 acre of disturbed wetland, and less than 0.1 acre of unvegetated channel, for a total of 2.4 acres.</p> <p>Permanent impacts to 0.6 acre of southern willow scrub and 0.1 acre of disturbed southern willow scrub, for a total of 0.7 acre.</p> <p>Temporary impacts to 1.82 acres of ACOE jurisdictional areas and 2.69 acres of CDFG jurisdictional areas.</p> <p>Permanent impacts to 0.89 acre of ACOE jurisdictional areas and 1.18 acres of CDFG jurisdictional areas.</p>	No impacts

**Table S-1 (cont.)
SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

Potential Impact	Build Alternative 1	Build Alternative 2	No Build Alternative
Plant Species	Permanent impacts to one coast barrel cactus and one San Diego sunflower.	Permanent impacts to one coast barrel cactus and one San Diego sunflower.	No impacts
Animal Species	Impacts to suitable nesting or foraging upland and riparian habitats. Indirect effects due to long-term noise increases or operational lighting. Bats may be impacted if present within structures proposed to be modified or replaced.	Impacts to suitable nesting or foraging upland and riparian habitats. Indirect effects due to long-term noise increases or operational lighting. Bats may be impacted if present within structures proposed to be modified or replaced.	No impacts
Threatened and Endangered Species	Potential noise impacts to light-footed clapper rail (<i>Rallus longirostris levipes</i>), coastal California gnatcatcher (<i>Polioptila californica californica</i>), and least Bell's vireo (<i>Vireo bellii pusillus</i>).	Potential noise impacts to light-footed clapper rail, coastal California gnatcatcher, and least Bell's vireo.	No impacts
Invasive Species	No impacts	No impacts	No impacts
Cumulative Impacts	Cumulative traffic impacts would occur (see 2030 traffic impacts above). Build Alternative 1 would contribute to cumulative visual effects. Project impacts to natural communities and wetlands and jurisdictional areas, combined with the incremental impacts of cumulative projects, would be cumulatively considerable.	Cumulative traffic impacts would occur (see 2030 traffic impacts above). Build Alternative 2 would contribute to cumulative visual effects. Project impacts to natural communities and wetlands and jurisdictional areas, combined with the incremental impacts of cumulative projects, would be cumulatively considerable.	Cumulative traffic impacts would occur (see 2030 traffic impacts above)

S.5 COORDINATION WITH PUBLIC AND OTHER AGENCIES

Permits and Approvals Needed

The following permits and approvals listed in Table S-2 would be required for Project construction:

Agency	Permit/Approval	Status
City of Chula Vista	Freeway Agreement for DAR	Pending
FHWA	Modified Access Report	Pending
California Transportation Commission	Approval for funding	Pending
CDFG	1602 Streambed Alteration Agreement and Section 2080.1 Agreement for Threatened and Endangered Species	Pending
ACOE	Section 404 Nationwide Permits	Pending
Regional Water Quality Control Board	Section 401 Water Quality Certification	Pending
U.S. Fish and Wildlife Service (USFWS)	Endangered Species Act Section 7 Consultation for Threatened and Endangered Species	Pending

Consultation and Coordination with Public Agencies

Caltrans and San Diego Association of Governments (SANDAG) held three open houses in April 2004 for the *I-805/I-5 Corridor Study*. The purpose of the open houses was to provide information to the public on the study and obtain the public's input on the proposed transportation improvement alternatives identified in the *I-805/I-5 Corridor Study*. Presentations were made at meetings of Community Planning Groups of the City of San Diego and the County of San Diego in September and October 2004.

Caltrans initiated the Projects' Problems Options Plan process (P-O-P) in late 2006 and early 2007 to identify the scope of work and infrastructure needed to match the Managed Lanes concept outlined in the *I-805/I-5 Corridor Study* with the budget set forth in the Revenue Constrained Plan portion of the 2030 RTP. Six meetings were held between November 2006 and February 2007 with key stakeholders, including representatives from Caltrans; SANDAG; the cities of San Diego, National City, and Chula Vista; the San Diego Metropolitan Transit System (MTS), and project development team (PDT) members.

The PDT has met at applicable times since Project inception to facilitate coordination and keep an open dialogue between the Project team members, which includes Caltrans engineering and environmental staff, engineering consultants, and environmental consultants. The meetings have addressed engineering design, traffic considerations, and environmental issues.

Caltrans consulted with the U.S. Fish and Wildlife Service (USFWS) on biological resources issues. The USFWS provided a list of federally listed or candidate species which occur or may occur in the Project study area (Appendix H). Agencies that may grant permits for the Project, including USFWS, California Department of Fish and Game (CDFG), the Army Corps of Engineers (ACOE), and the Regional Water Quality Control Board (RWQCB) will be further contacted as the Project progresses.

The Native American Heritage Commission (NAHC) was contacted for a records search of their Sacred Lands files. The results of the search indicated that no sacred lands are recorded in the Project area. Consultation with local Native American tribes was recommended, and a list of Native American contacts was provided. Letters describing the Project and a map of the study area were mailed to local Native American representatives in August and September 2009, and follow-up telephone calls were made in September 2009.

The Historic Property Survey Report (HPSR) and accompanying technical studies were sent to the State Historic Preservation Officer (SHPO) on October 2, 2009, to: (1) document Native American consultation efforts; (2) identify cultural resources within the project APE; (3) seek its concurrence on National Register of Historic Places (NRHP)/California Register of Historic Places (CRHR) eligibility determinations; and (4) identify project effects to eligible resources. Caltrans requested that SHPO concur with the eligibility determinations and the Finding of No Adverse Effect with Standard Conditions [according to stipulations VIII.C.3 and X.B.2.a(ii) of the 106 Programmatic Agreement]. On November 25, 2009, SHPO wrote that they did concur with the determinations and findings as presented in the HPSR.

A Notice of Preparation (NOP) was prepared for the Project. The NOP was issued by the State Clearinghouse on May 30, 2007, and the review was completed on June 28, 2007.

CHAPTER 1.0

PROPOSED PROJECT

CHAPTER 1 – PROPOSED PROJECT

1.1 INTRODUCTION

The California Department of Transportation (Caltrans) proposes to construct the Interstate 805 (I-805) Managed Lanes South Project through the cities of San Diego, Chula Vista, and National City, and portions of the unincorporated County. I-805 south generally extends between State Route (SR) 905 and SR 15. The proposed I-805 Managed Lanes South Project (herein referred to as the “Project”) entails the construction of Managed Lanes from East Palomar Street in the City of Chula Vista, to SR 94, in the City of San Diego, and high occupancy vehicle (HOV)/transit lanes, from SR 94 to the Landis Street overcrossing in San Diego. The added lanes would be in the freeway median with intermediate access points (IAPs), transit stations, a direct access ramp (DAR), and an HOV/transit direct connector ramp at SR 15. A value pricing program also could be implemented in the future that would allow single occupancy vehicles (SOV) to utilize any excess capacity in the Managed Lanes. Retaining walls and noise barriers would be constructed along portions of I-805 within the Project limits, and several existing overcrossings and undercrossings would be replaced and/or widened. The Project site extends along I-805, from approximately 1,700 feet south of the East Palomar Street overcrossing in the City of Chula Vista (post mile [PM] 4.4) to the Landis Street overcrossing in the City of San Diego (PM 15.8). The total length of the Project site is approximately 11.4 miles. Figure 1-1 shows the regional location of the Project. Figure 1-2 depicts the general Project vicinity.

The Project is included in the 2030 San Diego Regional Transportation Plan: Pathways for the Future (2030 RTP) under the Revenue Constrained Plan, the Reasonably Expected Revenue Scenario, and the Unconstrained Needs Network. Additionally, the 2008 Regional Transportation Improvement Plan (2008 RTIP), as amended, identifies the Project as Metropolitan Planning Organization (MPO) ID CAL78C – I-805 HOV/Managed Lanes – South. The total estimated construction cost of the Project is approximately 1.3 billion dollars.

The Project is a joint project by Caltrans and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans is the lead agency under CEQA. In addition, FHWA’s responsibility for environmental review, consultation, and any other action required in accordance with applicable federal laws for this Project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 United States (U.S.) Code (USC) 327.

The I-805 freeway is a major north-south freeway beginning at its southern junction with I-5 near the international border with Mexico and ending approximately 29 miles north where it again joins with I-5 in the northern area of the City of San Diego in the vicinity of Sorrento Valley. I-805 currently contains 8 to 10 general purpose lanes and extends mostly parallel to I-5 through the central portion of the San Diego urbanized area. I-805 provides direct access to highly populated areas in South Bay cities and San Diego’s urban core, as well as major employment centers in the region, and serves as a major commuter route. It is also a critical corridor for international traffic because it begins less than one mile from the U.S.-Mexico border.

There are no existing managed or HOV lanes along I-805 south, and only one bus route operates along the freeway in this area.

The San Diego Association of Governments (SANDAG), in partnership with Caltrans, completed a study (*Interstates 805/5 South Corridor Study*, June 2005) to develop a transportation improvement strategy to enhance the mobility of interregional and intra-regional trips for the entire I-805 corridor, as well as the I-5 corridor, south of SR 54. This study identified freeway segments along the corridor that experience congestion during peak hours and are forecasted to continue to experience even longer periods of congestion in 2030 under the existing freeway design. Additionally, a traffic report was prepared for the Project (*Interstate 805 Managed Lanes South Project Final Existing Conditions & Traffic Operations Analysis Report*; URS 2009a) that analyzed traffic conditions on I-805 south under existing and future conditions.

1.2 PURPOSE AND NEED

1.2.1 Purpose

The purpose of the Project is to provide a backbone of multi-modal transportation facilities for the I-805 South Project area, providing safe and efficient regional movement of people and goods through design year 2030.

Project objectives include:

- Provide facilities to accommodate HOV and a Bus Rapid Transit (BRT) system
- Improve transportation choices for users of the I-805 south corridor
- Provide consistency with the 2030 San Diego Regional Transportation Plan: Pathways for the Future, where feasible and in compliance with federal and state regulations
- Maintain or improve forecasted 2030 No Build traffic levels of service and travel times within the I-805 south corridor
- Protect and enhance the human and natural environment along I-805 south where feasible

1.2.2 Need

Capacity and Transportation Demand

Existing and Future Capacity and Demand

Currently, several segments of northbound (NB) and southbound (SB) I-805 operate near or over capacity during weekday peak periods. Capacity is defined by the volume-to-capacity ratio (V/C), which is the measure of traffic demand on a roadway (expressed as volume) compared to its traffic carrying capacity. The V/C of a roadway determines the level of service (LOS), which is a professional industry standard by which the operating conditions of a roadway segment or intersection are measured (refer to Table 2.5-2 in Subchapter 2.5, Traffic and Transportation/Pedestrian and Bicycle Facilities). LOS is defined on a scale of A to F, where LOS A represents the best operating conditions, and LOS F represents the worst operating conditions. Figure 1-3 illustrates LOS and the effects that delay have on the LOS designation.

LEVELS OF SERVICE

for Freeways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		70	Highest quality of service. Traffic flows freely with little or no restrictions on speed or maneuverability. No delays
B		70	Traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. No delays
C		67	Few restrictions on speed. Freedom to maneuver is restricted. Drivers must be more careful making lane changes. Minimal delays
D		62	Speeds decline slightly and density increases. Freedom to maneuver is noticeably limited. Minimal delays
E		53	Vehicles are closely spaced, with little room to maneuver. Driver comfort is poor. Significant delays
F		<53	Very congested traffic with traffic jams, especially in areas where vehicles have to merge. Considerable delays

LEVELS OF SERVICE DEFINITIONS
Figure 1-3

Currently, 11 NB freeway segments along I-805 south operate at LOS E or F in the morning (AM) peak period, and 15 SB segments operate at LOS E or F in the afternoon (PM) peak period. These freeway segments are identified in Table 1-1.

**Table 1-1
EXISTING AND FUTURE LOS ON I-805 SOUTH**

Freeway Segment	Existing Conditions		Future Conditions (2030 No Build)	
	AM	PM	AM	PM
I-805 Northbound				
Main Street off-ramp to Main Street on-ramp	B	B	C	C
Main Street on-ramp to Orange Avenue off-ramp	B	B	C	D
Orange Avenue off-ramp to Orange Avenue on-ramp	B	B	C	D
Orange Avenue on-ramp to Telegraph Canyon Road off-ramp	C	C	E	E
Telegraph Canyon Road off-ramp to Telegraph Canyon Road on-ramp	C	B	D	D
Telegraph Canyon Road on-ramp to East H Street/Bonita Road off-ramp	D	C	F	E
East H Street off-ramp to East H Street eastbound (EB) on-ramp	B	A	B	B
East H Street EB on-ramp to East H Street westbound (WB) on-ramp	C	C	D	C
East H Street WB on-ramp to East H Street on-ramp	E	D	E	D
East H Street/Bonita Road off-ramp to East H Street on-ramp	C	C	E	D
East H Street on-ramp to Bonita Road on-ramp	F	D	F	F
Bonita Road on-ramp to SR 54 WB/EB off-ramp	F	D	F	F
SR 54 WB/EB off-ramp to Sweetwater Road off-ramp	D	C	E	D
Sweetwater Road off-ramp to Sweetwater Road on-ramp	C	B	D	C
Sweetwater Road on-ramp to SR 54 WB/EB on-ramp	D	C	F	D
SR 54 WB/EB on-ramp to East Plaza Boulevard off-ramp	D	C	F	E
East Plaza Boulevard off-ramp to East Plaza Boulevard on-ramp	D	B	F	D
East Plaza Boulevard on-ramp to 43 rd Street off-ramp	C	B	F	D
43 rd Street off-ramp to 47 th Street off-ramp	F	D	F	F
47 th Street off-ramp to 47 th Street on-ramp	E	C	F	F
47 th Street on-ramp to 43 rd Street on-ramp	F	D	F	F
43 rd Street on-ramp to Imperial Avenue off-ramp	D	C	F	E
Imperial Avenue off-ramp to Imperial Avenue on-ramp	D	C	F	D
Imperial Avenue on-ramp to Market Street off-ramp	D	C	F	D
Market Street off-ramp to SR 94 WB/EB off-ramp	F	C	F	F
SR 94 WB/EB off-ramp to Market Street on-ramp	D	C	F	D
Market Street on-ramp to Home Avenue off-ramp	E	C	F	D
Home Avenue off-ramp to SR 94 WB on-ramp	E	B	F	D
SR 94 WB on-ramp to Home Avenue on-ramp	F	C	F	D
Home Avenue on-ramp to SR 15 NB off-ramp	F	C	F	E
SR 15 NB off-ramp to SR 15 NB on-ramp	C	B	E	C
SR 15 NB on-ramp to North Park Way/University Avenue off-ramp	D	B	F	C
North Park Way/University Avenue off-ramp to North Park Way/University Avenue on-ramp	D	B	E	C
I-805 Southbound				
North Park Way/University Avenue off-ramp to North Park Way/University Avenue on-ramp	A	C	A	D
North Park Way/University Avenue on-ramp to SR 15 SB off-ramp	A	D	B	E
SR 15 SB off-ramp to SR 15 SB on-ramp	A	D	B	E
SR 15 SB on-ramp to Home Avenue off-ramp	B	F	C	F
Home Avenue off-ramp to SR 94 EB off-ramp	B	F	C	F
SR 94 EB off-ramp to Home Avenue on-ramp	B	D	C	F
Home Avenue on-ramp to Market Street off-ramp	B	E	C	F
Market Street off-ramp to SR 94 EB/WB on-ramp	B	D	C	F
SR 94 EB/WB on-ramp to Market Street on-ramp	B	E	C	F
Market Street on-ramp to Imperial Avenue off-ramp	B	E	C	F
Imperial Avenue off-ramp to Imperial Avenue on-ramp	B	D	C	F
Imperial Avenue on-ramp to 43 rd Street off-ramp	B	E	C	F
I-805 Southbound (cont.)				
43 rd Street off-ramp to 47 th Street off-ramp	B	D	C	F
47 th Street off-ramp to 47 th Street on-ramp	B	F	D	F
47 th Street on-ramp to 43 rd Street on-ramp	C	F	D	F
43 rd Street on-ramp to East Plaza Boulevard off-ramp	B	E	C	F
East Plaza Boulevard off-ramp to East Plaza Boulevard on-ramp	B	E	D	F
East Plaza Boulevard on-ramp to SR 94 EB/WB off-ramp	B	E	C	F
SR 94 EB/WB off-ramp to Sweetwater Road off-ramp	B	D	C	F
Sweetwater Road off-ramp to Sweetwater Road on-ramp	B	C	C	E
Sweetwater Road on-ramp to SR 54 EB on-ramp	B	D	C	F

**Table 1-1 (cont.)
EXISTING AND FUTURE LOS ON I-805 SOUTH**

Freeway Segment	Existing Conditions		Future Conditions (2030 No Build)	
	AM	PM	AM	PM
I-805 Southbound (cont.)				
SR 54 EB on-ramp to SR 54 WB on-ramp	B	E	C	F
SR 54 WB on-ramp to Bonita Road off-ramp	C	F	C	F
Bonita Road off-ramp to Bonita Road on-ramp	C	F	C	F
Bonita Road on-ramp to East H Street WB off-ramp	B	D	C	F
East H Street WB off-ramp to East H Street EB off-ramp	B	E	C	F
East H Street EB off-ramp to East H Street on-ramp	B	C	D	D
East H Street on-ramp to Telegraph Canyon Road off-ramp	C	D	C	F
Telegraph Canyon Road off-ramp to Telegraph Canyon Road on-ramp	B	C	D	D
Telegraph Canyon Road on-ramp to Orange Avenue off-ramp	B	C	C	F
Orange Avenue off-ramp to Orange Avenue on-ramp	B	B	C	D
Orange Avenue on-ramp to Main Street off-ramp	B	B	C	D
Main Street off-ramp to Main Street on-ramp	B	B	C	C

Shaded cells denote freeway segments currently or forecasted at LOS E or F.

Projected population and employment growth in the region will result in additional travel demand on I-805 south. Between 2004 and 2030, the population of the San Diego region is projected to increase by 32 percent, with an increase of approximately one million people. Employment growth within the San Diego region is also projected to increase by 32 percent between 2004 and 2030, with an estimated increase of 465,000 jobs.

These population and employment increases and their resultant demand for additional housing, employment, and public facilities will drive a continuously increasing traffic demand on the already over-capacity existing transportation system. Without improvements, more segments of I-805 south are projected to operate at LOS E or F in 2030. By 2030, 26 NB freeway segments are projected to operate at LOS E or F in the AM peak period, 11 NB segments are projected to operate at LOS E or F in the PM peak period, and 27 SB segments are projected to operate at LOS E or F in the PM peak period. These segments are identified in Table 1-1.

Travel Demand and Goods Movement

I-805 is a principal north-south interregional freeway for movement of people and goods in the San Diego region, connecting the San Diego metropolitan area with Baja California, Mexico, and Orange and Los Angeles Counties. Sustaining effective goods movement is essential for economic vitality of the region and the state. The I-805 corridor faces the challenge of accommodating future increases in goods movement and travel as a result of continued implementation of the North American Free Trade Agreement (NAFTA) and anticipated growth in interregional travel between the San Diego region and Baja California. The Goods Movement Action Plan in the 2030 RTP identifies the Project as a priority project necessary to improve the existing regional goods movement system.

I-805 provides the primary goods movement between the Otay Mesa Port of Entry (POE) and the San Diego region, as well as intrastate and national destinations. The Otay Mesa POE is the third busiest commercial port between the U.S. and Mexico (in terms of dollar value of goods), and the busiest along the California-Mexico segment of the border. This POE handles

96 percent of all the commercial truck traffic in the region, as well as passenger vehicle, bus, and pedestrian traffic. In 2006, the Otay Mesa POE handled over 28 billion dollars of goods in approximately two million truck trips. Cross-border truck trips are projected to increase to 3.1 million in 2010 and 5.6 million in 2030. It is estimated that approximately seven percent of this truck traffic travels on I-805.

In addition, the region's large population and market size also creates a major demand for domestic goods movement infrastructure. This demand for domestic goods movement requires a complex and sophisticated infrastructure to serve its residents. The region's growth rate for domestic goods movement closely parallels the growth rate for population. Truck traffic volumes associated with domestic goods movement are projected to double by 2030.

Modal Interrelationships and System Linkages

There are no existing managed or HOV/transit lanes within the Project area. Transit service on local roads and along the freeway is hampered by the heavy congestion in the AM/PM peak periods, making rapid travel in the Project area unavailable. HOVs, such as carpools and vanpools, traveling along I-805 south also must utilize the freeway general purpose lanes. There is no modal choice for the current commuter other than the congested freeway general purpose lanes.

Managed and High Occupancy Vehicles Lanes Network

The 2030 RTP envisions a flexible highway system in which transit vehicles share lanes with carpools, vanpools, and toll-paying SOVs. The 2030 RTP recognizes the benefits of managed lanes, and includes specific plans for improvements on the I-805 and other major freeways throughout the region. The 2030 RTP also includes an extensive network of managed/HOV lanes, designed to operate at free-flow speeds and improve travel times for transit, HOVs, and in some cases SOVs (for those paying a toll). The 2030 RTP recommends development of more than 200 miles of a managed lane/HOV network along Interstates 5, 15, and 805 and State Routes 52, 78, 94, and 125.

The Project would be consistent with the 2030 RTP flexible highway system concept and the identified regional managed/HOV lanes network. The Project proposes to construct a portion of the overall regional managed/HOV lanes network and associated transit/multi-modal facilities within I-805 south (as identified in Figure 6.4 in the 2030 RTP) and may ultimately connect to other such facilities implemented in accordance with the 2030 RTP.

Transit

Enhancing transit is a major part of the 2030 RTP. It includes a Regional Transit Plan calling for the implementation of a regional transit system that will provide a network of fast, reliable, safe and convenient transit services connecting the major activity centers of the region. SANDAG has been the regional agency responsible for transit planning and funding administration in the San Diego area since 2003. SANDAG shares transit planning responsibilities with Caltrans, the San Diego Metropolitan Transit System (MTS), and the North County Transit District (NCTD). MTS is comprised of five transit operators, including Chula Vista Transit, MTS Contract Services, National City Transit, San Diego Transit Corporation, and San Diego Trolley.

MTS operates Express bus service Route 960 along the I-805 corridor, between SR 94 and SR 15 and between SR 52 and Nobel Drive. Other existing transit services operating on I-805

consist of local MTS bus Routes 921/921A and Commuter Express bus Route 880 (Miramar Road to Mira Mesa Boulevard). In addition, several MTS local bus routes operate within the Project area along major roadways, including Oceanview Boulevard (Route 3), Imperial Avenue (Route 4), Market Street (Route 5), Euclid Avenue (Routes 13 and 955), Bonita Road (Route 705), East H Street (Route 709), East Palomar Street (Route 712), 43rd Street (Route 955), Logan Avenue (Route 955), East Plaza Boulevard (Routes 962 and 963), Division Street (Route 967), and Sweetwater Road (Route 961).

Future transit service is based on the Regional Transit Plan component of the 2030 RTP. The Regional Transit Plan proposes a transit network that emphasizes the integration of public transportation and local land use by developing new higher speed routes, spacing transit stations further apart, and providing priority treatments on highways and arterials to attain higher speeds and make transit more competitive with automobile travel. The transit network envisioned in the 2030 RTP consists of BRT, light rail, arterial rapid bus, local bus, and shuttle bus services.

New BRT routes that are part of the regional BRT system are proposed to operate along I-805. The BRT system is comprised of high-frequency, all-day commuter express bus services that would utilize transit centers and park-and-ride lots along I-805 as the key access points to/from adjacent communities. The planned BRT system would be connected to the managed and HOV/transit lanes via DARs, which allow BRT buses, HOVs, and toll-paying SOVs to bypass existing freeway interchanges. In addition, transit signal priority (TSP) features would be implemented along local roadways to improve transit operations and access to freeways. TSP modifies the normal traffic signal operation process to facilitate the movement of transit vehicles through signalized intersections. For example, radio signals sent from BRT buses approaching traffic signals could either extend the green phase until the bus travels through the intersection or shorten the green phase of cross streets to reduce delays at intersections. TSP can reduce transit delay and travel time, improve transit service reliability, and increase overall transit quality of service. Priority and bypass bus lanes are also planned as part of the regional BRT system that would provide dedicated bus lanes on local roadways. As with TSP, the purpose of the bus lanes is to reduce delays and improve travel time for transit vehicles.

BRT vehicles will be premium coach buses that feature a low-floor design to ease boarding and new fareboxes that accept Compass Cards[®] to speed passenger boarding. Multiple doors will also streamline the boarding process. Other BRT vehicle features include coach seating, large windows, Wi-Fi[®] service, video monitors, and TSP equipment.

Planned BRT Routes 628 and 680 would use I-805 and the proposed Managed and HOV/transit lanes and transit stations. Route 628 would provide service between the Otay Mesa border crossing and downtown San Diego, and Route 680 would operate between the Otay Mesa border crossing and Sorrento Mesa. Both of these future BRT routes would have 10-minute headways¹ during the peak commute hours and 15-minute headways during off-peak periods. These two BRT routes are identified in the 2030 RTP as part of the Revenue Constrained² Transit network (Figure 1-4).

MTS proposes to construct and implement a 21-mile BRT line between the Otay Mesa POE and downtown San Diego via eastern Chula Vista, I-805, and SR 94. The implementation of the

¹ Headway is the time between vehicles at a fixed location, such as a transit station.

² The Revenue Constrained Scenario of the 2030 RTP is based on current sources and levels of federal, state, and local transportation revenue projected out to the year 2030.

South Bay BRT would improve transit in the corridor by taking advantage of the Managed/HOV/transit lanes system. The South Bay BRT project would operate on a dedicated transit way through the Otay Mesa area, with priority measures (such as bypass lanes and TSP) in eastern Chula Vista, as well as the proposed Managed/HOV/transit Lanes, DAR, and in-line transit stations along I-805. Based on forecasted ridership data in Table 1-2, the South Bay BRT would heavily utilize the proposed transit stations at East Palomar Street, East H Street, and East Plaza Boulevard, as well as the proposed park-and-ride lots at East H Street and Plaza Boulevard (Table 1-3).

Stop	Peak Frequency (10-minute headways)		Off-peak Frequency (15-minute headways)	
	Boardings	Alightings	Boardings	Alightings
<i>Inbound</i> ¹				
East Palomar Street Transit Station	270	21	296	59
East H Street Transit Station	152	24	135	19
East Plaza Boulevard Transit Station	296	31	309	43
<i>Outbound</i> ²				
East Palomar Street Transit Station	21	270	29	296
East H Street Transit Station	24	152	19	135
East Plaza Boulevard Transit Station	31	296	43	309

¹Traveling to downtown San Diego

²Traveling from downtown San Diego

Park-and-Ride Lot	Year 2020	Year 2030
East Palomar Street	130	140
East H Street	80	90
East Plaza Boulevard	260	280

Based on the ridership projections, the proposed transit stations would be among the most used transit stops along the South Bay BRT route. The proposed East Plaza Boulevard transit station would accommodate the highest number of South Bay BRT users, East Palomar Street transit station would rank second, and East H Street transit station would rank fourth. The Project would also provide adequate transit and HOV parking at the proposed park-and-ride lots at East Palomar Street, East H Street, and East Plaza Boulevard to serve the South Bay BRT and other planned transit operations in the Project area.

BRT routes are planned along other freeway corridors in the region including I-805 (north), I-15, and SR 94. The Project serves as a critical link in the regional BRT system providing users from outlying residential areas connection to downtown San Diego and other major employment centers. In terms of the planned BRT service that would utilize the Managed Lanes system, other BRT routes would link South Bay communities, East San Diego County, and the northern inland communities with downtown San Diego and other major employment centers. The

Project, in conjunction with other planned route improvements, would allow BRT commuters to bypass general purpose lane congestion through the Project area.

The regional BRT network would complement the existing and planned investments in the San Diego Trolley, NCTD's Sprinter and Coaster facilities, providing similar levels of service, travel speed, and customer experience.

The Project would accommodate existing transit and planned BRT operations along I-805 south by constructing a portion of the overall regional managed/HOV lanes network and associated transit/multi-modal facilities in the Project area. In addition to the proposed Managed and HOV/transit lanes, the Project proposes to construct three transit stations, park-and-ride lots, and a DAR that would provide a direct link to the proposed Managed and HOV/transit lanes. Construction of the proposed facilities and their connectivity to other facilities implemented in accordance with the 2030 RTP would provide additional modal choices for those traveling through the Project area.

1.2.3 Independent Utility and Logical Termini

During the project development process for a transportation project, consideration must be given to developing a whole or integrated project. The project should meet an identified need in accordance with the project purpose, and should be considered in the context of the local area with regard to socioeconomics, topography, future transportation demands, and other infrastructure improvements in the project area. This evaluative process entails framing the project.

The FHWA established regulations that outline three general principles that provide guidance for framing transportation projects. Pursuant to 23 CFR 771.111(f), transportation projects shall:

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope
2. Have independent utility or independent significance (be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made)
3. Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements

These FHWA regulations require that transportation projects have independent utility and connect logical termini. A project that has independent utility does not depend on future transportation improvements to function as a stand-alone project. Logical termini are defined as rational end points for a transportation improvement and for review of environmental impacts.

The Project has independent utility, as it does not depend on future or additional transportation improvements to function as a stand-alone project that meets the Project purpose identified in Section 1.2.1. The Project would construct improvements to provide options for commuters that currently do not exist along the I-805 south corridor, resulting in faster travel times through the corridor (refer to Tables 2.5-9 and 2.5-10 in Subchapter 2.5, Traffic and Transportation/Pedestrian and Bicycle Facilities). The proposed improvements would include facilities, such as transit stations, park-and-ride lots, and a DAR, that would supplement the existing and planned regional transit system. Even if planned regional transit services ultimately are not implemented, the Project would provide additional facilities that would be utilized by

existing transit services (as described above in Section 1.2.2). Additionally, the Project would provide needed improvements along I-805 south to increase capacity of the congested general purpose lanes. Without the proposed improvements, more segments of I-805 south are projected to operate at LOS E or F in 2030 (refer to Table 2.5-6 in Subchapter 2.5, Traffic and Transportation/Pedestrian and Bicycle Facilities). Based on the improved travel times, provision of modal choices, and transit benefits the regional transit system, the Project represents a reasonable expenditure of public funds to benefit the local area and region even without other planned improvements to transportation facilities.

The boundaries of the Project extend from approximately 1,700 feet south of East Palomar Street (PM 4.4) in the City of Chula Vista to the Landis Street overcrossing (PM 15.8) in the City of San Diego. These boundaries are logical because they connect the essential elements of the proposed Project and encompass the area potentially affected by Project construction and operation. The termini of the Project were determined based on regional traffic patterns and conditions along I-805 south. The southern Project terminus was selected because it would provide direct access to the proposed Managed Lanes facility via the proposed DAR. The northern Project terminus was selected because it would allow adequate vehicular movement to and from the proposed facilities at the I-805/SR 15 interchange. These termini encompass the area within which Project-related effects would occur and therefore are appropriately located to provide for identification of Project impacts.

1.3 PROJECT DESCRIPTION

The Project entails construction of Managed and HOV/transit lanes and associated multi-modal facilities along I-805 south within the cities of San Diego, Chula Vista, and National City, and portions of unincorporated San Diego County.

The Project site is located along I-805 south, approximately 1,700 feet south of the East Palomar Street overcrossing in the City of Chula Vista (PM 4.4) continuing to the Landis Street overcrossing in the City of San Diego (PM 15.8). The Project site covers a total distance of approximately 11.4 miles. Within the Project limits, I-805 consists of an 8- to 10-lane freeway with 12-foot-wide travel lanes, 10-foot-wide outside and 8-foot wide inside shoulders and auxiliary lanes.

The Project proposes to construct four buffer-separated Managed Lanes between East Palomar Street and SR 94, and two HOV/transit lanes between SR 94 and Landis Street, all in the freeway median. IAPs for vehicles to enter/leave the Managed Lanes are proposed at various points within the Project limits. The Project also includes an HOV/transit direct connector ramp to SR 15. Additional proposed transit features would include in-line transit stations at the East H Street overcrossing and at the East Plaza Boulevard undercrossing, a north-facing DAR at the East Palomar Street overcrossing, a transit station on East Palomar Street adjacent to the proposed DAR, and park-and-ride lots near the proposed transit stations and DAR. The proposed Managed Lanes facility would require minimal widening of the freeway right-of-way (R/W) along I-805 south. The Project also would require modification or replacement of some existing overcrossing and undercrossing structures within the Project limits. Retaining and noise walls would be constructed at various locations.

1.4 PROJECT ALTERNATIVES

This section describes the Project alternatives that were developed to achieve the project purpose and need while avoiding or minimizing environmental impacts where feasible. Two build alternatives are evaluated in detail in this Draft Environmental Impact Report (EIR)/Environmental Assessment (EA) (Build Alternative 1 and Build Alternative 2), along with design variations, as well as the No Build Alternative. Alternatives considered and rejected are described in Section 1.5.

Both build alternatives would include construction of buffer-separated Managed Lanes, and HOV/transit lanes within the freeway median, IAPs, an HOV/transit direct connector ramp to SR 15, in-line transit stations at the East H Street overcrossing and East Plaza Boulevard undercrossing, a transit station on the South Bay BRT route at the East Palomar Street/I-805 DAR, park-and-ride lots, and a DAR. In addition, both build alternatives would require modification or replacement of existing overcrossing and undercrossing structures, replacement of the East 22nd Street pedestrian overcrossing (POC) structure, outside freeway widening, and construction of retaining walls and noise barriers.

1.4.1 Build Alternative 1

Managed/High Occupancy Vehicle/Transit Lanes

Build Alternative 1 proposes to construct four Managed Lanes within the I-805 median, from the proposed DAR at the East Palomar Street overcrossing in the City of Chula Vista to the SR 94 interchange in the City of San Diego. Two 12-foot-wide NB and two 12-foot-wide SB Managed Lanes would be provided along this portion of I-805 south. Between SR 94 and the Landis Street overcrossing, one NB and one SB 12-foot-wide HOV/transit lane would be constructed within the freeway median. The NB and SB Managed and HOV/transit lanes would be separated by a concrete barrier (3 feet high) and 10-foot-wide inside shoulders. The Managed Lanes would be separated from the general purpose freeway lanes by a four-foot-wide painted buffer. The proposed roadway surface of the freeway facilities would be constructed with Portland Cement Concrete (PCC). Major Project features of Build Alternative 1 are depicted in Figures 1-5A through 1-5W, and typical cross-sections of the Managed Lane and HOV/transit facilities are shown in Figure 1-6.

The proposed HOV/transit lane facility also would include an HOV/transit direct connector ramp between I-805 and SR 15. This connector ramp would provide access from the NB I-805 HOV/transit lanes to the general purpose lanes of NB SR 15, and from the SB general purpose lanes of SR 15 to the HOV/transit lanes of SB I-805. The connector ramp would consist of two 12-foot-wide HOV/transit lanes, one in each direction, separated by a concrete barrier, a 5-foot-wide inside shoulder, and a 10-foot-wide outside shoulder.

Access into and out of the proposed Managed and HOV/transit lanes would be provided by IAPs, which are at grade and adjacent to the general purpose lanes. IAPs would occur at locations in both the NB and SB directions and would allow motorists to enter and exit the Managed and HOV/transit lanes from the far left lane of the general purpose lanes (i.e., fast lanes).

Direct Access Ramp

Access to the Managed and HOV/transit lanes also would be provided by a proposed DAR that would be constructed from the East Palomar Street overcrossing at the southern extent of the

Project limits (refer to Figure 1-5A). A DAR is a dedicated ramp that provides transit vehicles, HOVs, and toll-paying SOVs direct access to the Managed Lanes from the local street system. They are designed to reduce travel times and delays for those vehicles, as well as riders using nearby transit centers and park-and-ride lots, by redirecting trips from freeway interchanges and the general purpose lanes directly to Managed or HOV/transit lanes.

The DAR would descend from the north side of the East Palomar Street overcrossing (which is proposed to be replaced, as described below under Structures) and into the median of I-805. The DAR would provide direct ingress from East Palomar Street to the NB Managed Lanes, as well as direct egress from the SB Managed Lanes to East Palomar Street. The DAR structure would extend a total length of approximately 740 feet, and in each direction, would include one 12-foot-wide travel lane, two 12-foot-wide turn lanes in the vicinity of the overcrossing, a 4-foot-wide outside shoulder, and a 5-foot-wide inside shoulder. The NB and SB lanes would be separated by a concrete barrier, and additional concrete barriers would be constructed along both edges of the DAR. A traffic signal, gantry structures, signage, lighting, and associated equipment would be installed at or near the DAR's intersection with East Palomar Street.

Transit Stations

Build Alternative 1 would include construction of three transit stations. One would be adjacent to East Palomar Street, on the east side of I-805, near the reconstructed East Palomar Street overcrossing and proposed DAR; one would be a BRT in-line station in the freeway median beneath the East H Street overcrossing in Chula Vista; and one would be on the East Plaza Boulevard undercrossing in National City. In-line stations are located within the freeway R/W and are designed to eliminate the need for buses to exit the freeway, thus reducing travel times for transit vehicles. Passenger access to in-line stations is provided from adjacent roadways and parking facilities.

East Palomar Street Transit Station

The East Palomar Street transit station and park-and-ride facilities would be constructed on the east side of I-805 and north of East Palomar Street. This location is currently on private property and within a San Diego Gas and Electric (SDG&E) easement, but Caltrans would acquire these properties or obtain an easement for the proposed transit station and park-and-ride facility. The bus stops would be located along East Palomar Street on the east side of I-805 and would include 15-foot-wide sidewalks and passenger platforms, approximately 250 feet long, on both sides of East Palomar Street with pedestrian access connecting the station to the adjacent park-and-ride lot, providing approximately 250 parking spaces. Figure 1-5A shows the location of the proposed East Palomar Street transit station.

East H Street Transit Station

The East H Street transit station would be constructed within the center of the freeway, separated from the Managed Lanes by a concrete barrier on each side. The in-line transit station would include one 12-foot-wide transit lane with a 10-foot-wide inside shoulder in each direction. A concrete barrier would separate the NB and SB transit lane. Buses would enter and leave the station via a bus-only auxiliary lane within the Managed Lanes. The East H Street overcrossing in-line station is planned to provide two approximately 21-foot-wide and 320-foot-long platforms, constructed adjacent to the transit lanes for bus boarding and alighting. Pedestrian access to the station would be provided from both sides of the East H Street

overcrossing by stairways and elevators that would connect to the platforms below. Figure 1-5E shows the location of the proposed East H Street transit station.

East Plaza Boulevard Transit Station

The East Plaza Boulevard in-line transit station would be constructed in the center of the Managed Lanes on the East Plaza Boulevard undercrossing. The station would include a 12-foot-wide transit lane, a 10-foot-wide inside shoulder, and a 16-foot-wide by approximately 300-foot-long platform in each direction. Concrete barriers would separate the transit lanes from each other and from the Managed Lanes. BRT access to the transit station would be provided by a dedicated bus auxiliary lane within the Managed Lanes. Similar to the East H Street transit station, pedestrian access to the station would be provided from both sides of East Plaza Boulevard by stairways and elevators that would channel transit riders to the platforms on the undercrossing. The existing East Plaza Boulevard undercrossing would be replaced. The location of the proposed East Plaza Boulevard transit station is shown on Figure 1-5L.

Park-and-ride Facilities

Three park-and-ride facilities are proposed to be constructed along I-805 south, near the proposed transit stations and DAR. The park-and-ride facility near the DAR at East Palomar Street would be located on the east side of I-805 between the freeway R/W and Oleander Avenue (refer to Figure 1-5A). As discussed above, this location is currently on private property and within an SDG&E easement, but Caltrans would acquire these properties or obtain an easement for this proposed park-and-ride facility. This facility would consist of 2 lots on either side of Raven Avenue would provide approximately 250 spaces at each lot. This facility would serve car/van pools and the proposed transit station on the opposite side of Raven Avenue. Vehicular access would be provided via driveways from both Raven and Oleander Avenues.

The other two proposed park-and-ride lots would be located adjacent to the in-line transit stations at East H Street and East Plaza Boulevard. The East H Street lot would be constructed north of East H Street within the existing freeway R/W, west of I-805, between the SB general purpose lanes and the East H Street SB to WB off-ramp. The lot would include approximately 390 spaces. Vehicular access would be provided directly from East H Street, and sidewalks would provide pedestrian access from the lot to the transit station. Refer to Figure 1-5E for the location of the East H Street park-and-ride lot.

The East Plaza Boulevard lot is proposed to be located on the east side of I-805, north of East Plaza Boulevard. This land is currently privately owned, but Caltrans would acquire this area or obtain an easement for the proposed park-and-ride facility. This lot would provide up to 500 parking spaces. Vehicular access would occur from Grove Street, and pedestrian access between the park-and-ride and the nearby transit station would be provided by sidewalks along East Plaza Boulevard. Refer to Figure 1-5L for the location of the East Plaza Boulevard park-and-ride lot.

Structures

Two new structures would be constructed within the Project limits, including the DAR at the East Palomar Street overcrossing and the HOV/transit direct connector ramp between I-805 and SR 15 (as described above). Freeway widening would be required to accommodate the proposed Managed Lanes in the freeway median. This would affect several existing overcrossing and undercrossing structures along I-805 south and would require the replacement

of the East 22nd Street POC structure. The Project proposes to modify or replace most of the existing overcrossing and undercrossing structures within the Project limits. Table 1-4 identifies proposed new and modified structures (from south to north).

The Project also includes design variations for the I-805/43rd Street interchange, one of which would remove four existing structures, including the 43rd Street NB off-ramp overcrossings (two structures; one over I-805 and one over Division Street), the 43rd Street NB on-ramp flyover, and the 43rd Street SB on-ramp flyover. If this design variation is selected, these existing structures would be removed and replaced with a reconfigured 47th Street/Palm Avenue intersection. This and other design variations are discussed in Section 1.4.3.

Structure	Proposed Action	Description¹	Proposed Length¹ (feet)	Proposed Width¹ (feet)
East Palomar Street overcrossing (OC)	Replace	Replace the existing structure with a wider three-span structure that would connect to the East Palomar Street DAR on the north side.	270	110-125
East Palomar Street DAR	New	Construct a DAR structure descending from the north side of the new East Palomar Street overcrossing to the Managed Lanes in the I-805 median.	740	55-71
East Naples Street undercrossing (UC)	Widen	Widen the outside of the I-805 SB structure by 19 feet, widen the outside of the I-805 NB structure by 28 feet, and close the median gap between the structures.	125 ²	216
Telegraph Canyon Road UC	Widen	Widen the structures by 16.5 feet and close the median gap.	248 ²	242
East J Street OC	Replace	Replace the existing structure with a new structure.	450	55
East H Street OC	Replace	Replace the existing structure with a wider three-span structure to include four platforms with stairs and elevators connecting to the proposed in-line transit station below.	491	168
Bonita Road UC	Widen	Widen the outside of the I-805 NB structure by 31.5 feet and close the gap between NB and SB structures	297 ²	196
Sweetwater River Bridges	Widen	Remove and replace a 21-foot-wide portion of the I-805 NB structure, construct a new structure to close the gap between the NB and SB structures, and seismically retrofit the foundations.	492.5 ²	216
I-805/SR 54 Separation	Widen	Widen the outside of the I-805 NB structure by 12 feet, widen the outside of the I-805 SB structure by 10.5 feet, and close the median gap.	2872	207
Sweetwater Road UC	Widen	Widen the outside of the I-805 NB and SB structure by 19 feet, and close the median gap	2772	198
Sweetwater Road SB off-ramp UC	Replace	Replace the existing UC structure with a new realigned structure.	336.5	27
Euclid Avenue UC	Widen	Widen the outside of the I-805 NB structure by 9-19 feet, widen the outside of the SB structure by 35-47 feet, and close the median gap.	2122	182
East 22nd Street POC	Replace	Replace the existing POC with a new structure	822	10
East 18th Street OC	Replace	Replace existing OC with a longer structure.	326	52
East 16th Street OC	Replace	Replace existing OC with a longer structure.	384	52
East Plaza Boulevard UC	Replace	Replace existing UC with a larger structure to accommodate an in-line transit station, with stairs and elevators connecting to East Plaza Boulevard below.	1102	301

Table 1-4 (cont.) PROPOSED NEW AND MODIFIED STRUCTURES				
Structure	Proposed Action	Description¹	Proposed Length¹ (feet)	Proposed Width¹ (feet)
East 8 th Street UC	Widen	Widen the west side by 52 feet and the east side by 40 feet.	127 ²	276
East 4 th Street OC	Replace	Replace the existing structure with a larger structure.	350	76
Division Street UC	Widen	Widen the west side by 16 feet and the east side by 39 feet.	176 ²	244
47 th Street UC	Widen	Widen the west and east side 37 feet.	205 ²	221
43 rd Street NB off-ramp OC	Replace	Replace the existing structure with a new realigned structure.	948 ³	42
Market Street off-ramp OC	Replace	Replace the existing structure with a larger structure.	500	27
Market Street on-ramp OC	Replace	Replace the existing structure with a larger structure.	380	29
Hilltop Drive OC	Modify	Structural modifications including placement of lightweight fill, column isolation casings, and concrete slabs.	--	--
Federal Boulevard UC	Widen	Widen the east and west sides up to 16 feet.	132 ²	179
SB I-805/ EB SR 94 direct connector OC	Replace	Replace the existing structure with a wider four-span structure.	740	40
Home Avenue UC	Widen	Widen the west side 28 feet and the east side 20 feet.	180 ²	202
Home Avenue NB on-ramp UC	Replace	Replace the existing structure with a larger structure.	172	45
Ralene Street OC	Replace	Replace the existing structure with a larger structure.	290	52
I-805/SR 15 Separation	Widen and Replace	Widen the outside of the I-805 SB structure 14 feet and up to 42 feet on the inside. Replace the I-805 NB structure with a larger structure.	520 (SB) 605 (NB)	116-136 (SB) 87 (NB)
I-805/SR 15 HOV/transit direct connector ramp	New	Construct a structure connecting SB SR 15 to the SB I-805 HOV/transit lanes and the NB I-805 HOV/transit lanes to NB SR 15.	2,310	59
SB SR 15/ SB I-805 direct connector OC	Replace	Replace the existing structure with a larger five-span structure.	890	42

¹ Measurements are approximate

² Approximately same as existing

³ 43rd Street Option 1

Other Roadway Improvements

Implementation of Build Alternative 1 would require other roadway improvements along I-805 within the Project limits, including freeway widening to accommodate the Managed Lanes and HOV/transit lanes, freeway ramp realignments and ramp shoulder widening, and local roadway improvements. These are described below.

Freeway Widening

Construction of both the Managed Lanes and HOV/transit lanes and in-line transit stations in the freeway median would require moving the general purpose freeway lanes away from the center of the freeway. Freeway widening would occur in both the NB and SB directions along the length of the Project.

Freeway Ramp Realignments/Ramp Shoulder Widening

Related to the proposed freeway widening and replacement and/or modifications to existing overcrossing and undercrossing structures, several freeway ramps would be realigned and the ramp shoulders would be widened. The following ramps and ramp shoulders would be modified (listed south to north) and are shown in Figures 1-5A through 1-5W:

- Telegraph Canyon Road on- and off-ramps
- East H Street on- and off-ramps
- Bonita Road on- and off-ramps
- I-805/SR 54 connector ramps
- Sweetwater Road on- and off-ramps
- East Plaza Boulevard on- and off-ramps
- 43rd Street ramps
- 47th Street ramps
- Imperial Avenue on- and off-ramps
- Market Street on- and off-ramps
- I-805/SR 94 connector ramps
- Home Avenue on- and off-ramps
- I-805/SR 15 connector ramps

Local Roadway Improvements

Several segments of local roadways connecting to, and/or adjacent to, I-805 would also be modified to accommodate transitions to overcrossings and undercrossings proposed to be widened or replaced by the Project. A brief description of these local roadway improvements is provided below, and their locations are shown in Figures 1-5A through 1-5W.

East Palomar Street. East Palomar Street, between just west of Park Drive and just west of Oleander Avenue, including the new East Palomar Street overcrossing, would be widened to accommodate the HOV/transit and tolling of SOV traffic accessing the DAR, and realigned to minimize impacts to existing residences. Sidewalks, as well as intersections with Oriole Place, Raven Avenue, Nacion Avenue, Pecan Place, and Park Drive, would be modified to connect to the realigned roadway.

East J Street. The segment of East J Street, between Mission Court and Halecrest Elementary School, would be modified to connect with the new East J Street overcrossing. Intersections with Nacion Avenue and Nolan Avenue, as well as driveways and sidewalks along this segment, would be modified to connect to the realigned roadway.

East H Street. The segment of East H Street, between the WB on-ramp to NB I-805 and Hilltop High School, would be modified to connect with the new East H Street overcrossing.

Bonita Road. The segment of Bonita Road, between the SB I-805 ramps and NB I-805 ramps, would be modified to connect with the revised ramp intersections.

East 18th Street. The segment of East 18th Street, between Newell Street and Grove Street, would be modified to connect with the new East 18th Street overcrossing.

East 16th Street. The segment of East 16th Street, between Sheryl Lane and Grove Street, would be modified to connect with the new East 16th Street overcrossing.

East 4th Street. The segment of East 4th Street, between Q Avenue and S Avenue, would be modified to connect with the new East 4th Street overcrossing. In addition, the segment of R Avenue, between East 4th and East 5th Street, would be modified to connect with the new overcrossing.

Division Street. The segment of Division Street, between Palm Avenue and approximately 225 feet east of the Division Street undercrossing, would be modified to accommodate the proposed widening of the undercrossing.

Retaining Walls

Retaining walls are proposed within the Project limits to minimize grading and R/W impacts on adjacent land uses and environmental resources. Proposed retaining wall types include soil nail walls, tieback walls, or Type 1 retaining walls. Soil nail walls entail installing steel bars (i.e., soil nails) into pre-drilled holes in earth cuts, which are then grouted in place and faced with concrete. Tieback walls are constructed by securing one end of a tieback to the wall, and driving the tieback into the slope thereby anchoring it to the rock or soil. Type 1 retaining walls are cast-in-place, reinforced concrete wall systems. The proposed retaining walls are identified on Figures 1-54A through 1-5W.

Noise Barriers

Construction of numerous noise barriers is being considered at various locations along I-805 south to provide noise attenuation at adjacent receptors, as described in detail in Subchapter 2.14. These recommended noise barriers are identified in Tables 2.14-4A through 2.14-17A of this EIR/EA, and the locations are identified in Figures 1-5A through 1-5W.

Utilities

Build Alternative 1 would require relocation and/or removal of existing water, sewer, gas, electrical, and telecommunications lines located along I-805 within both the existing freeway and adjacent local streets to accommodate the proposed Project features. Additional details on proposed utility relocations and removals are discussed in Subchapter 2.4 and Appendix E.

Drainage Improvements

Implementation of Build Alternative 1 would require additional storm drainage facilities along the I-805 in the Project area. These would consist of extending existing storm drains and constructing new storm drain systems to intercept flows from the proposed Project design. Bioswales are also proposed at various locations along I-805 south to clean storm water flowing from the Project. Existing storm drain systems that are no longer needed would be abandoned and retained in place or removed.

Non-Standard Design Features

Attempts have been made to keep non-standard features to a minimum on this Project. To avoid replacing the existing ramp bridges, rebuilding main freeway lanes and interchange ramps, and acquiring additional R/W, some design exceptions are needed. Detailed information on the design exceptions is contained in the Fact Sheets for both Mandatory Design Exceptions and Advisory Design Exceptions prepared for the Project. The Project Report prepared for the

Project outlines the various non-standard conditions for which design exceptions were approved. None of the proposed design exceptions would result in unsafe or dangerous driving conditions along I-805 south.

The following are the major non-standard features for which design exception fact sheets were prepared:

- Shoulder width reductions (at isolated locations)
- Interchange spacing
- Connector ramp design speed and profile grade
- Traveled way cross slopes flatter than 2.0 percent
- Superelevation transition rates

Easements and Right-of-way Acquisition

The Project has been designed to minimize R/W impacts on adjacent land uses primarily by remaining within the existing freeway R/W. In some areas, however, Build Alternative 1 would require additional R/W to accommodate the proposed improvements. This would occur at the DAR and the replacement of the East Palomar Street overcrossing, the park-and-ride lots near the DAR, the ramp realignments at the East Plaza Boulevard interchange, and the park-and-ride lots near the East Plaza Boulevard transit station. Proposed R/W acquisition is summarized in Table 1-5 and locations are shown in Figures 1-5A through 1-5W. Additional information on R/W acquisition is provided in Subchapter 2.3.

Build Alternative 1 also would require temporary construction easements and permanent easements for construction of retaining walls, sound walls, grading, and access. These easements are shown in Figures 1-5A through 1-5W.

Table 1-5 PROPOSED RIGHT-OF-WAY ACQUISITION					
APN	Owner	Existing Use	Parcel Size (acre)	Acquisition Area (acre)	Purpose
620-050-59	Utility	Utility easement	8.38	0.04	Widening of East Palomar Street
620-050-60	Utility	Utility easement	0.90	0.06	Widening of East Palomar Street
620-610-58	Public	Vacant land	0.36	0.32	Widening of East Palomar Street
620-651-01	Private	Single-family residential	0.28	0.28	Park-and-ride lot and East Palomar Street road widening
620-651-02 ¹	Private	Vacant land/Utility easement	2.65	2.65	Park-and-ride lot and East Palomar Street road widening
620-651-30	Private	Single-family residential	0.30	0.30	Widening of East Palomar Street
620-651-31 ¹	Private	Vacant land/Utility easement	4.18	3.79	Park-and-ride lot near East Palomar Street
620-660-09	Private	Single-family residential	0.21	0.03	Widening of East Palomar Street
620-660-10	Private	Single-family residential	0.18	0.02	Widening of East Palomar Street
620-660-11	Private	Single-family residential	0.19	0.01	Widening of East Palomar Street
620-660-12	Private	Single-family residential	0.16	0.001	Widening of East Palomar Street

APN	Owner	Existing Use	Parcel Size (acre)	Acquisition Area (acre)	Purpose
620-660-13	Private	Single-family residential	0.21	0.01	Widening of East Palomar Street
639-710-57	Private	Multi-family residential	2.29	0.09	Widening of SB off-ramp to Telegraph Canyon Road
557-280-08	Private	Single-family residential	0.09	0.09	Ramp realignment
557-280-10	Private	Single-family residential	0.13	0.13	Ramp realignment
557-280-39	Private	Single-family residential	0.26	0.26	Ramp realignment
557-280-41	Private	Single-family residential	0.16	0.16	Ramp realignment
557-220-19	Private	Vacant land	0.32	0.05	Ramp realignment
552-010-12	Private	Vacant land	1.49	0.94	Widening of freeway

¹ Caltrans may obtain an easement within this property instead of acquiring the parcel.

Value Pricing Technologies

Assembly Bill 574 (2007) provided SANDAG the authority to conduct, administer, and operate a value pricing and transit demonstration program on a maximum of two transportation corridors in San Diego County. It also authorized SANDAG to operate the program indefinitely by removing a four-year limitation provision. These facilities combine pricing and vehicle eligibility to maintain free-flow conditions while still providing a travel time-savings incentive for HOVs, and reducing demand on the general purpose lanes.

The Project may include a value pricing program. Value pricing allows the ability to manage any available capacity of managed lanes by allowing SOVs to pay to use the lanes. Current legislation (Assembly Bill 2032) exists for this Project to allow for excess capacity to be sold on the HOV lanes as long as a LOS C or better is maintained on the Managed Lanes.

Additional equipment would be required for the implementation of the value pricing program. The proposed technology to be used is Electronic Toll Collection (ETC) equipment, which would include overhead support structures and antennas to read transponders, variable message signs to display the tolls, loop detectors to measure traffic volume and speed, and closed circuit cameras to view traffic on the facility and to help determine violation rates. The equipment to be utilized would be determined during the design phase.

Construction Phasing and Schedule

The Project would be constructed in several phases over an estimated period of 8 years. Phase 1 would construct one HOV/transit lane in each direction in the freeway median between East Naples Street and SR 94, the proposed replacement of the East Palomar Street overcrossing, modifications to East Palomar Street, the DAR, transit station, and associated park-and-ride lot.

Phase 2 would include:

- Construct an additional HOV/transit lane in each direction within the freeway median, between East Naples Street and SR 94, along with facilities to enable the Managed Lanes
- Extend the two HOV/transit lanes, one in each direction, from SR 94 to Landis Street
- Construct in-line transit stations and adjacent park-and-ride lots
- Construct the HOV/transit lane connector ramp at SR 15

Construction phasing schedules would depend on funding availability and contract size to enable continuous construction of the Project. Construction of the Project is anticipated to begin in 2012 and to be completed by 2020 and open to traffic in 2021.

Short-term detours and temporary ramp closures may be required.

Construction staging areas would vary depending on the phase under construction, using interchange areas and medians. Access to the work sites would be from the freeway or from local streets, except where temporary construction easements for noise walls are needed. Batch plants could be placed in interchange areas close to the work done in the specific phase of the construction.

1.4.2 Build Alternative 2

Build Alternative 2 would be identical to Build Alternative 1, except that two HOV/transit lanes would be constructed in the southern portion of the Project site (between East Palomar Street and Telegraph Canyon Road). These lanes would be constructed instead of the four Managed Lanes planned within the freeway median between these two streets in Build Alternative 1. All other proposed features described above for Build Alternative 1 would be the same for Build Alternative 2. Figures 1-7A through 1-7C show the differences in the Project features between East Palomar Street and Telegraph Canyon Road proposed under Build Alternative 2. Refer to Figures 1-5C through 1-5W for proposed features of Build Alternative 2 north of Telegraph Canyon Road.

1.4.3 Design Variations of the Build Alternatives

Two design variations for the I-805/43rd Street interchange are evaluated in this EIR/EA for both build alternatives. These options are summarized below.

Option 1 - Replace 43rd Street Northbound Off-ramp

Under this design variation, the existing 43rd Street NB off-ramp overcrossing would be removed and replaced with a new overcrossing structure. This option is described above under the build alternatives (Structures section and in Table 1-4) and depicted in Figure 1-5N.

Option 2 - Remove 43rd Street Ramp Structures and Replace with Intersection

Option 2 would remove the existing 43rd Street interchange and replace it with a reconfigured 47th Street/Palm Avenue interchange that would connect Palm Avenue, 47th Street, and 43rd Street. This option would require the removal of four existing structures, including the 43rd Street NB off-ramp overcrossings (two structures; one over I-805 and one over Division Street),

the 43rd Street NB on-ramp flyover, and the 43rd Street SB on-ramp flyover, as well as the at-grade 43rd Street SB off-ramp.

Two variations are being considered for the reconfigured 43rd Street/47th Street/Palm Avenue interchange. In Variation A, the existing SB 43rd Street exit ramp would intersect with the 43rd Street extension just west of the 47th Street/Palm Avenue intersection. The configuration of Variation A is shown in Figure 1-8. Variation C proposes to connect the 43rd Street extension four-way intersection along with a new SB loop on-ramp at the northeast quadrant of the intersection, removing the existing 47th Street SB diamond entrance ramp. Variation C is illustrated in Figure 1-9.

1.4.4 Transportation Systems Management/Transportation Demand Management

Transportation Systems Management (TSM)/Transportation Demand Management (TDM) measures have been incorporated into both build alternatives. TSM strategies consist of actions that enhance the efficiency of existing facilities by increasing the number of vehicle trips a facility can carry without increasing the number of through lanes. Depending on individual site conditions, TSM measures may include facilities such as ramp metering, auxiliary lanes, turning lanes, and traffic signal coordination. TSM strategies also encourage the combined use of automobile facilities, public/private transit, ridesharing, and bicycle/pedestrian improvements to create and enhance a unified and multi-modal urban transportation system.

TDM focuses on regional strategies for reducing the number of vehicle trips and vehicle miles traveled, as well as increasing vehicle occupancy. Specifically, this can include the provision of ridesharing (carpool or HOV) lanes, implementation of multi-modal facilities and services to increase transportation options, provision of transit-oriented facilities to support bus and pedestrian traffic, connections to BRT and bicycle facilities (e.g., bike routes and staging areas), or implementation of variable congestion pricing.

Although TSM/TDM measures alone would not satisfy the Purpose and Need of the Project, the following TSM/TDM measures have been incorporated in the Project build alternatives:

- Access to/from HOV lanes on I-805 to encourage carpooling/ridesharing
- Compatibility with future proposed BRT
- Addition of park-and-ride lots
- Addition of transit stations

1.4.5 No Build Alternative

The No Build Alternative is included to provide a basis against which the impacts from the build alternatives are compared and also to satisfy federal requirements for analyzing “no action” under NEPA. The No Build Alternative assumes that no Managed Lanes or HOV/transit lanes, transit stations, DAR, or other associated improvements would be constructed along I-805 south. The proposed Managed Lanes/HOV/transit lanes facility, which is consistent with the 2030 RTP, would not be implemented, and existing congestion would be exacerbated as a result of projected growth in the Project area and in the region in general. As identified in Table 1-1, numerous segments of I-805 south are projected to degrade to LOS E or F in 2030 without the proposed improvements. The No Build Alternative would not achieve region-wide goals to implement multi-modal transportation features to serve the region. It also would not provide the benefits to planned regional transit operations, such as the South Bay BRT.

1.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER DISCUSSION

Provision of HOV lanes along I-805 was originally identified in the 2020 RTP, which assumed the construction of two HOV lanes between SR 905 and the I-5 merge. In 2003, the 2030 RTP identified the entire I-805 (as well as the portion of I-5 south of SR 54) for future study. In 2003, SANDAG, in partnership with Caltrans, began a planning study, the *Interstates 805/5 South Corridor Study*, to develop a transportation improvement strategy to enhance the mobility of inter-regional and regional trips for the entire I-805 corridor and the I-5 corridor south of SR 54. This planning study identified several regional transit service and highway improvements that provided the basis for the build alternatives that were developed for the Project. The build alternatives that were studied but ultimately rejected are described below.

1.5.1 Moveable Barrier (3+1) Alternative

The Moveable Barrier (3+1) Alternative would have entailed the construction of four Managed and HOV/transit lanes within the freeway median and a moveable median barrier to allow for more traffic lanes in the peak direction. Traffic would have been bi-directional in the Managed and HOV/transit lanes, with either a 2+2 (i.e., 2 lanes in each direction) or 3+1 (i.e., 3 lanes in the peak direction and 1 lane in the off-peak direction) lane configuration. Fixed concrete barriers would have separated the Managed and HOV/transit lanes from the general purpose lanes. Figure 1-10 illustrates a typical cross-section of the Moveable Barrier (3+1) Alternative.

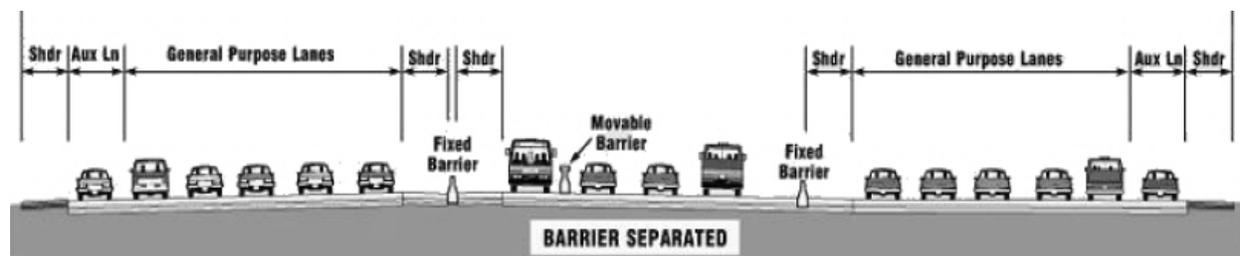


Figure 1-10
MOVEABLE BARRIER (3+1) ALTERNATIVE

Moveable barrier facilities are appropriate in corridors that have a peak directional split ratio in excess of 65/35 (i.e., when the traffic volume in one direction is more than 65 percent of the total traffic during the peak period). A moveable barrier (3+1) system would not provide desirable traffic flows in the non-peak direction of the Managed and HOV/transit lane facility (1 Managed and HOV/transit lane) when the peak directional split ratio is less than 65/35. In other words, if the traffic volume in the non-peak direction is greater than 35 percent of the total volume, the 1 Managed and HOV/transit lane would experience congestion. Along the I-805 within the Project limits, the directional split currently ranges from 50/50 up to 60/40 in some segments. The 2030 forecast volumes indicate a directional split of no more than 55/45 along I-805. Because the directional split ratio would not fall within the appropriate range for a moveable barrier, construction of this type of system would not be utilized for its intent. The expenditure for a moveable barrier system (including barrier transfer or zipper machines) would not be warranted since it would not provide any added benefit (in terms of travel times and traffic flows) over a fixed median barrier. Therefore, this alternative was rejected.

1.5.2 Barrier-separated Managed Lanes Alternative

The Barrier-separated Alternative would have entailed the construction of four Managed and HOV/transit lanes that would have been separated from the general purpose lanes by a fixed concrete barrier. Two Managed and HOV/transit lanes would have been provided in each direction and separated by a concrete median. A typical cross-section of the Barrier-separated Alternative is illustrated in Figure 1-11.



Figure 1-11
BARRIER-SEPARATED ALTERNATIVE

This alternative would require a wider development footprint, resulting in additional ramp realignments and increased R/W acquisition along the length of Project limits. Because of the anticipated amount of R/W acquisition required, the cost to construct this alternative would have been major, and the adjacent neighborhoods would have been severely impacted. This alternative was rejected for these reasons.

1.5.3 Transit-only Lanes Alternative

This alternative would have consisted of building one transit-only lane in each direction within the freeway median from just south of the East Palomar Street overcrossing to the Landis Street overcrossing. The transit-only lane would have been separated from the general purpose lanes by a painted median. This option would have included constructing many of the features that are required for Alternatives 1 and 2 including transit stations, a DAR at East Palomar Street, and direct connector ramp to SR 15. This alternative would not meet the vision of the 2030 RTP, which consists of a flexible highway system in which transit vehicles share lanes with carpools, vanpools, and toll-paying SOVs. In addition, the 2030 RTP recommends development of more than 200 miles of managed lane/HOV network along Interstate 5, 15, and 805; thus a transit-only option would not be consistent with the planned regional network. This alternative would have constructed many of the same features as the build alternatives yet reduces the flexibility to manage HOV and SOV users on the system.

Given the infrastructure required and the inability to manage the system, this alternative would not be considered a prudent expenditure of funds. Due to inconsistencies with 2030 RTP and reduced flexibility, this alternative has been withdrawn from further consideration.

1.6 PERMITS AND APPROVALS NEEDED

Table 1-6 lists the permits and approvals required for Project construction.

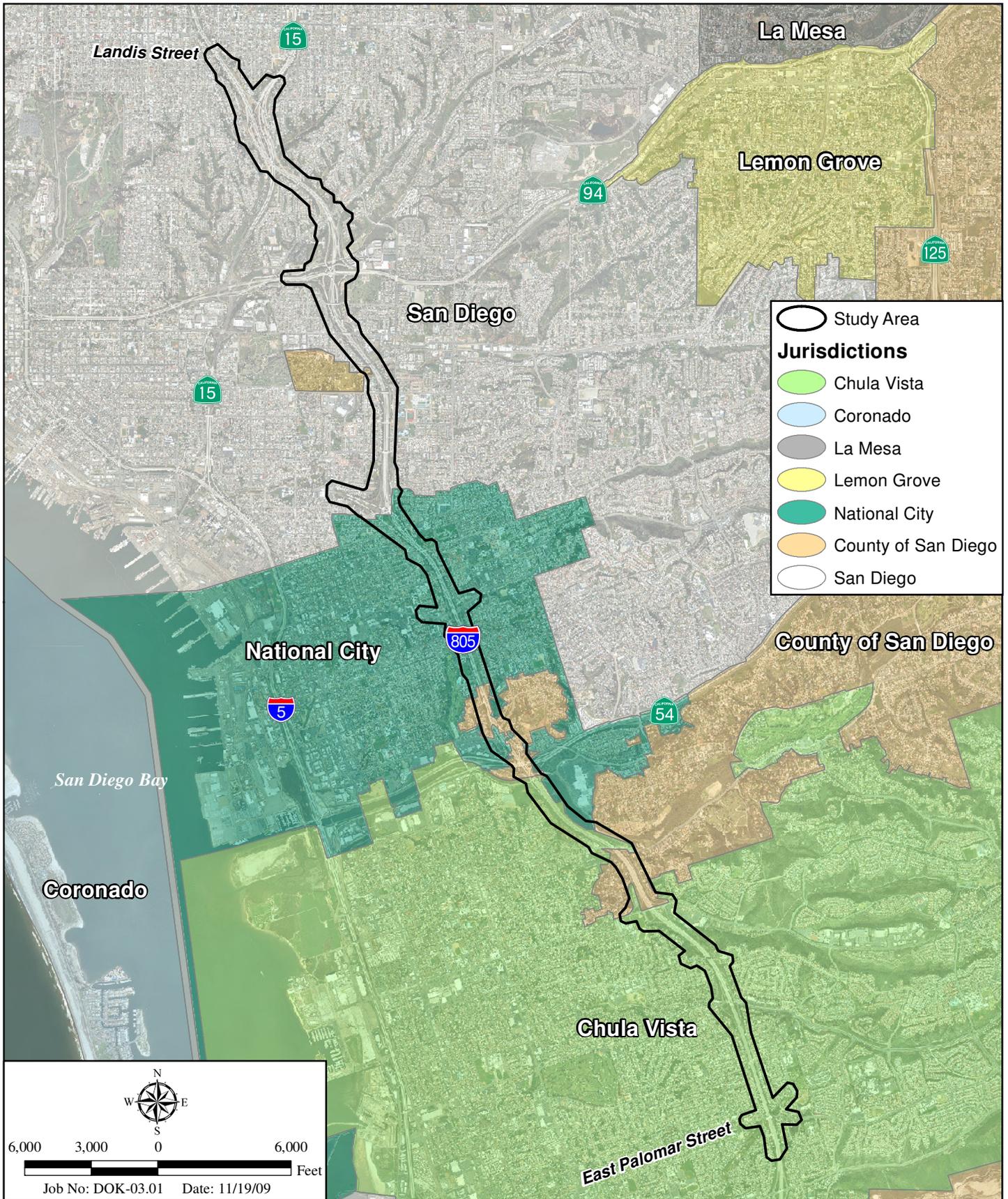
Table 1-6 REQUIRED PERMITS AND APPROVALS		
Agency	Permit/Approval	Status
City of Chula Vista	Freeway Agreement for DAR	Pending
FHWA	Modified Access Report	Pending
California Transportation Commission	Approval for funding	Pending
California Department of Fish and Game	1602 Streambed Alteration Agreement and Section 2080.1 Agreement for Threatened and Endangered Species	Pending
U.S. Army Corps of Engineers	Section 404 Nationwide Permits	Pending
Regional Water Quality Control Board	Section 401 Water Quality Certification	Pending
U.S. Fish and Wildlife Service	Endangered Species Act Section 7 Consultation for Threatened and Endangered Species	Pending



Regional Location Map

I-805 MANAGED LANES SOUTH PROJECT

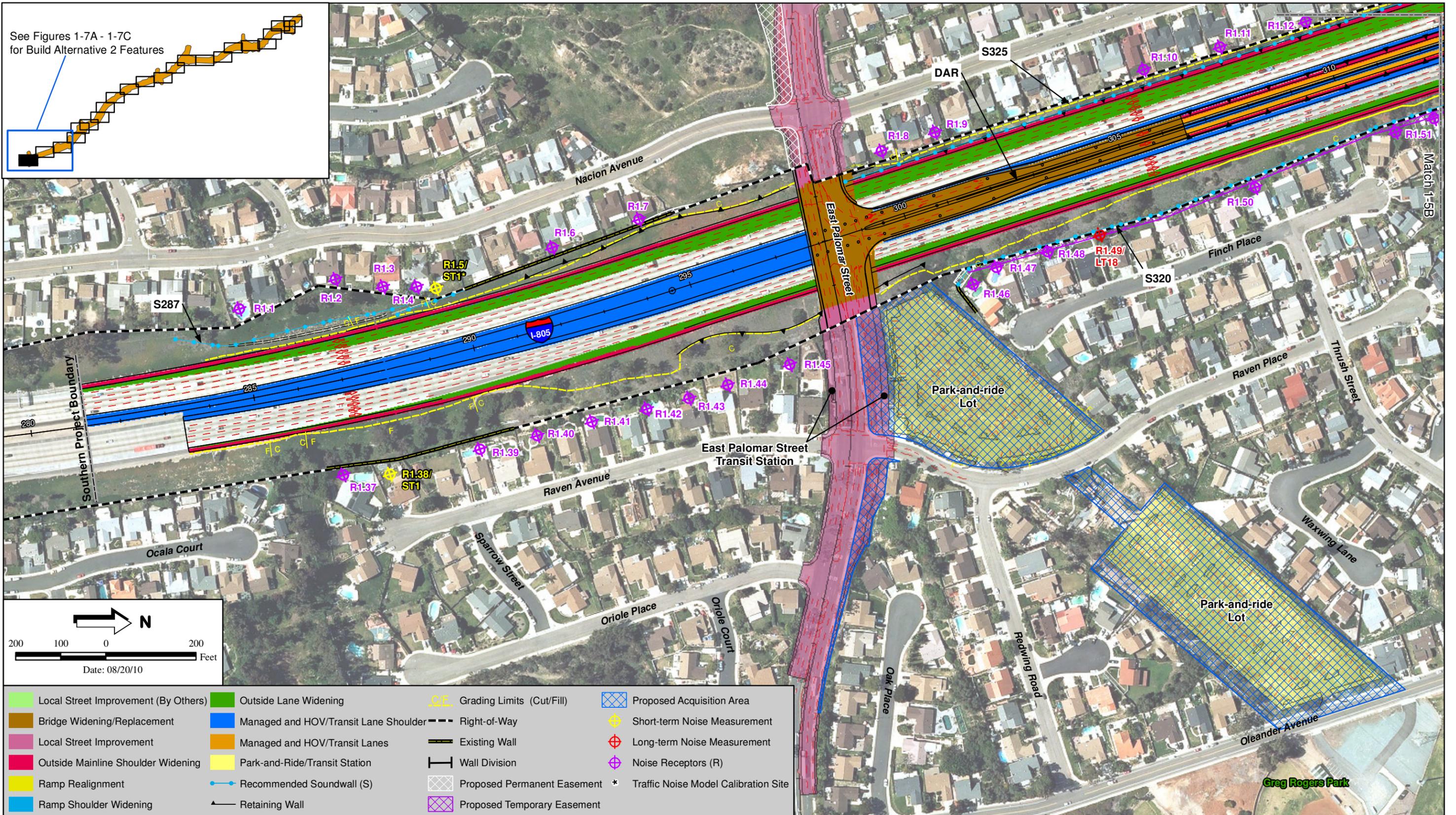
Figure 1-1



Project Vicinity Map

I-805 MANAGED LANES SOUTH PROJECT

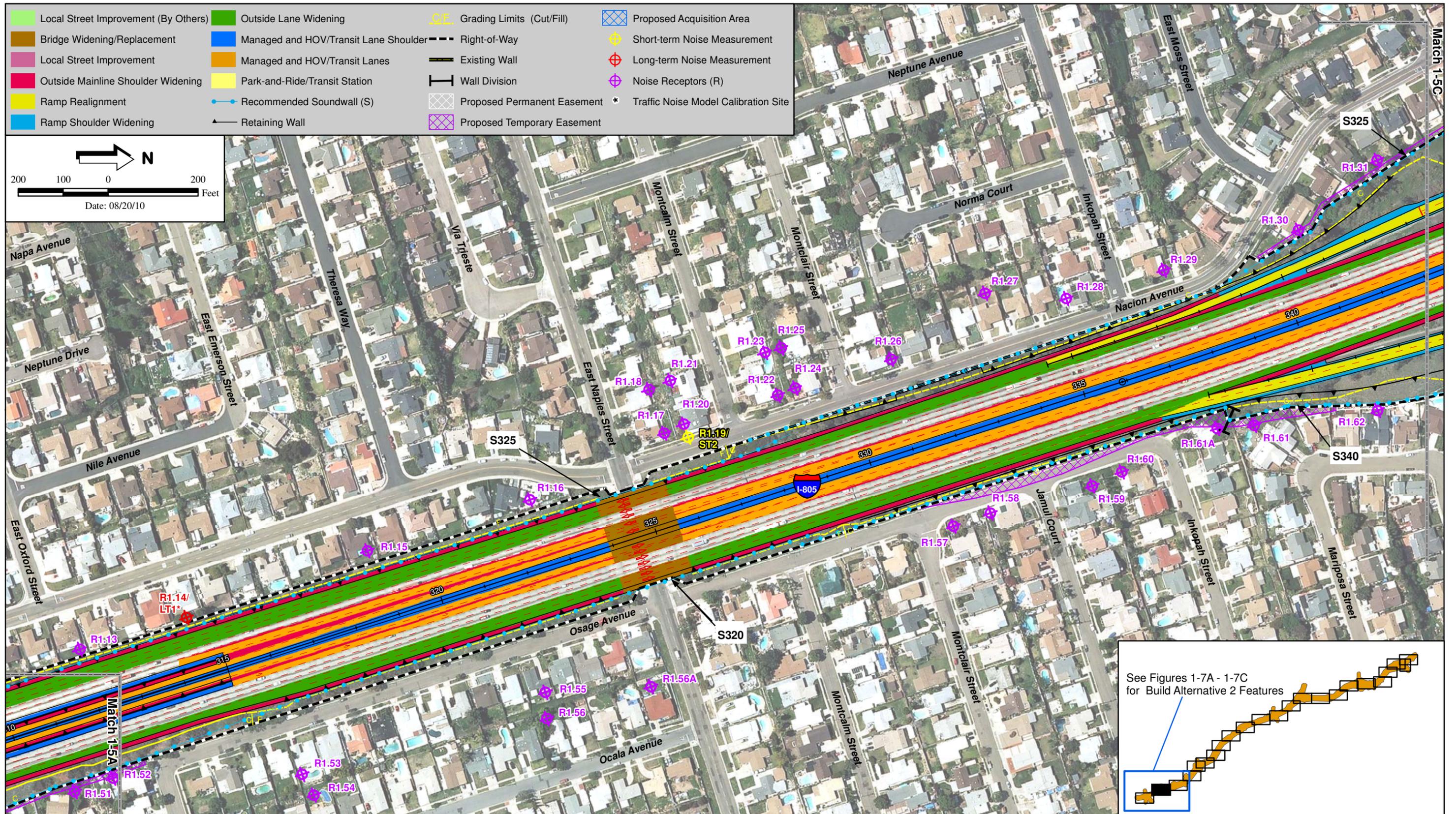
Figure 1-2



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

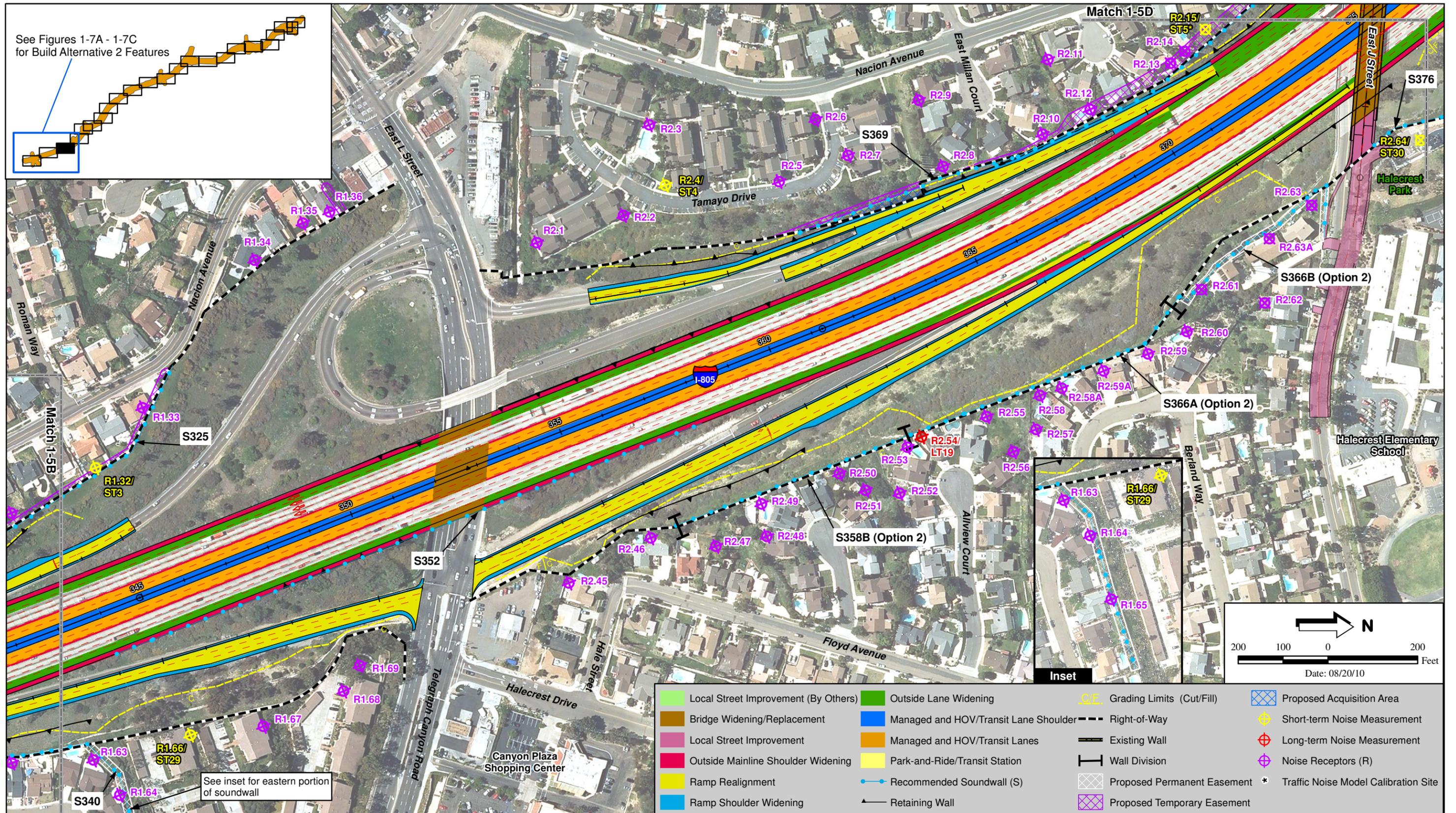
Figure 1-5A



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

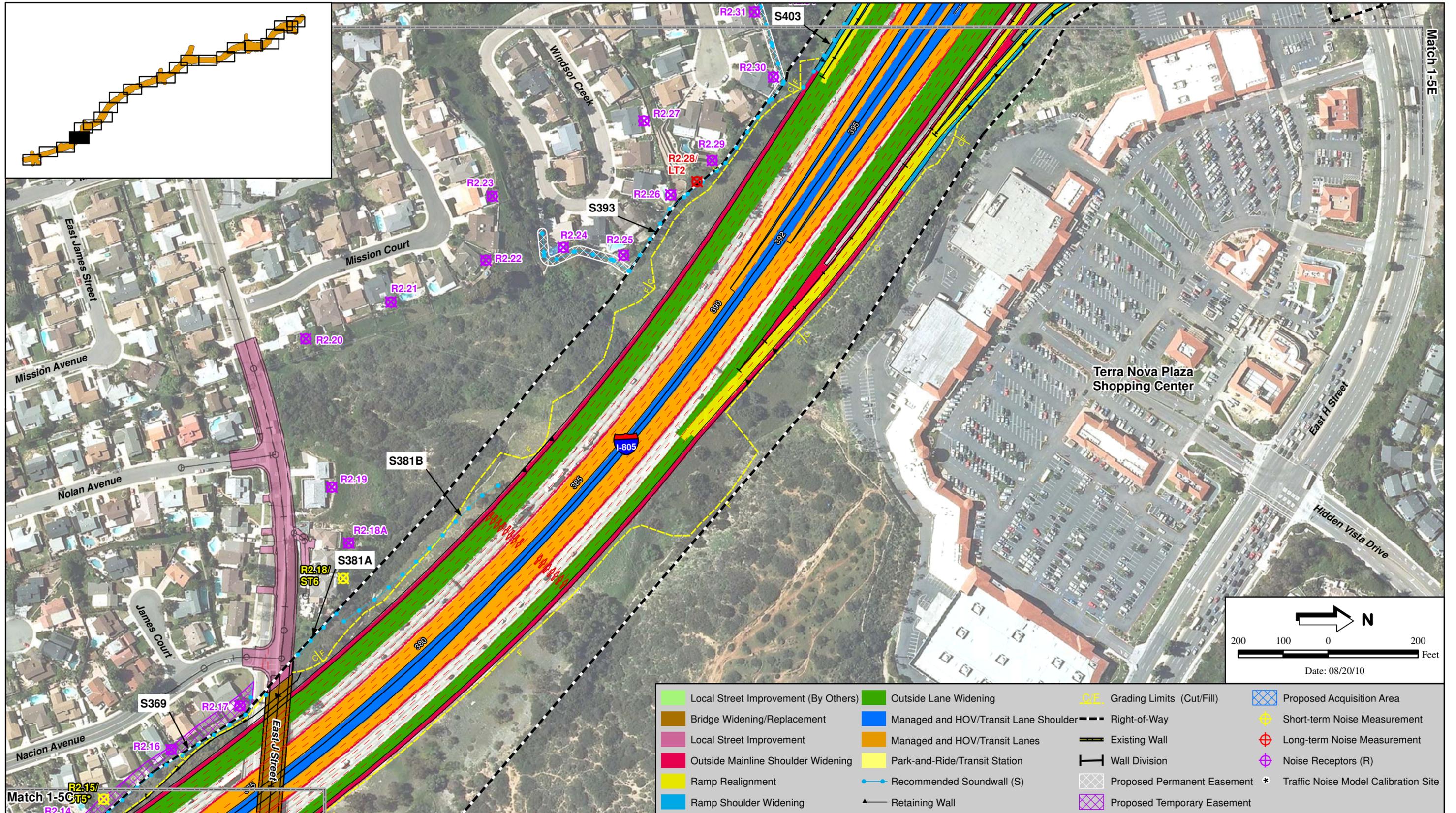
Figure 1-5B



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

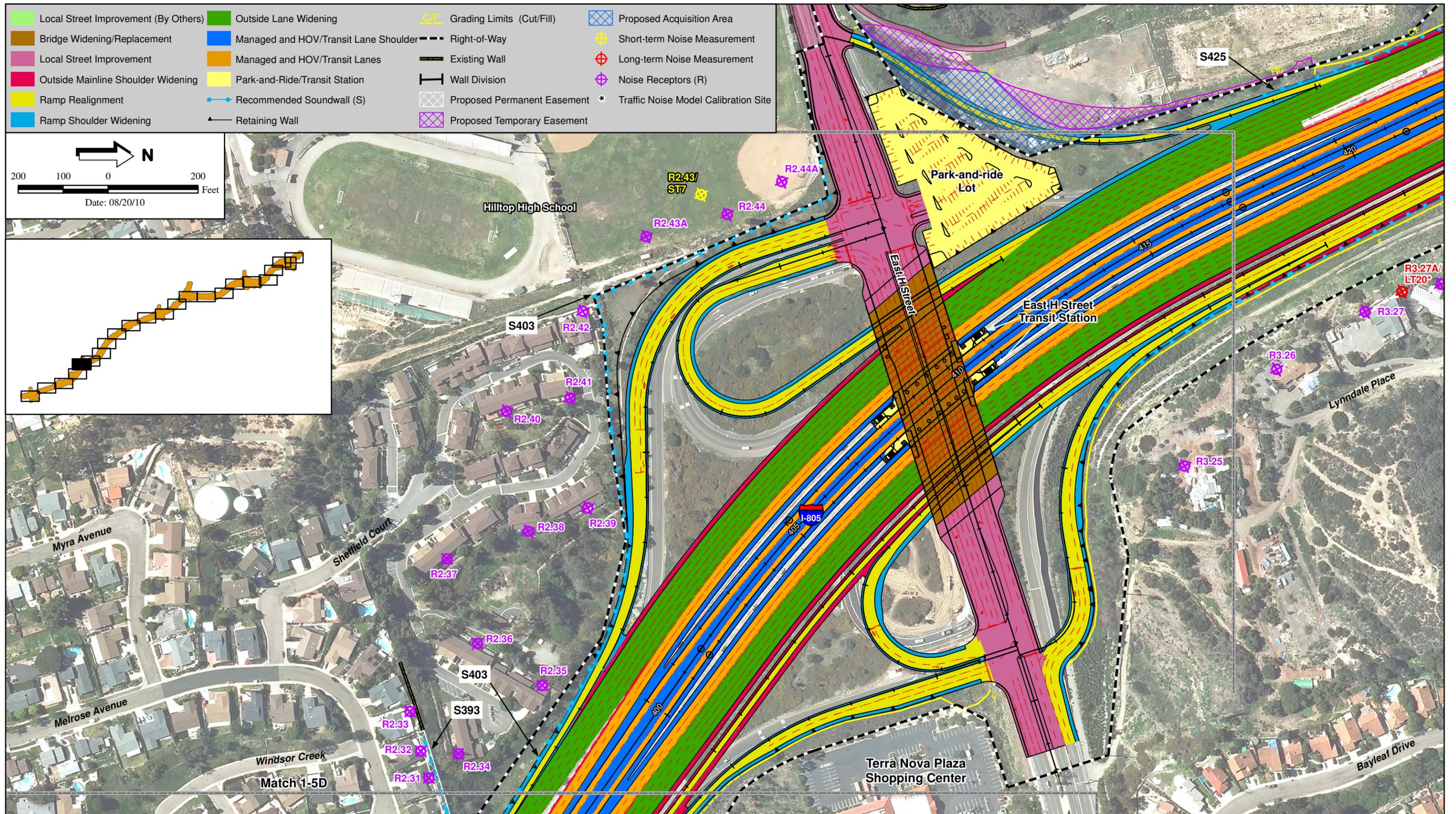
Figure 1-5C



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

Figure 1-5D

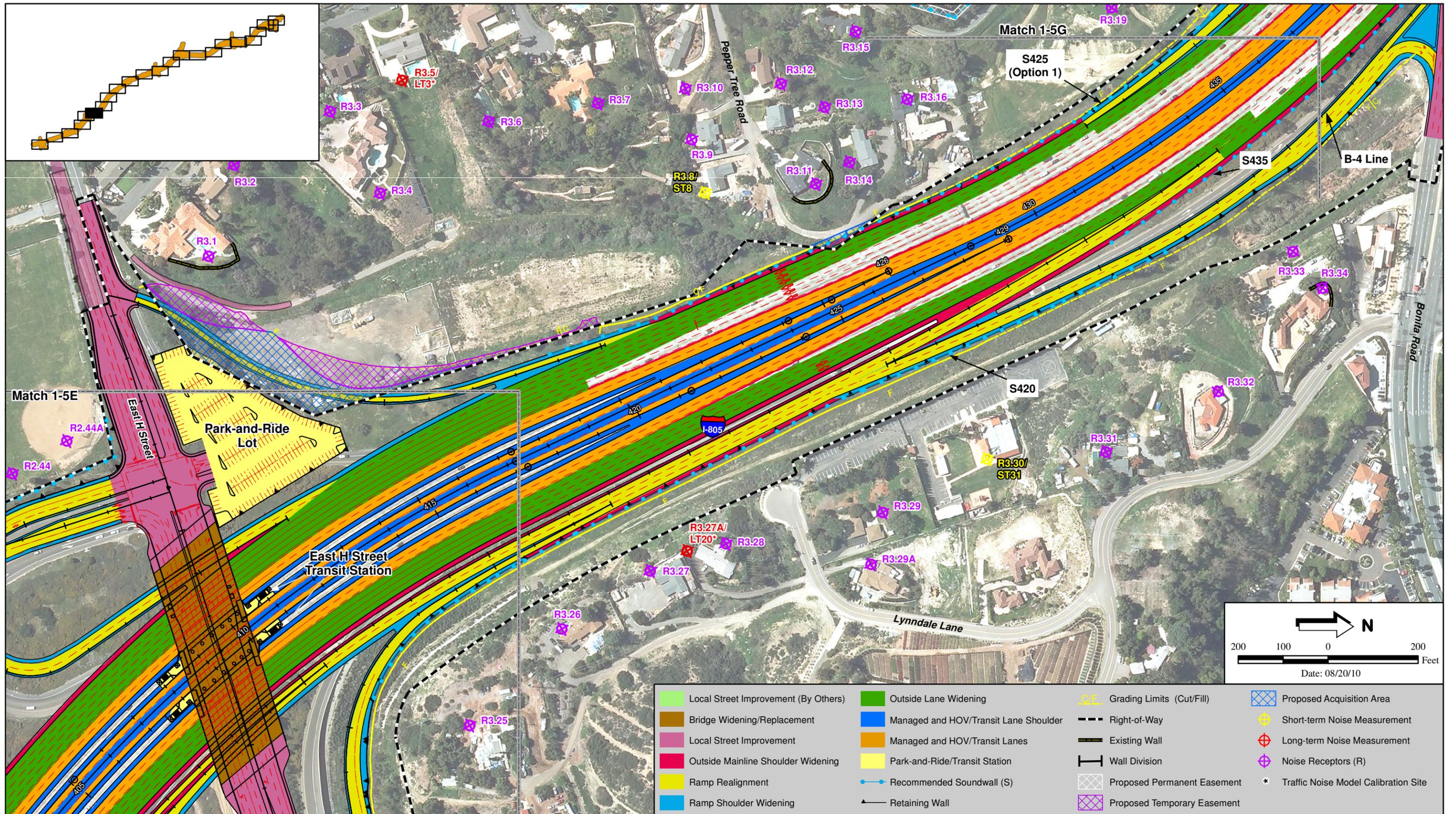


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Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

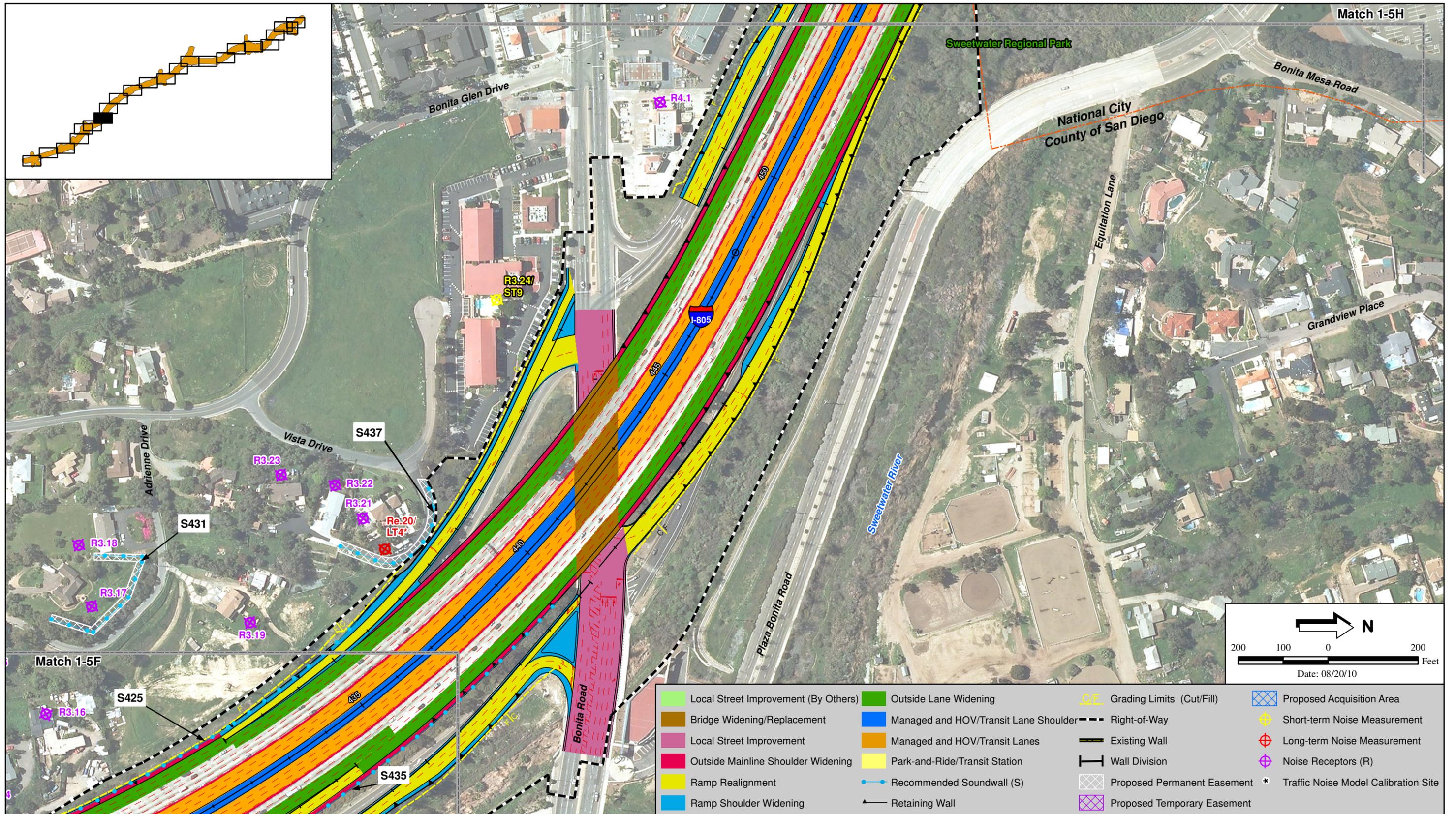
Figure 1-5E



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

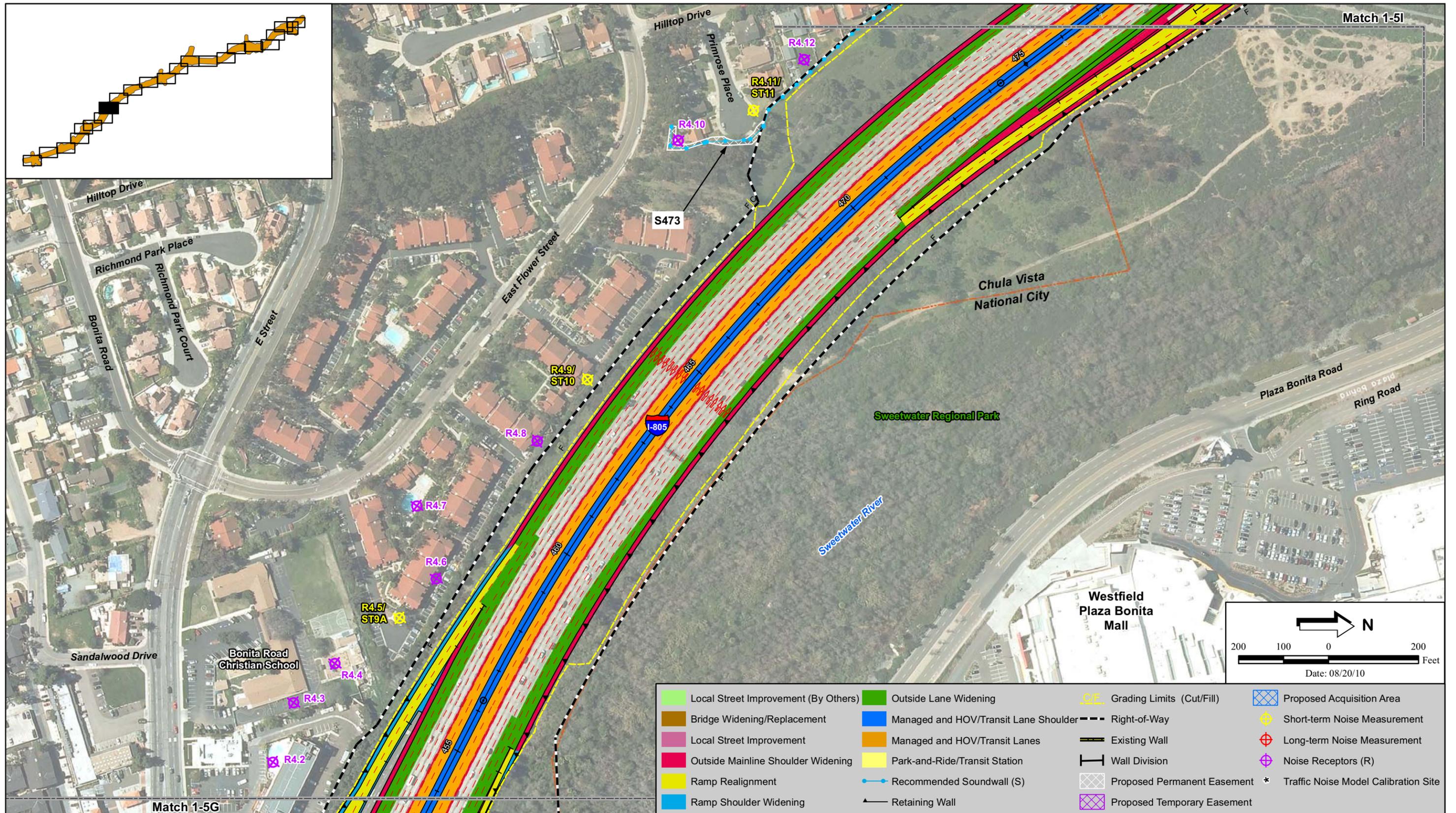
Figure 1-5F



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

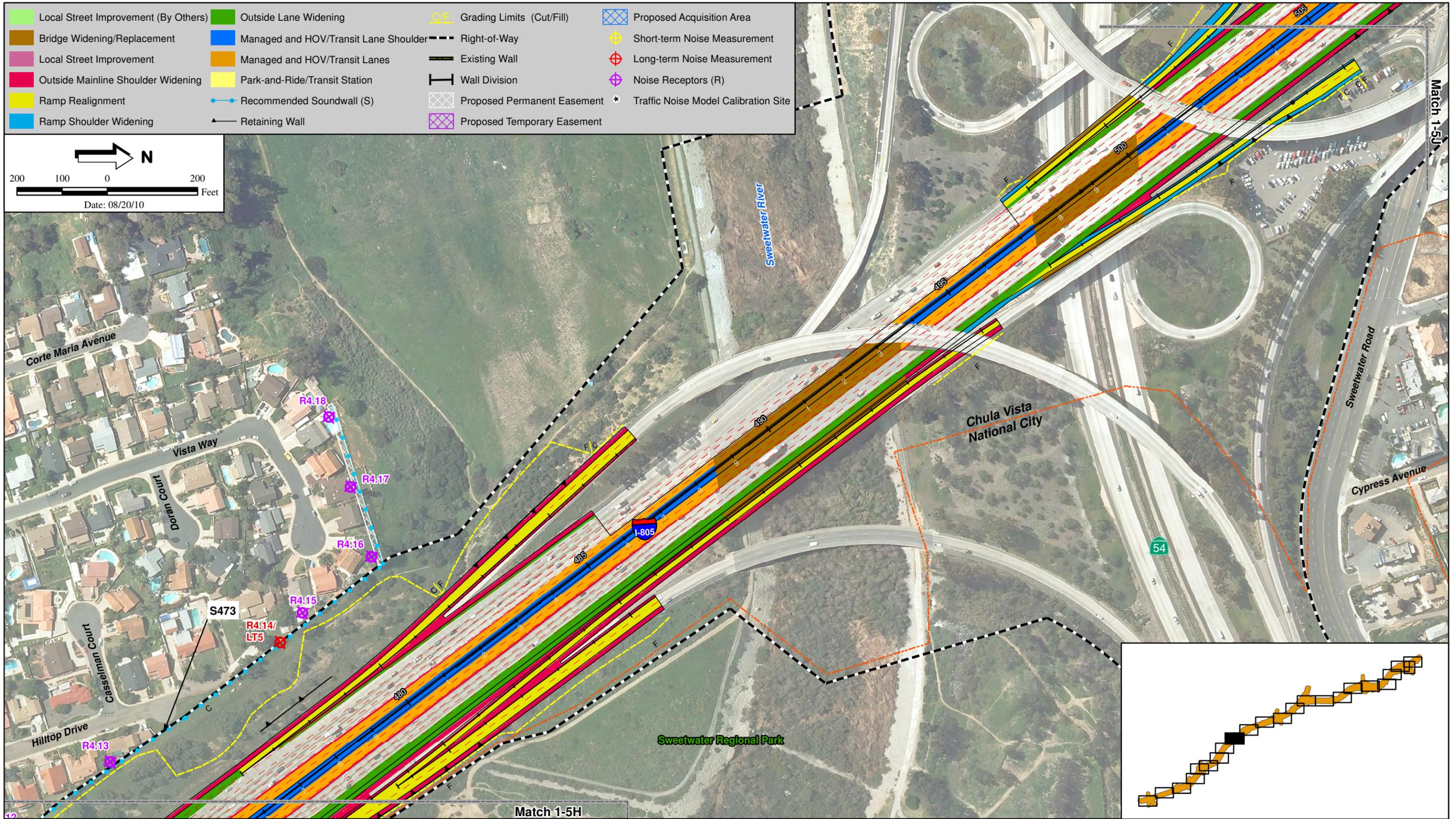
Figure 1-5G



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

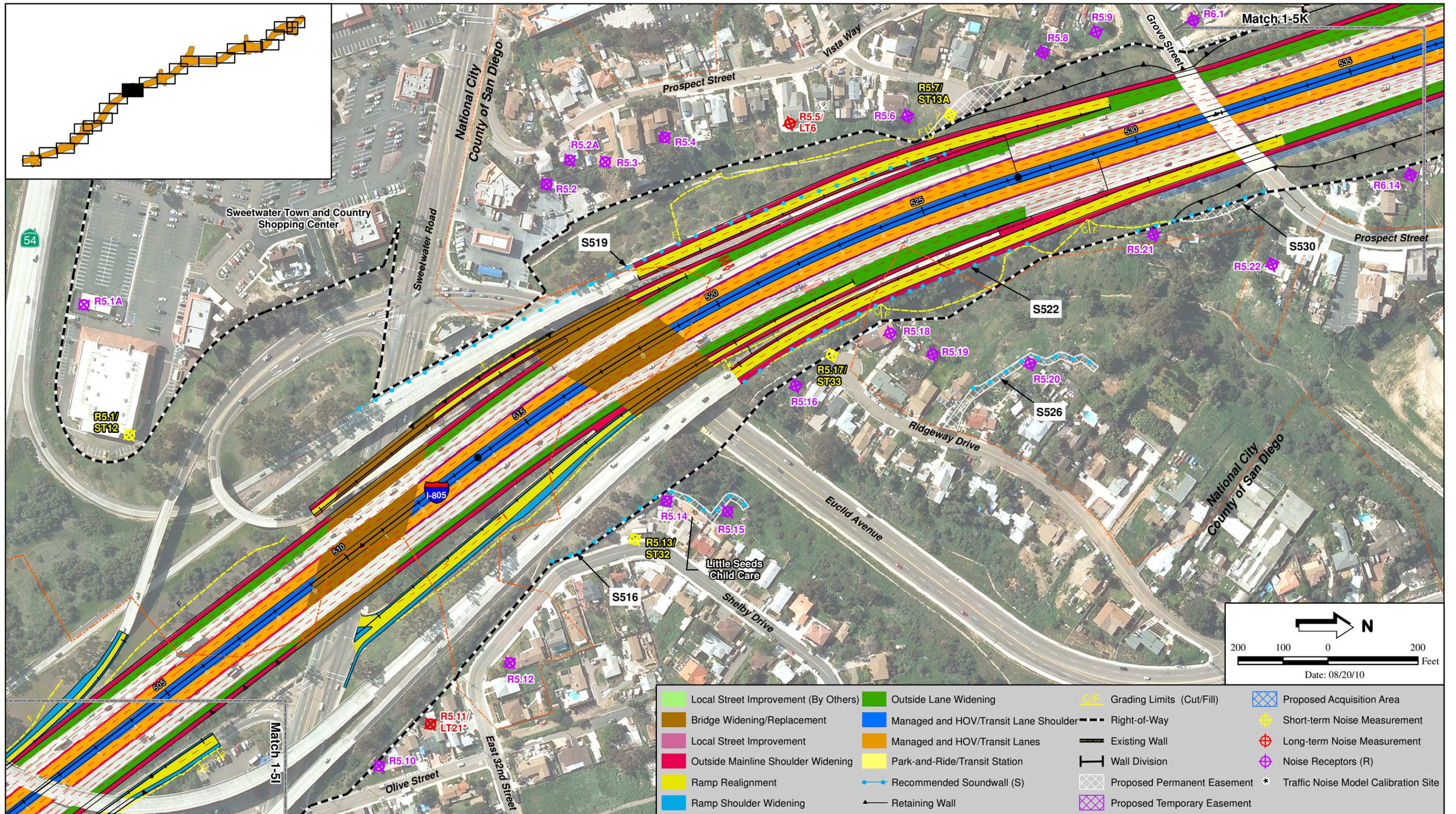
Figure 1-5H



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

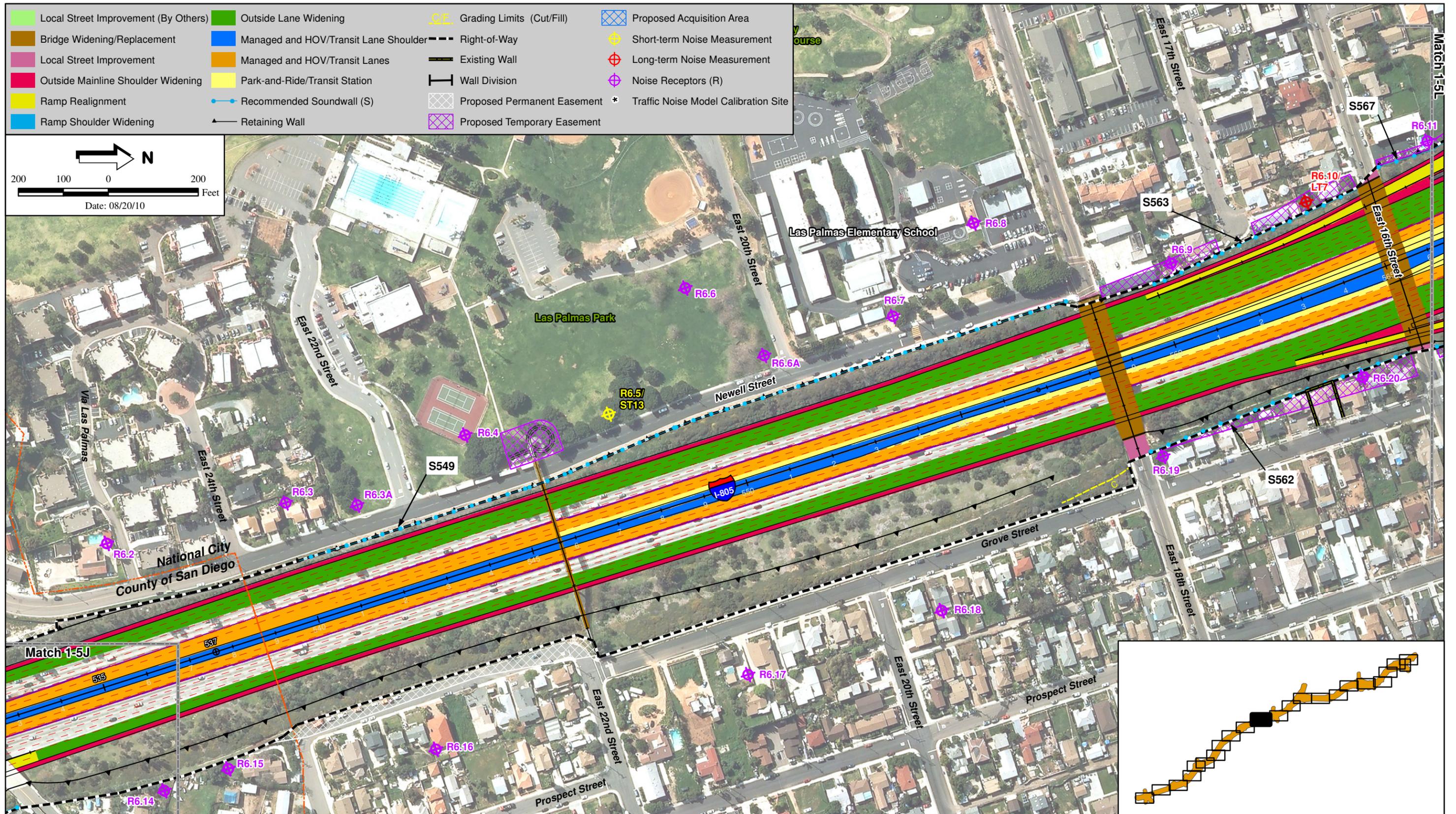
Figure 1-5I



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

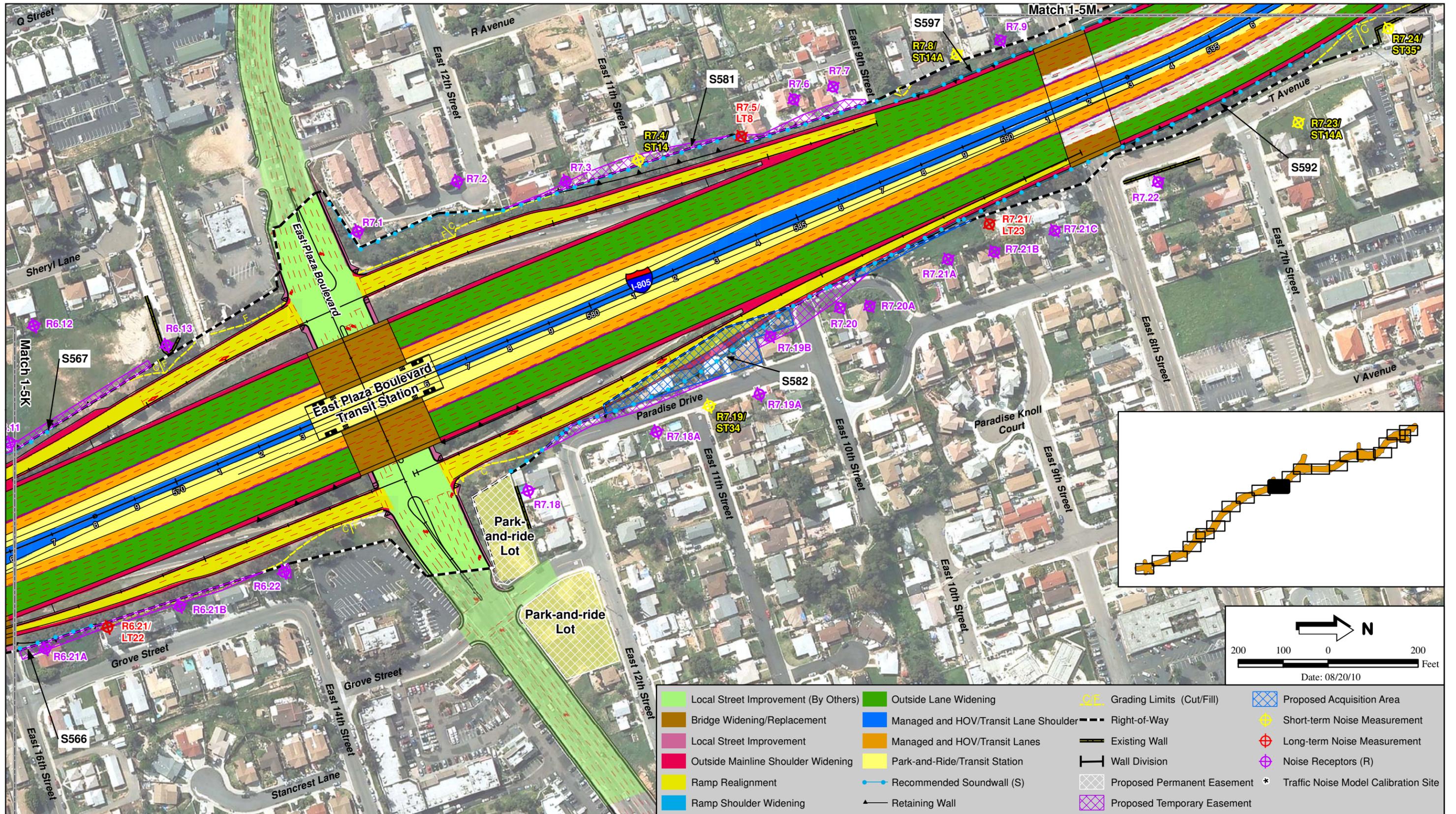
Figure 1-5J



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

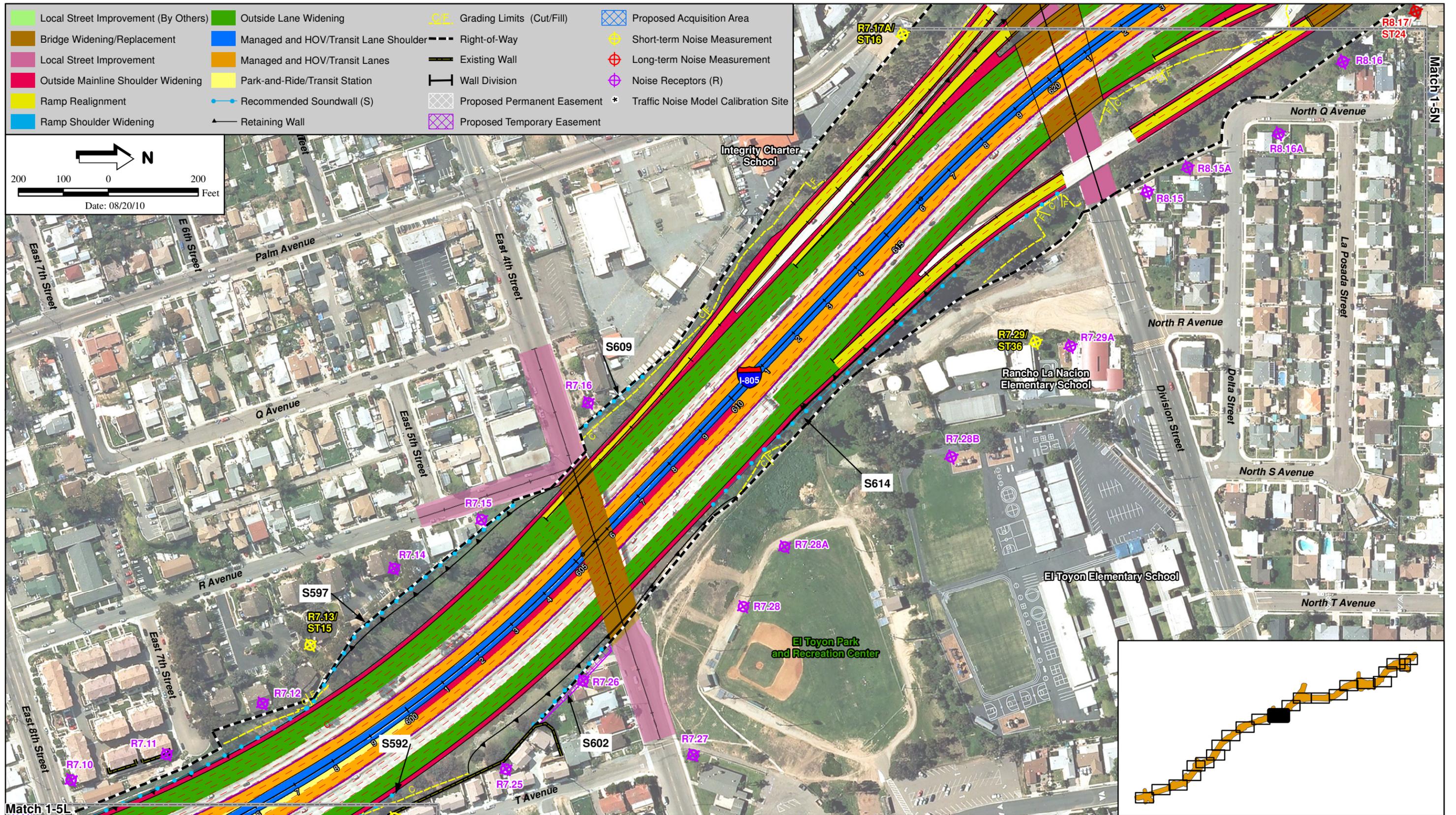
Figure 1-5K



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

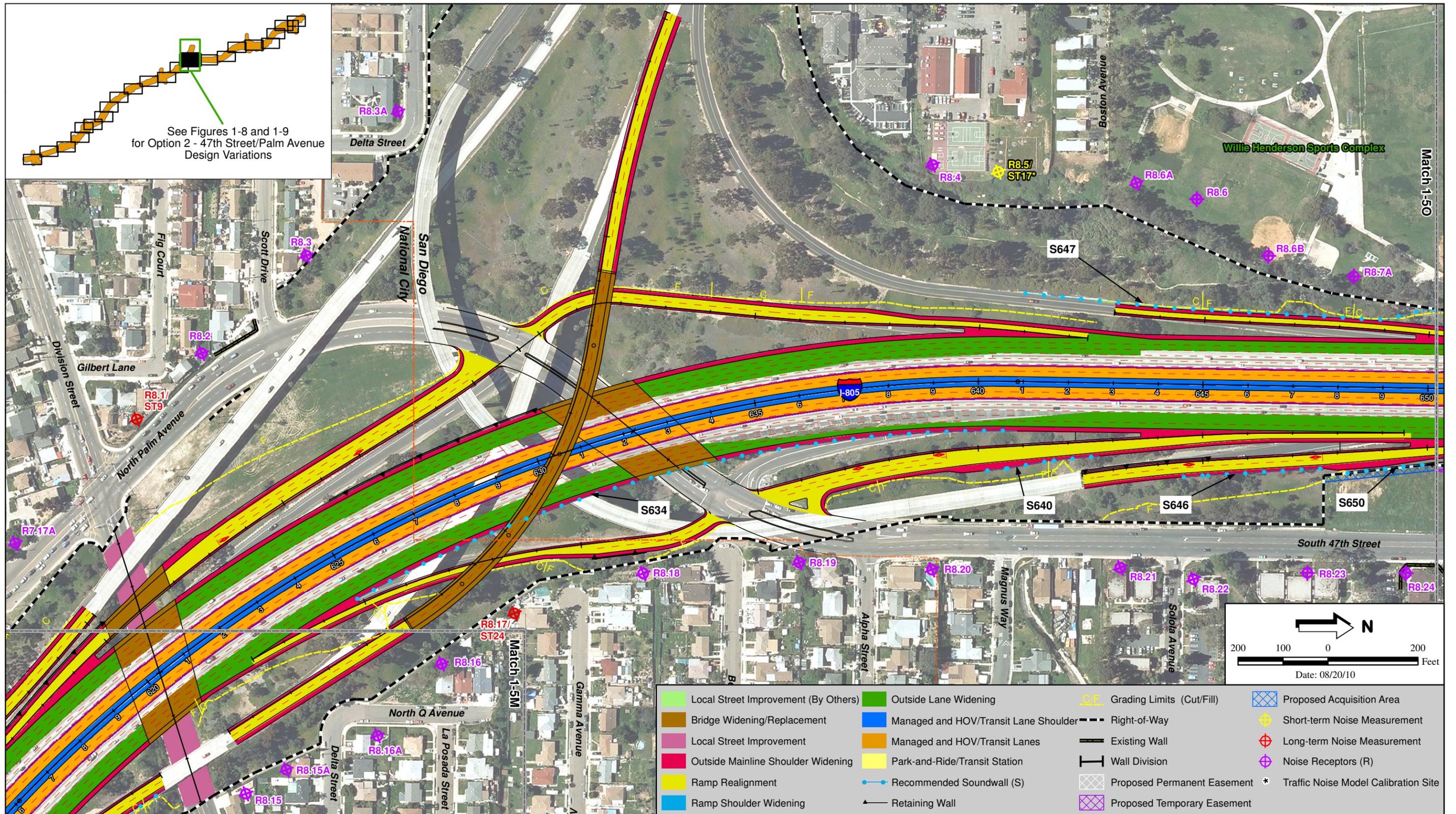
Figure 1-5L



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

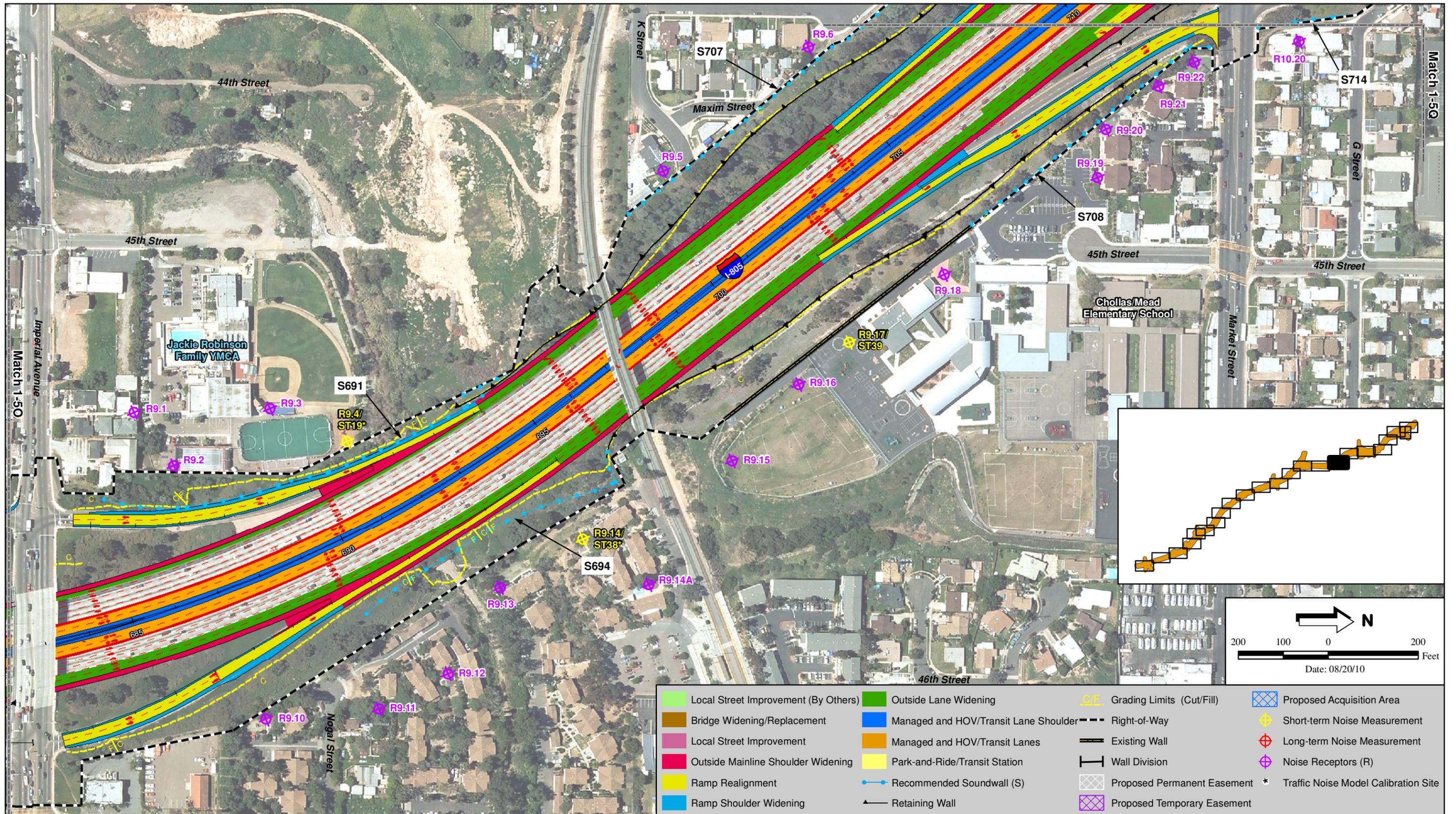
Figure 1-5M



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

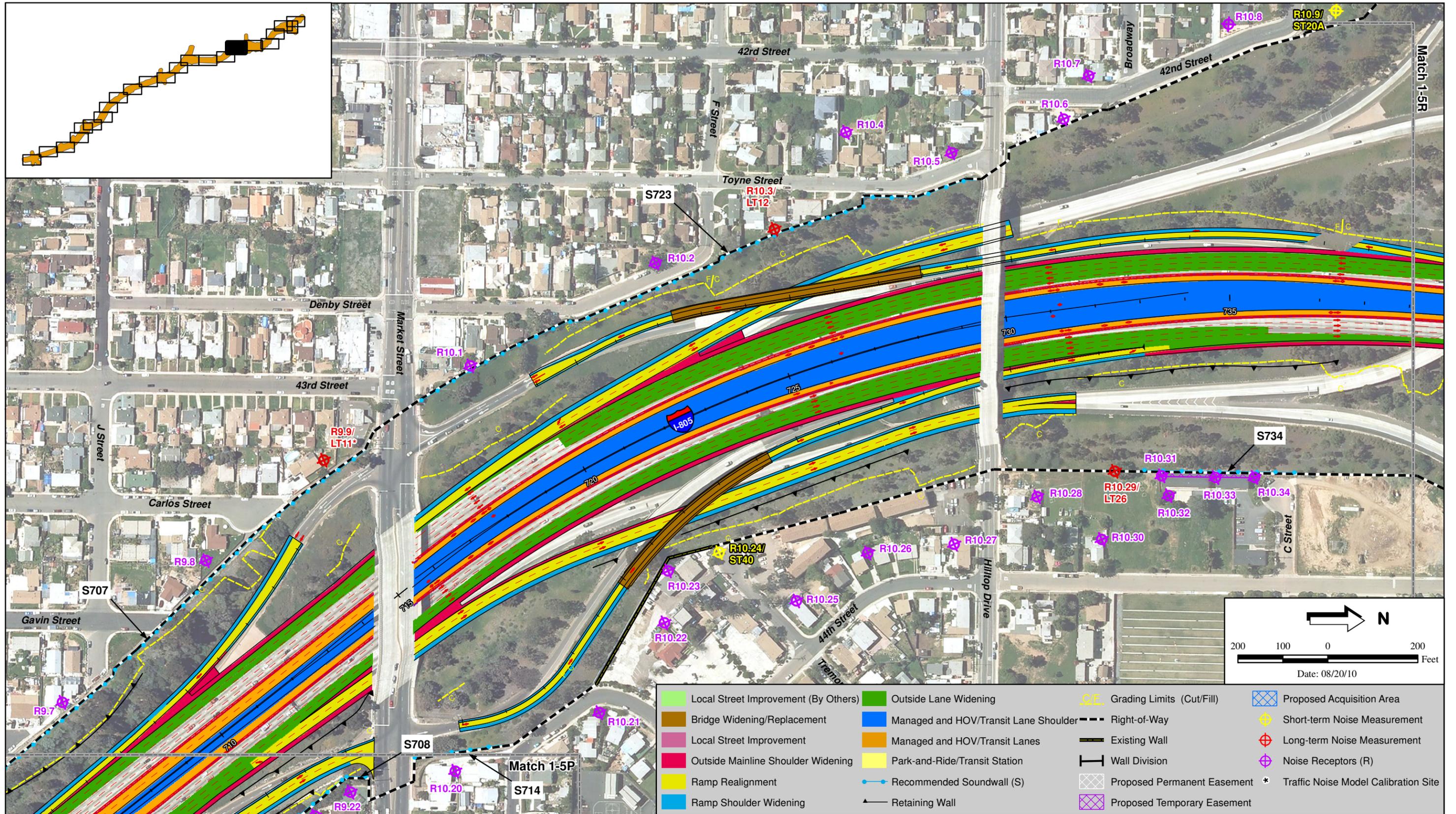
Figure 1-5N



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

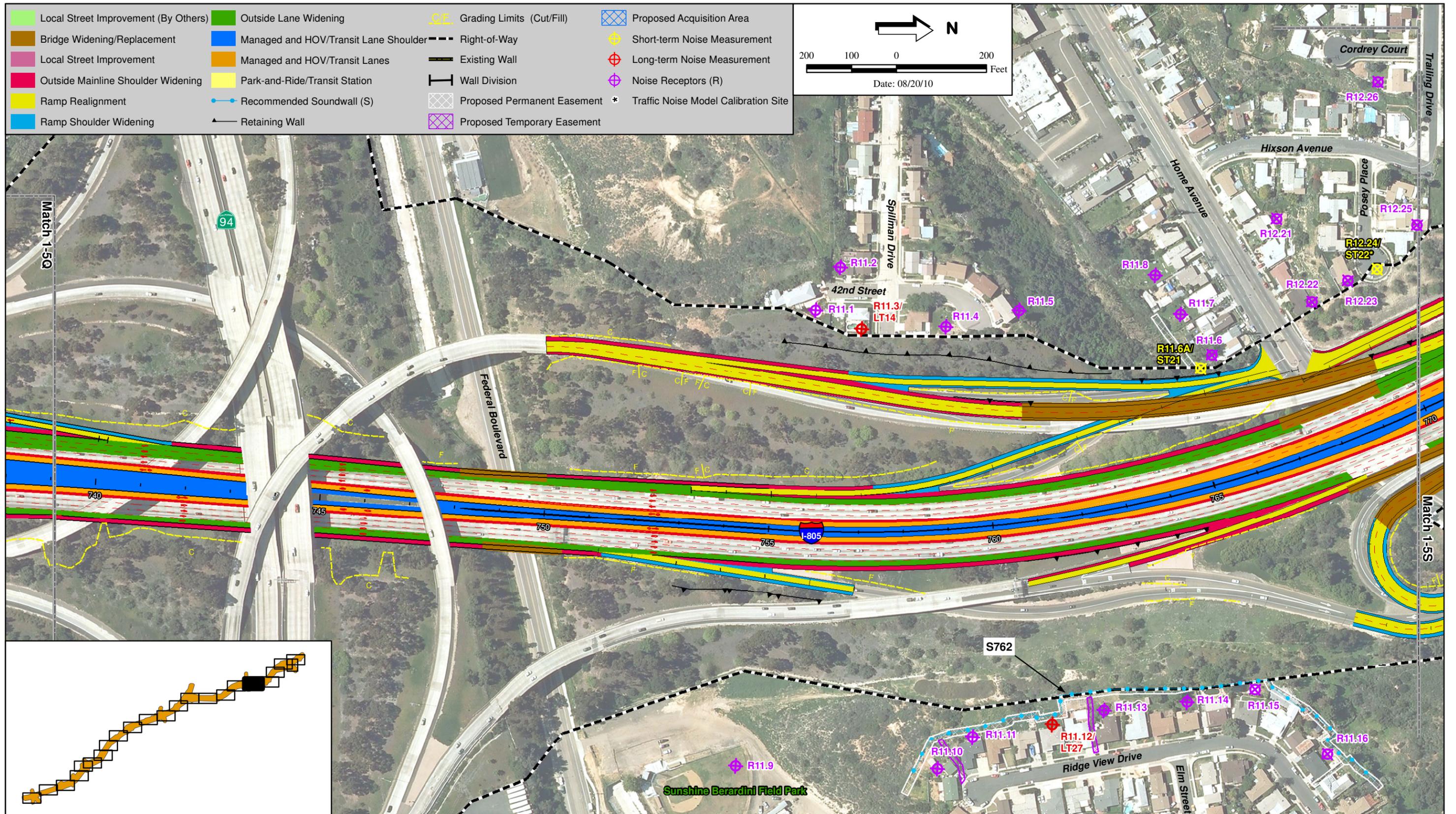
Figure 1-5P



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

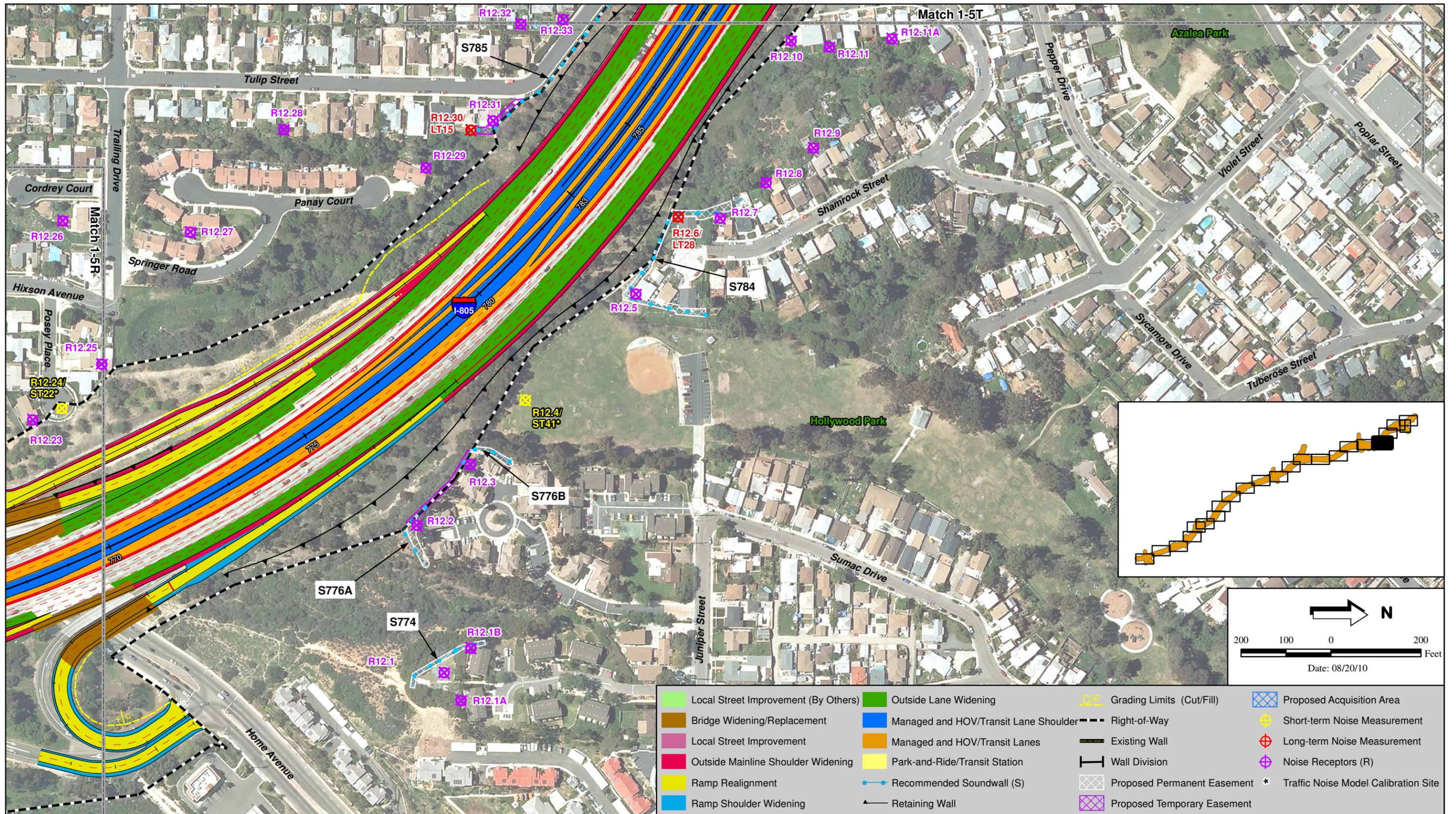
Figure 1-5Q



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

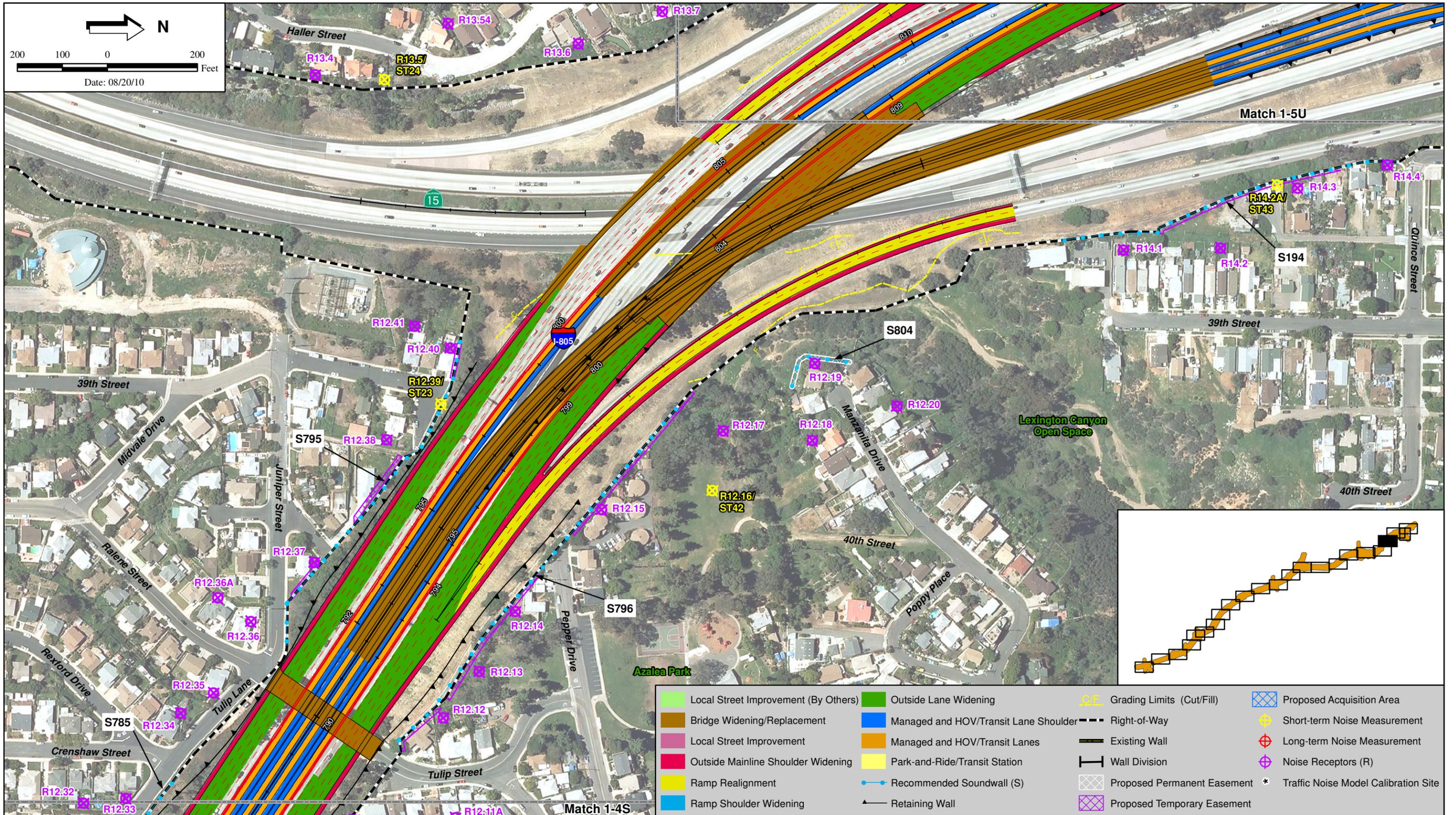
Figure 1-5R



Major Project Features - Build Alternative 1

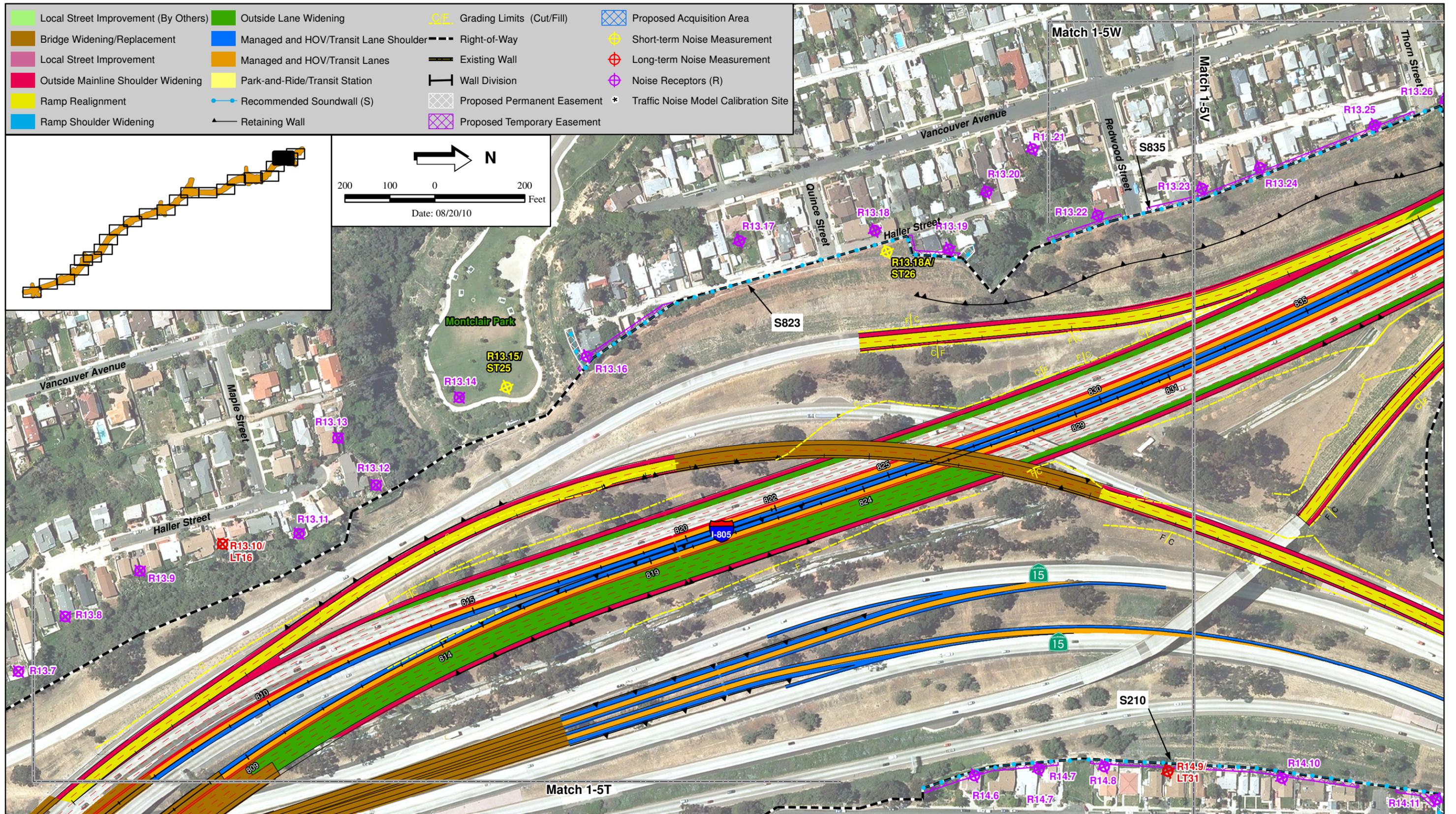
I-805 MANAGED LANES SOUTH PROJECT

Figure 1-5S



Major Project Features - Build Alternative 1

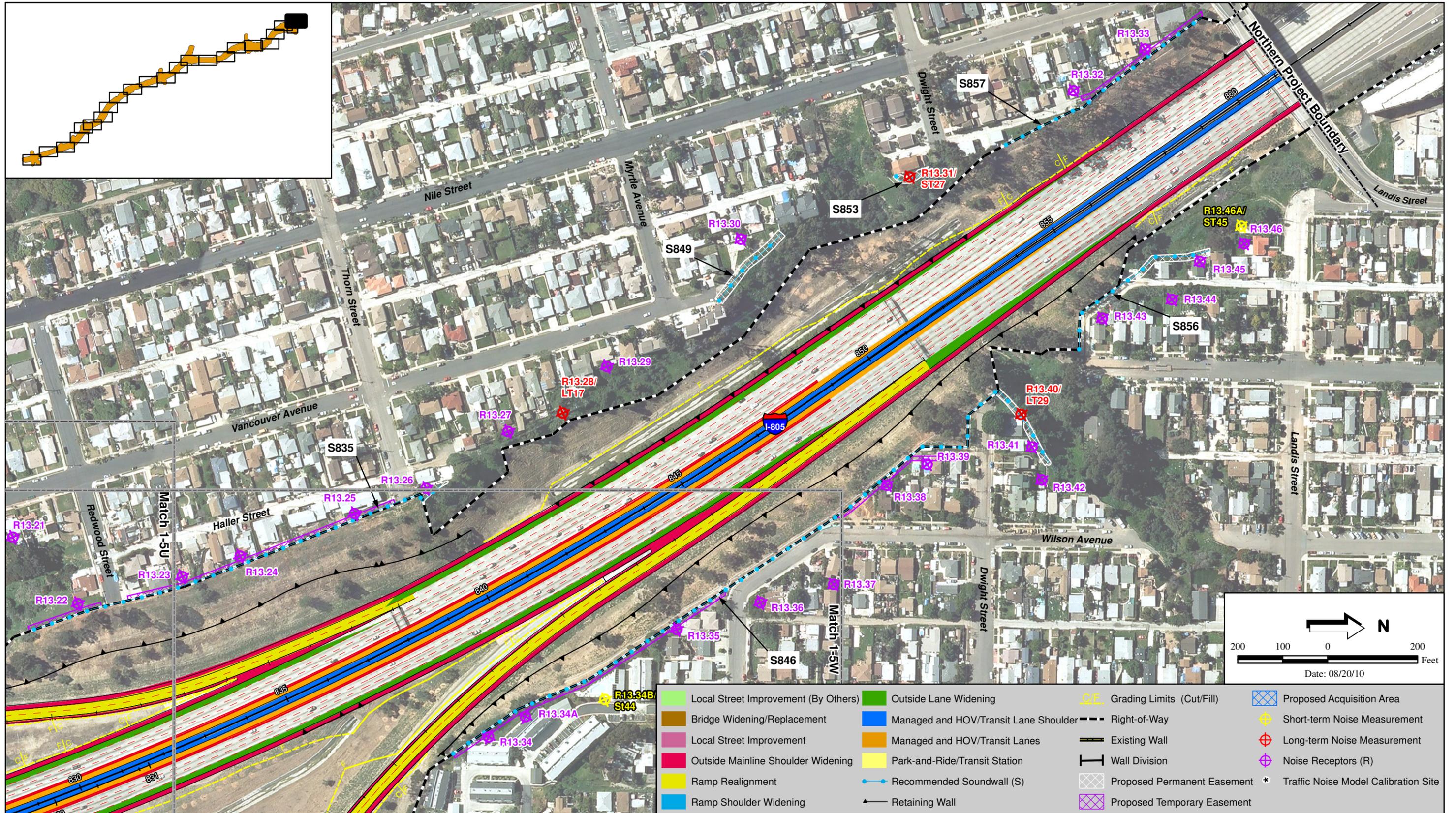
I-805 MANAGED LANES SOUTH PROJECT



Major Project Features - Build Alternative 1

I-805 MANAGED LANES SOUTH PROJECT

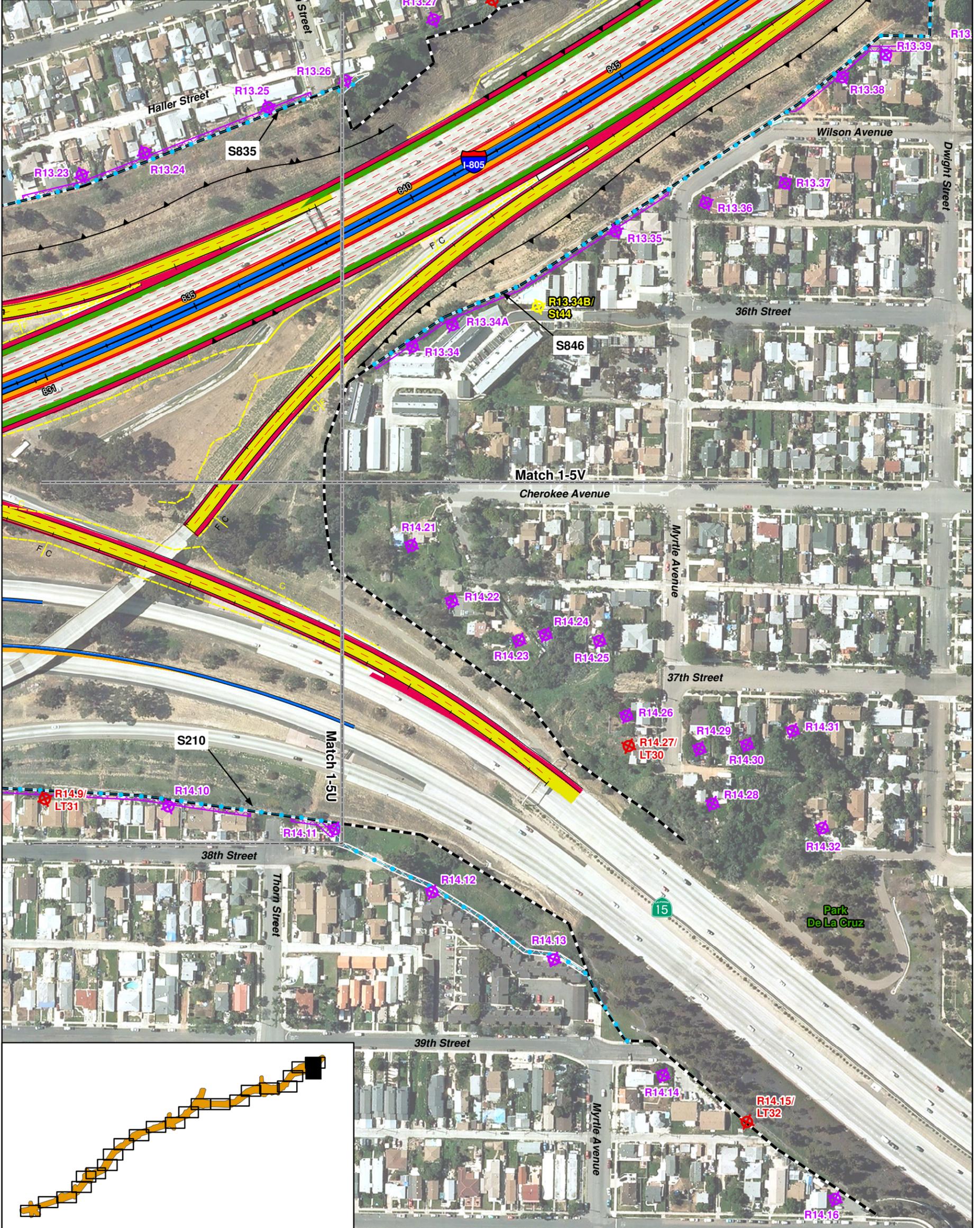
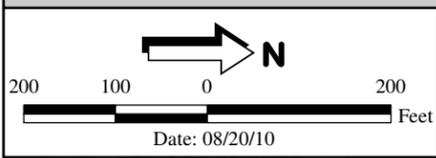
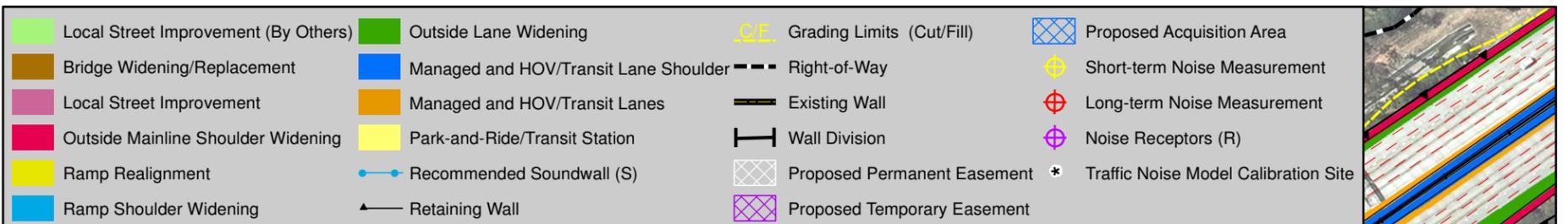
Figure 1-5U



Major Project Features - Build Alternative 1

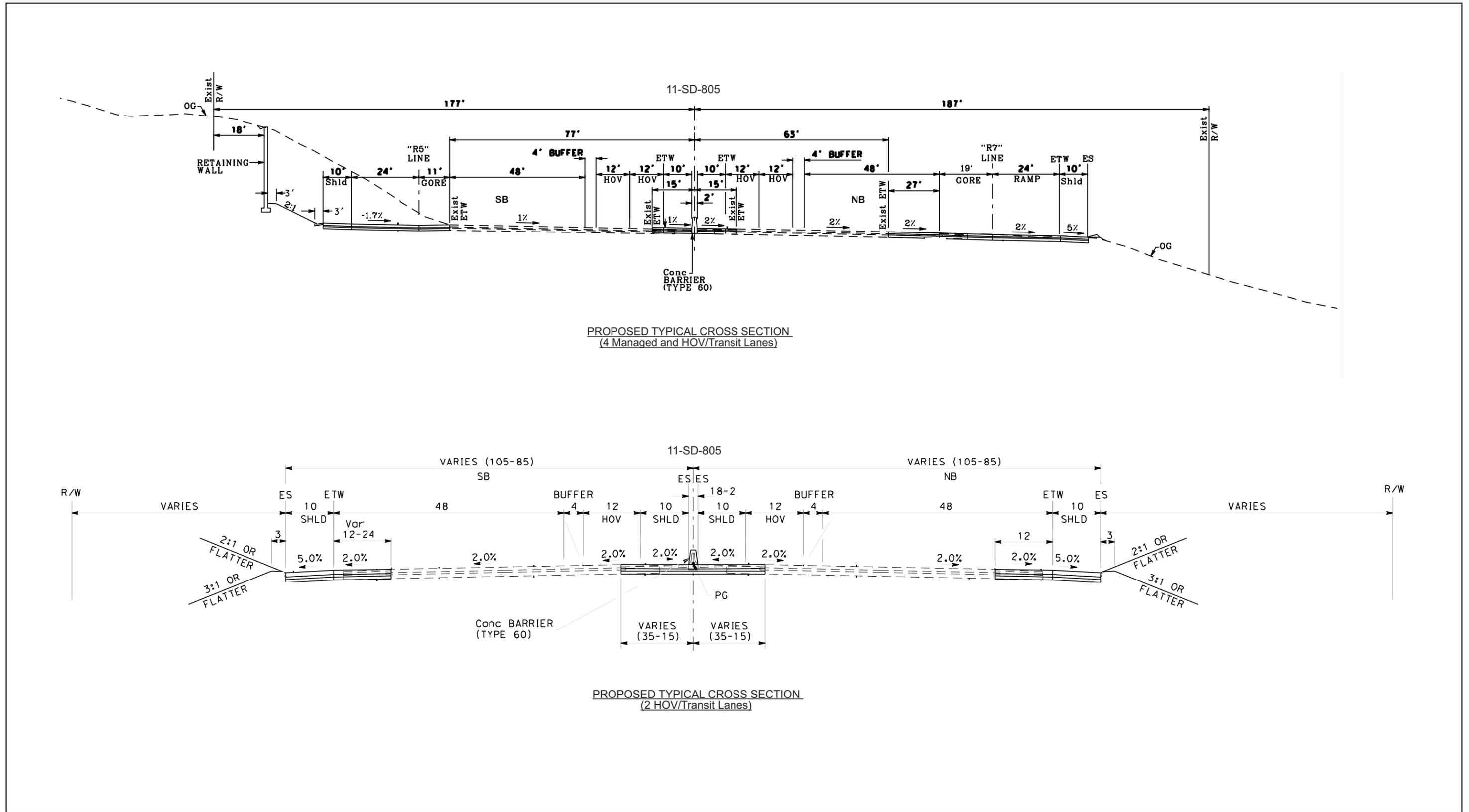
I-805 MANAGED LANES SOUTH PROJECT

Figure 1-5V



Major Project Features - Build Alternative 1

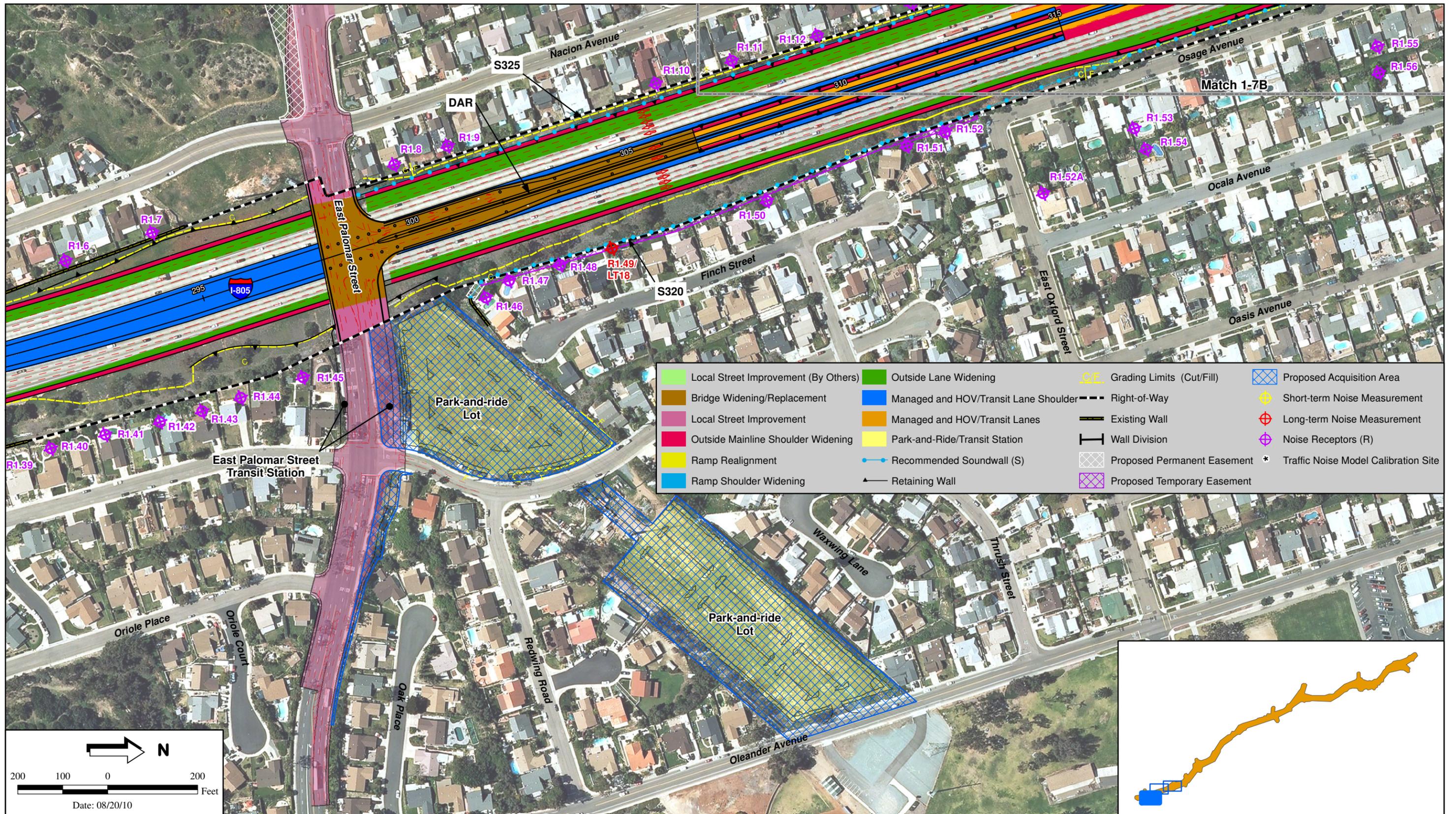
I-805 MANAGED LANES SOUTH PROJECT



Typical Cross-sections - Proposed I-805 South Corridor

I-805 MANAGED LANES SOUTH PROJECT

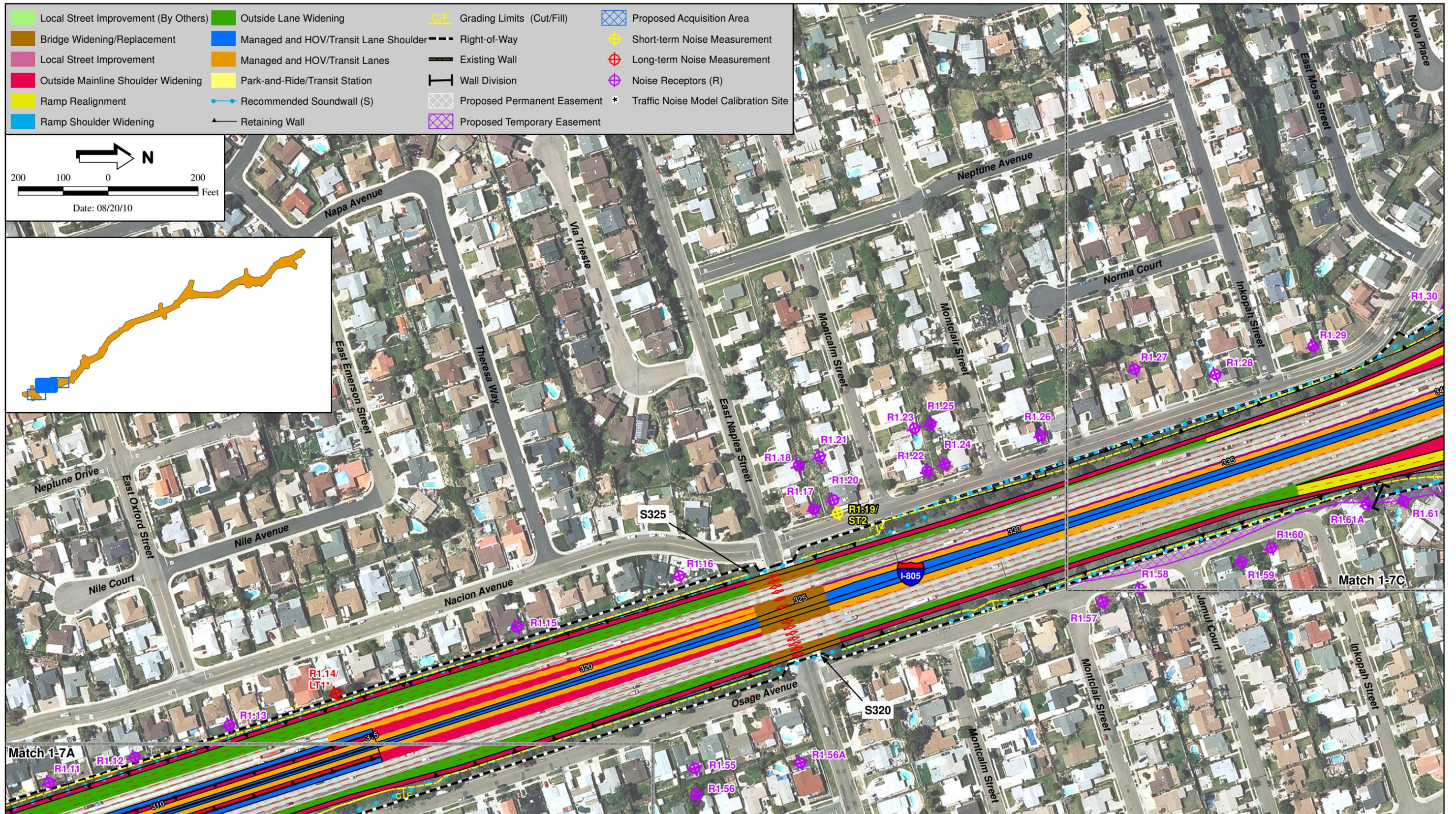
Figure 1-6



Major Project Features - Build Alternative 2

I-805 MANAGED LANES SOUTH PROJECT

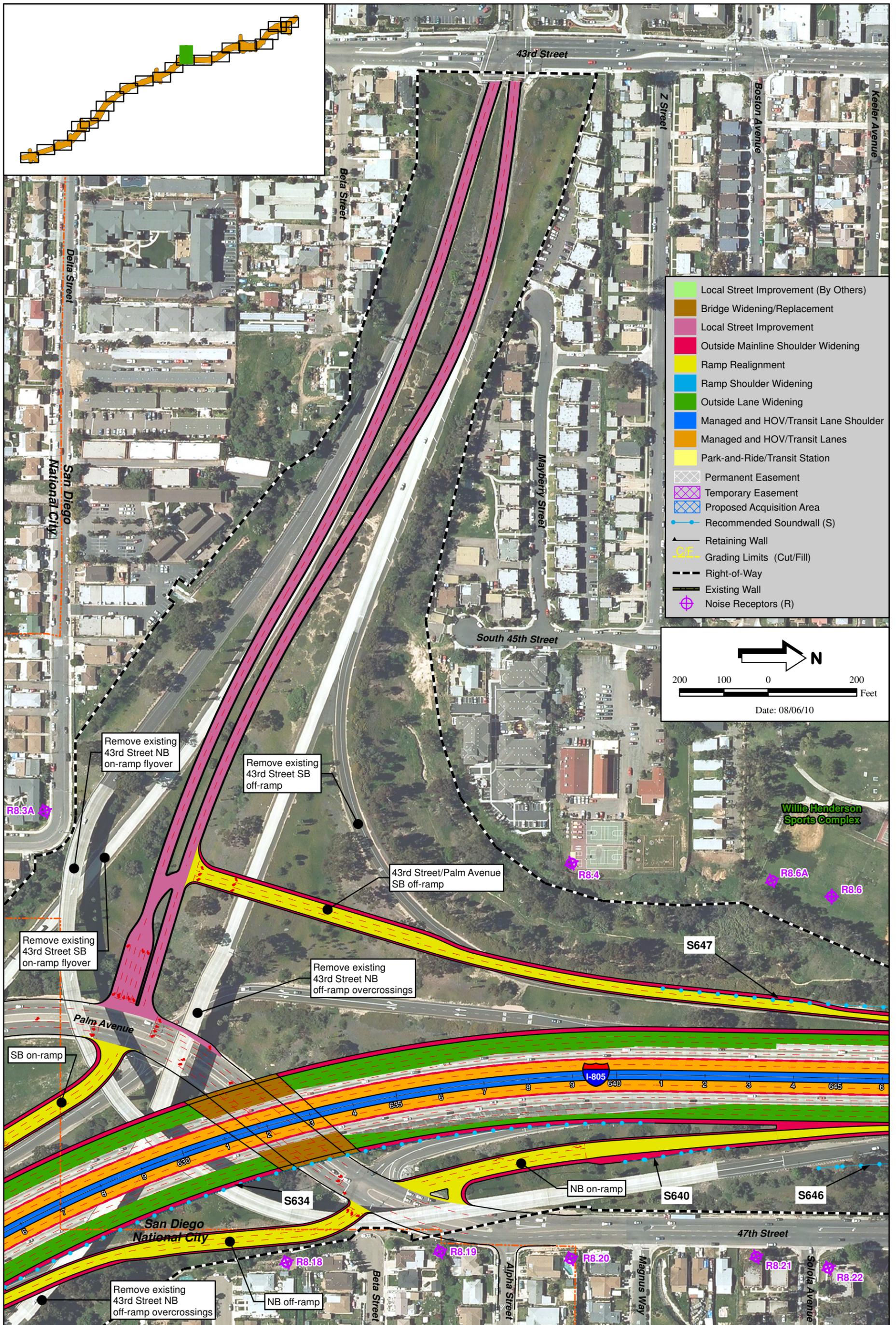
Figure 1-7A



Major Project Features - Build Alternative 2

I-805 MANAGED LANES SOUTH PROJECT

Figure 1-7B



Option 2 - 47th Street/Palm Avenue Design Variation A

I-805 MANAGED LANES SOUTH PROJECT

Figure 1-8

CHAPTER 2.0

**AFFECTED ENVIRONMENT; ENVIRONMENTAL
CONSEQUENCES; AND AVOIDANCE, MINIMIZATION
AND/OR MITIGATION MEASURES**

CHAPTER 2.0 – AFFECTED ENVIRONMENT; ENVIRONMENTAL CONSEQUENCES; AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES

This chapter discusses existing conditions and addresses the environmental impacts of the Project alternatives, as well as identifies avoidance, minimization, and mitigation measures.

As part of the scoping and environmental analysis conducted for the Project, the following environmental issues were considered, but no adverse impacts were identified. Consequently, there is no further discussion of these issues in this document.

- *Coastal Zone*: The Project site is not located within the Coastal Zone.
- *Wild and Scenic Rivers*: There are no designated Wild and Scenic Rivers in the Project area.
- *Farmlands/Timberlands*: The Project site is not located on land under a Williamson Act contract or within a Timber Production Zone, and no agricultural resources are located in the vicinity. Project implementation would not convert farmland to non-agricultural uses or affect any farmlands or timberlands.

HUMAN ENVIRONMENT

2.1 LAND USE

This subchapter evaluates the Project's compatibility with existing and planned land uses; consistency with relevant adopted land use plans, policies, and ordinances; and potential impacts on parks and recreational facilities within the Project area.

2.1.1 Existing and Future Land Use

Affected Environment

A Community Impact Assessment (CIA; *Interstate 805 Managed Lanes South Project Final Community Impact Assessment*) was prepared for the Project in March 2010. The following information is based on the CIA.

Existing Land Use

The Project site traverses (from south to north) the City of Chula Vista, the County of San Diego (within the Sweetwater and County Islands communities), the City of National City, and the City of San Diego (within the Greater North Park, Mid-City, Southeastern San Diego, and Encanto communities). Existing land uses within the Project area are diverse and generally include: single- and multi-family residential, mobile home parks, commercial/office, institutional, industrial, cemeteries, schools, churches, park/recreational facilities, and public services. Existing land uses within these jurisdictions are discussed below, and shown on Figures 2.1-1A through 2.1-1D.

City of Chula Vista

The City of Chula Vista encompasses approximately 33,000 acres of land from San Diego Bay eastward to Otay Lakes and is unofficially divided into two areas: older or western Chula Vista (west of I-805) and eastern Chula Vista (east of I-805). Western Chula Vista has older single-family residential neighborhoods separated by commercial corridors. Eastern Chula Vista is primarily comprised of newer planned, suburban development characterized by single-family residential areas and commercial malls, although villages in the Otay Ranch Master Planned Community have higher density central cores of multi-family residential, neighborhood-serving shops, and community facilities. The majority of the housing stock in Chula Vista was constructed between 1960 and 1990 and the median housing value is approximately \$193,000. Within the Project area and vicinity, existing land uses within Chula Vista include residential, commercial/office, institutional, schools, churches, parks/recreational facilities, recreational vehicle (RV) park, open space, and undeveloped land. Refer to Figures 2.1-1A and 2.1-1B.

Commuters within Chula Vista access I-805 within the Project area from major roadways, such as Telegraph Canyon Road, East J Street, East H Street, E Street, and Bonita Road. Residents have an average travel time to work of 28 minutes. The educational, social, and health services employment category provides the highest percentage of jobs in Chula Vista.

County of San Diego

The I-805 south corridor traverses portions of the unincorporated area of the County of San Diego, including the County Islands of Greenwood and Lincoln Acres, as well as the Sweetwater Community Planning Area. Greenwood is surrounded by the City of San Diego and consists of Greenwood Memorial Park and Cemetery. Lincoln Acres is surrounded by the City of National City and is characterized by the La Vista Cemetery and existing residential lots. Refer to Figures 2.1-1B and 2.1-1C. The Sweetwater Community Planning Area is located south of SR 54, east of I-805 (with a small piece west of I-805), and north of the City of Chula Vista. This area consists mostly of single-family residential and the Sweetwater River Valley. The majority of the housing stock in the Sweetwater Community Planning Area was constructed between 1970 and 1990 and the median housing value is approximately \$294,000. Within the Project area and vicinity, existing land uses within the Sweetwater Community Planning Area include residential, commercial, and open space. Refer to Figure 2.1-1B.

Commuters within the County Islands access I-805 within the Project area from major roadways, such as Bonita Road, Sweetwater Road, Euclid Avenue, and Imperial Avenue. Residents have an average travel time to work of 26 minutes. The educational, social, and health services employment category provides the highest percentage of jobs.

City of National City

The City of National City encompasses approximately 5,900 acres and is almost completely built out with urban land uses, including mostly older single-family residential neighborhoods interspersed with schools and parks, commercial centers along major roadways, and industrial uses to the west (lining I-5). The majority of the housing stock in the National City was constructed between 1950 and 1980 and the median housing value is approximately \$122,000. Within the Project area and vicinity, existing land uses within National City include residential, commercial, institutional, industrial, schools, churches, parks/recreational facilities (including a golf course), and undeveloped land. Refer to Figures 2.1-1B and 2.1-1C.

Commuters within National City access I-805 within the Project area from major roadways, such as East Plaza Boulevard and East Division Street. Residents have an average travel time to work of 25 minutes. The educational, social, and health services employment category provides the highest percentage of jobs in National City.

City of San Diego

The Project site is located within four communities in the City of San Diego, including (from south to north): Encanto, Southeastern San Diego, City Heights, and Greater North Park. These areas are briefly described below.

Encanto. The Encanto community is located south of SR 94 and east of I-805 and is predominantly a low-density residential community with more dense residential projects and commercial and industrial uses located near major streets in the core. The majority of the housing stock in the Encanto community was constructed between 1950 and 1980 and the median housing value is approximately \$138,000. Within the Project area and vicinity, existing land uses in the Encanto community include residential, commercial, institutional, schools, churches, parks/recreational facilities, and a cemetery. Refer to Figures 2.1-1C and 2.1-1D.

Commuters within Encanto access I-805 within the Project area from major roadways, including Imperial Avenue and Market Street. Residents have an average travel time to work of 29 minutes. The educational, social, and health services employment category provides the highest percentage of jobs.

Southeastern San Diego. The Southeastern San Diego community is located south of SR 94, west of I-805, and north of National City. Southeastern San Diego is an urbanized community that is ethnically diverse and contains older residential neighborhoods. The majority of the housing stock in the Southeastern San Diego community was constructed between 1950 and 1970 although several neighborhoods were developed before 1940. The median housing value is approximately \$96,000. Within the Project area and vicinity, existing land uses in the Southeastern San Diego community include residential, commercial, institutional, industrial, schools, and parks/recreational facilities. Refer to Figures 2.1-1C and 2.1-1D.

Commuters within Southeastern San Diego access I-805 within the Project area from major roadways, including Imperial Avenue and Market Street. Residents have an average travel time to work of 29 minutes. The art, entertainment, accommodations, and food services employment category provides the highest percentage of jobs in Southeastern San Diego.

City Heights. City Heights is located north of SR 94 and east of SR 15 and I-805. Development in City Heights is a mixture of single- and multi-family residential with commercial and other non-residential development primarily concentrated along the major arterials, including El Cajon Boulevard, University Avenue, Fairmount Avenue, and Euclid Avenue. The majority of the housing stock in the City Heights community was constructed between 1950 and 1980 and the median housing value is approximately \$96,000. Within the Project area and vicinity, existing land uses in the City Heights community include residential, commercial, institutional, industrial, schools, parks/recreational facilities, and open space. Refer to Figure 2.1-1D.

Commuters within City Heights access I-805 within the Project area from major roadways, including Home Avenue and University Avenue. Residents have an average travel time to work

of 30 minutes. The art, entertainment, accommodations, and food services employment category provides the highest percentage of jobs in Southeastern San Diego.

Greater North Park. The Greater North Park community is located in the central portion of the City of San Diego and is in close proximity to downtown San Diego. Greater North Park mostly contains residential uses. The majority of the housing stock in the Greater North Park community was constructed before 1940 and the median housing value is approximately \$194,000. Within the Project area and vicinity, existing land uses in the Greater North Park community include residential, commercial, schools, churches, parks/recreational facilities, and open space. Refer to Figure 2.1-1D.

Commuters within Greater North Park access I-805 within the Project area primarily from University Avenue. Residents have an average travel time to work of 24 minutes. The educational, social, and health services employment category provides the highest percentage of jobs.

Future Land Use and Development Trends

The Project site and vicinity are mostly developed. Major commercial, office, industrial, and residential developments have been built in the vicinity since construction of I-805. There is little undeveloped land in the Project vicinity, and what remains is mostly open space. Accordingly, because the Project vicinity is mainly built out, projects are limited to redevelopment or infill development. Current permits and proposed improvements within the Project area largely consist of tenant improvements (e.g., water heater replacements), remodels, additions, and signage. No major or large land development projects are proposed or were recently constructed in the Project area.

Table 2.1-1 presents recent and proposed land development and public projects in the Project area. Projects listed in the table below mostly include those within a two-mile radius of the Project build alternatives. These developments are consistent with existing land use patterns.

Table 2.1-1 LAND DEVELOPMENT PROJECTS IN THE PROJECT AREA		
Name/Location	Project Description/Proposed Uses	Status
3201, 3223, and 3245 University Avenue, City of San Diego	Three new retail/commercial buildings (all separate permits)	Permits Issued
4904, 4908, 4912, and 4920 Nogal Street, City of San Diego	Four new single-family residences, each with four bedrooms, three bathrooms, and two-car garage (all separate permits)	Permits Issued
Mid-City Rapid Bus, City of San Diego	A 10-mile BRT line between San Diego State University and downtown San Diego along El Cajon and Park Boulevards	Preliminary Engineering and Environmental Complete
I-805 Southbound Auxiliary Lane Project, City of Chula Vista	Two SB auxiliary lanes along I-805 between SR 54 and Bonita Road	Under construction

Table 2.1-1 (cont.) LAND DEVELOPMENT PROJECTS IN THE PROJECT AREA		
Name/Location	Project Description/Proposed Uses	Status
South Bay Bus Rapid Transit, County of San Diego and cities of Chula Vista, National City, and San Diego	A 21-mile BRT line between Otay Mesa Port of Entry and downtown San Diego via Chula Vista, I-805, and SR 94.	Preliminary Engineering and Environmental Phase
SR 94 High Occupancy Vehicle Lanes, City of San Diego	Construct two HOV lanes between I-5 and I-805	Preliminary Engineering and Environmental Phase

Environmental Consequences

The following analysis of impacts related to existing and future land uses applies to both Build Alternative 1 and 2 because the build alternatives would occur in the same locations with similar Project footprints.

Build Alternatives

The Project would introduce additional transportation uses (e.g., two in-line transit stations, one off-line transit station, park-and-ride lots, and a DAR) along and within an existing transportation corridor and upon completion, would continue to provide regional access and connect to the existing local street network. Although, both build alternatives would result in the conversion of six residential parcels to transportation land uses, the proposed transportation land use that would replace the existing use would be compatible with the adjacent transportation corridor.

No Build Alternative

Under the No Build Alternative, the proposed improvements would not be constructed within the Project area; because no construction would occur, no impacts to existing or future land uses would occur.

Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

The proposed conversion of six residential parcels to transportation land uses would be compatible with the adjacent transportation corridor. Accordingly, no avoidance, minimization, or mitigation measures are required as they relate to land use conversion. Refer to Subchapter 2.3, Community Impacts, for minimization measures associated with relocations.

No Build Alternative

No land use impacts to existing and future land use would occur under the No Build Alternative. Therefore, no avoidance, minimization, and/or mitigation measures are required.

2.1.2 Consistency with State, Regional, and Local Plans

Affected Environment

Relevant Land Use Plans, Policies, and Ordinances

Plans, policies, and ordinances that pertain to land use and transportation planning within the Project area are contained in elements and policies of the SANDAG Regional Comprehensive Plan (RCP), 2030 RTP, and 2008 RTIP; Chula Vista General Plan; County of San Diego General Plan and Sweetwater Community Plan; National City General Plan; City of San Diego General Plan, Greater North Park Community Plan, Mid-City Communities Plan, and Southeastern San Diego Community Plan; Multiple Species Conservation Program (MSCP); and the San Diego County Community Trail Master Plan. These land use plans are described below.

A portion of the Project site is located within the County of San Diego's County Islands community planning areas; however, there is no community plan for these areas. Therefore, the County of San Diego General Plan governs these areas.

Regional Comprehensive Plan for the San Diego Region

The RCP is the strategic planning framework for the San Diego region. It creates a regional vision and provides a broad context in which local and regional decisions can be made that foster a healthy environment, vibrant economy, and high quality of life for all residents. The RCP balances regional population, housing, and employment growth; with habitat preservation, agriculture, open space, and infrastructure needs. A major focus of the RCP is improving connections between land use and transportation using smart growth principles. The RCP addresses the major elements of planning for the San Diego region, including urban form, transportation, housing, healthy environment, economic prosperity, public facilities, and border issues. The RCP recognizes that many of the region's major transportation facilities are operating at or beyond their current capacities. The Transportation Element of the RCP is discussed below.

Transportation Element

The Transportation Element of the RCP discusses the vision for the San Diego region in 2030 with regard to transportation, and includes a description of existing conditions, key issues, and recommended goals, policy objectives, and actions. Applicable policy objectives include:

- Provide a wide range of convenient, efficient, and safe travel choices.
- Reduce traffic congestion on freeways and arterials.
- Develop a network of fast, convenient, high-quality transit services that are competitive with the cost and time to drive alone during peak periods.
- Improve service levels and the quality of transit service.
- Give priority to serving regional roadway and transit investments in smart growth opportunity areas while recognizing the need for transportation improvements elsewhere in the region.
- Improve the connectivity of different transportation modes where it will result in better overall mobility.

Regional Transportation Plan

In November 2007, the SANDAG Board of Directors approved the 2030 RTP. The 2030 RTP is the adopted long-range transportation planning document for the San Diego region. It is used as the basis for funding decisions made through the 2008 RTIP, which is discussed below. The plan covers public policies, strategies and investments to maintain, manage, and improve the regional transportation system through 2030.

Applicable policy goals and objectives of the 2030 RTP include:

Goals

- Improve the mobility of people and freight
- Maximize the efficiency of the existing and future transportation system
- Improve accessibility to major employment and other regional activity centers
- Improve the reliability and safety of the transportation system
- Minimize effects on the environment
- Ensure an equitable distribution of the benefits among various demographic and user groups

Objectives

- Focus transit improvements in areas with compatible land uses that support an efficient transit system
- Tailor transportation modal improvements to reflect supporting land uses in major travel corridors
- Minimize drive-alone travel by making it fast, convenient, and safe to carpool, vanpool, ride transit, walk, and bike, and improve goods movement
- Increase transit mode share during peak periods, with competitive transit travel times to major job centers
- Focus roadway and transit improvements in urban/suburban areas, away from the region's rural areas
- Improve air quality, reduce greenhouse gas (GHG) emissions, and limit impacts to sensitive habitats
- Provide equitable levels of transportation services for low-income, minority, and elderly and disabled persons

The 2030 RTP includes a Revenue Constrained Scenario of facilities and programs that would best maintain mobility in the region, if the funding levels for transportation do not increase before 2030. The 2030 RTP also includes a Reasonably Expected Revenue Scenario (if more funding becomes available) and an Unconstrained Scenario. The 2030 RTP includes major transit capital projects within the metropolitan area, encompassing approximately the western half of San Diego County. The Project is included in the 2030 RTP and is broken into three phases. The first phase includes the construction of two HOV lanes from East Palomar Street

to SR 94 in 2014. The second phase would entail construction of an HOV/BRT Direct Connector SR 15/I-805 (NB to NB and SB to SB in 2020). The third phase would add another HOV lane in each direction to provide four Managed Lanes (lanes for HOV/BRT/SOV only in 2030).

Regional Transportation Improvement Program

The RTIP is a key component of the RTP and other planning efforts for the region. The RTIP is consistent with the RTP and incrementally implements the vision presented in the RTP. The RTIP is a five-year capital improvement program for transportation projects that is updated by SANDAG every two years and reflects the region's priorities for short-range transportation system improvements. The currently adopted 2008 RTIP covers fiscal years (FYs) 2008/2009 through 2013/2014. Funding for the transportation projects in the 2008 RTIP comes from federal, state, and local revenue sources; including TransNet, the local transportation sales tax program. The Project is described in the 2008 RTIP as "I-805 HOV/Managed Lanes - South" RTIP Project MPO ID CAL78C with a capacity status of Capacity Increasing, meaning the Project would increase system capacity. The description is: "From Palomar Street to Landis Street -preliminary engineering for future construction of managed lanes including design of 2 HOV lanes in the median of I-805 for the South Bay Rapid Transit project including DAR at Palomar Street."

General Plans and Community Plans

Chula Vista General Plan

The southern portion of the Project site is located within the City of Chula Vista. Chula Vista's updated General Plan was adopted on December 13, 2005, and provides goals and policies for the City until 2030. It consists of six elements, including Land Use and Transportation, Economic Development, Housing, Public Facilities and Services, Environmental, and Growth Management.

The Land Use and Transportation Element contains a Community Image and Character section that identifies gateways and scenic resources within the Project area. Segments of Telegraph Canyon Road, East H Street, E Street, and Bonita Road are designated as gateway streets, and the I-805/SR 54 interchange is identified as an overall entryway. These streets connect the urban core to the I-805, SR 54, and I-5 and serve as the major entry points to and from the urban core with special landscape and entry treatments. Designated scenic roadways within the Project area include Bonita Road from I-805 to Sweetwater Road, East H Street from I-805 to Mount Miguel Road, and Telegraph Canyon Road/Otay Lakes Road from I-805 to Lower Otay Lake.

Chula Vista General Plan goals and policies applicable to the Project include the following:

Land Use and Transportation Element Policies

- Create enhanced gateway features for City entry points and other important areas, such as special districts.
- Preserve scenic resources in Chula Vista, maintain the City's open space network, and promote beautification of the City.

- Create consistent entry features for City entryways and gateways so people recognize that they are entering Chula Vista.
- Cooperate with Caltrans to improve freeway landscaping, especially at on- and off-ramps and at freeway interchanges.
- Support the study, design, expansion, and construction of a regional freeway system that will have the capacity to carry forecasted regional traffic demand in and through the City of Chula Vista.
- Support planning for regional freeways and state highways to allow mitigation of anticipated impacts from external trips on the Chula Vista circulation system.
- Plan for high capacity regional freeway and Transit First facilities to adequately serve the regional travel demand resulting from the land uses associated with adjacent areas.
- Support the implementation of enhanced transit service concepts (such as Transit First!) on H Street and other major east/west arterials. Enhance east/west accessibility with use of BRT.
- Encourage establishment of park-and-ride facilities near or at transit stations, as appropriate to the area's character and surrounding land uses.

Environmental Element Policies

- Encourage walking, biking, carpooling, use of public transit, and other alternative modes of transportation to minimize vehicular use and associated traffic noise.

County of San Diego General Plan

The County of San Diego General Plan governs the areas within the County Islands Community Planning Area, including the Greenwood and Lincoln Acres areas within the Project site. The current County of San Diego General Plan has 12 elements. The County is in the process of preparing a General Plan Update; this document is yet to be completed or adopted. Applicable policies from the adopted plan include:

Regional Land Use Element Policy

- Assure efficient, economical, and timely provision of facilities and services for water, sewer, fire protection, schools, and roads to accommodate anticipated development.

Public Facility Element Policy

- The use of alternate forms of transportation such as public transit and carpools will be supported and encouraged to reduce both roadways congestion and pollution.

Sweetwater Community Plan

The Sweetwater Community Planning Area is the unincorporated portion of San Diego County south of SR 54, east of I-805 (with a small piece west of I-805), north of the City of Chula Vista

and west of the Jamul planning area. The Sweetwater Community Plan was adopted on August 25, 1977 and amended on January 12, 2005. This community plan discusses goals and policies of 11 topics. The following goals are relevant to the Project:

Circulation

- Achieve a balanced transportation system which will serve existing and future land use and be responsive to the needs of residents. Preserve the existing character of the roads in the planning area while developing pedestrian, equestrian and bicycle trails.

Public Facilities, Safety, and Education

- Provide and maintain public facilities that are adequate for the existing and projected community size.

National City General Plan

The National City General Plan was most recently amended on October 18, 2005. The following policy is applicable to the Project:

Transportation and Circulation

- The City will work with Caltrans, SANDAG, Metropolitan Transit Development Board, and other responsible agencies to identify, plan and implement needed transportation improvements.

City of San Diego General Plan

The City of San Diego General Plan includes 10 elements that address specific aspects of the City's development. The General Plan also lays the foundation for the more specific community plans, such as the Greater North Park, Mid-City, and Southeastern San Diego Community Plans described below, which are based on the General Plan goals, guidelines, standards, and recommendations, and tailored for the specific planning goals and objectives of the community planning areas. Specific goals and policies within the General Plan that pertain to the Project include:

Mobility Element Goals

- Provide a street and freeway system that balances the needs of multiple users of the public right of way.
- Provide a transportation system that operates efficiently, saves energy and reduces negative environmental impacts.

Mobility Element Policies

- Implement transit priority measures to help bypass congested areas. Priority measures include, but are not limited to, transit signal priority, queue jumpers, exclusive transit lanes, transit ways, use of freeway shoulders, and direct access ramps to freeway HOV facilities.

- Provide adequate capacity and reduce congestion for all modes of transportation on the street and freeway system.

Public Facilities, Services, and Safety Element Goal

- Provide adequate public facilities available at the time of need.

Conservation Element Goal

- Reduce the City's overall carbon dioxide (CO₂) footprint by improving energy efficiency, increasing use of alternative modes of transportation, employing sustainable planning and design techniques, and providing environmentally sound waste management.

Greater North Park Community Plan

The Greater North Park Community Plan was adopted November 5, 1986, and contains nine elements. The following goals are applicable to the Project:

Transportation and Circulation Element Goal

- Provide a safe and efficient transportation system that maximizes access for residents and visitors to the community, links the community to major activity centers, and minimizes adverse environmental effects.

Community Facilities Element Goal

- Establish and maintain a high level of public facilities and services to meet the needs of the community.

Mid-City Communities Plan

The Mid-City Communities Plan, which governs four City of San Diego communities (including City Heights), was adopted on August 4, 1998. The following goal is applicable to the Project:

Transportation Element Goal

- To provide an adequate traffic circulation system that is balanced with the character and multi-modal tendencies of the community.

Southeastern San Diego Community Plan

The City of San Diego communities of Southeastern San Diego and Encanto are both governed by the Southeastern San Diego Community Plan. The Southeastern San Diego Community Plan was adopted July 13, 1987. The following objective is applicable to the Project:

Transportation Element Objective

- Minimize the effects of freeways on adjacent development and do not encourage the addition of freeways as the community is well served by freeways.

Multiple Species Conservation Program

The cities of Chula Vista and San Diego, County of San Diego, U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), and other local jurisdictions joined together in the late 1990s to develop the MSCP; Caltrans is not a signatory agency to the MSCP. The MSCP is a comprehensive, long-term habitat conservation plan that addresses the needs of multiple species by identifying key areas for preservation as open space in order to link core biological areas into a regional wildlife preserve.

Directing development within City limits creates a more compact development form, requires less extension of public services, and results in fewer environmental impacts than would occur from historical suburban, leap-frog development patterns. This approach to urban planning enables conservation of habitats and species through dedication of large, contiguous blocks of open space, resulting in superior preserve design and habitat connectivity.

Signatory agencies/districts administer their portions of the MSCP through subarea plans and implementing agreements. The cities of Chula Vista and San Diego and the County have developed and approved MSCP Subarea Plans, as discussed below. Caltrans is not a signatory agency to the MSCP or subarea plans. National City is almost entirely developed and the remaining open space areas in National City are protected as an "Open Space Reserve"; these areas are not associated with the MSCP.

City of Chula Vista MSCP Subarea Plan

The City of Chula Vista MSCP Subarea Plan was approved in February 2003. The MSCP Planning Area is defined by the City of Chula Vista's General Plan boundary and includes a total of 57,849 acres, both within and outside the City of Chula Vista, within the unincorporated County of San Diego. Through the combined, cooperative planning efforts of both the City of Chula Vista and the County, new urban-level development for the South County/Chula Vista MSCP Planning Area has been deliberately directed into the City of Chula Vista, adjacent to existing infrastructure. Conversely, much of the habitat conservation has been directed into the unincorporated County.

Small portions of the City of Chula Vista Preserve are located adjacent to I-805. One portion of the Preserve encompasses Sweetwater River that passes under I-805 between Bonita Road and SR 54. Another portion of the Preserve abuts the R/W on the NB side of I-805, between East H Street and East J Street. Portions of the Chula Vista Preserve adjacent to the Project site are shown on Figures 2.16-1A through 2.16-1E.

County of San Diego MSCP Subarea Plan

The County of San Diego MSCP Subarea Plan covers 252,132 acres in the unincorporated area under the jurisdiction of the County of San Diego and was adopted by the Board of Supervisors on October 22, 1997. The Subarea Plan and Implementing Agreement establish the conditions under which the County will receive incidental take authorization of 85 covered species. There are three segments within the County Subarea Plan: Lake Hodges; Metro-Lakeside-Jamul, and South County. The Project site is located within the South County segment.

Within the Project area, one sliver of a designated Pre-Approved Mitigation Area (PAMA) is located adjacent to the NB side of I-805, between East H Street and Bonita Road. Portions of the PAMA adjacent to the Project site are shown on Figures 2.16-1C through 2.16-1F.

City of San Diego MSCP Subarea Plan

The City of San Diego MSCP Subarea Plan and Implementing Agreement were adopted by City Council and approved by the wildlife agencies in 1997. The Multi-Habitat Planning Area (MHPA) is the City's planned habitat preserve within the MSCP Subarea. The MSCP is the regional program through which the MHPA will be assembled as each participating jurisdiction implements their portion of the MSCP. The planned MSCP regional preserve for southwestern San Diego County is targeted at 172,000 acres.

The MSCP study area includes 206,124 acres within the jurisdiction of the City of San Diego. The planned MHPA totals 56,831 acres, with 52,012 acres (90 percent) targeted for preservation (approximately 30 percent of the planned regional preserve). Public access is allowed in many areas of the MHPA, consistent with species protection and habitat management.

Portions of the MHPA are located within the Project area, adjacent to the I-805 south corridor. One portion of the MHPA is located adjacent to the SB side of I-805 between Landis Street and the I-805/SR 15 interchange. Another portion of the MHPA, comprised of a finger canyon, is located immediately east of the I-805/SR 15 interchange. A portion of the MHPA is located immediately east of I-805, between Federal Boulevard and Home Avenue. Portions of the MHPA adjacent to the Project site are shown on Figures 2.16-1J through 2.16-1M.

San Diego County Community Trail Master Plan

The 2005 San Diego County Community Trails Master Plan implements the County Trails Program, which involves trail development and management on public, semi-public, and private lands. A system of interconnected regional and community trails and pathways is planned to be developed to address an established need for recreation and transportation, as well as health and quality of life benefits associated with hiking, biking, and horseback riding throughout the County. Goals and policies described in the Community Trails Master Plan encourage communities (including Sweetwater) to maximize trail opportunities. The Community Trails Master Plan contains a trails map for the Sweetwater community, which identifies an existing regional trail (the Sweetwater Loop and River Trail) along a portion of the Sweetwater River adjacent to I-805.

Environmental Consequences

The following analysis of impacts related to land use plan consistency applies to both Build Alternative 1 and 2 because the build alternatives would occur in the same locations with similar Project footprints. Relevant and use plans would be the same. Additional details regarding consistency with related elements of adjacent General and Community Plans are contained in Table 2-3 in the CIA.

Build Alternatives

Consistency with the Transportation Element of the Regional Comprehensive Plan for the San Diego Region

The Project would be consistent with key policy objectives of the Transportation Element of the RCP. Construction of a DAR and an adjacent transit center would provide a convenient and

efficient way to travel via bus or carpool. Transit or HOV users at the proposed East Palomar Street transit center could utilize the DAR to directly access the Managed Lanes facility, as opposed to longer travel times on surrounding local roadways to access the freeway. The in-line transit stations also would provide convenient transit facilities and efficient travel choices along the I-805 south corridor.

The Project would result in better overall mobility through provision of a direct connection for HOV and transit vehicles, as well as transit patrons, to the proposed Managed and HOV/transit lanes facility. In addition, the Managed and HOV/transit lanes would reduce the amount of traffic on the general purpose lanes of the I-805 south corridor. The proposed improvements would reduce traffic congestion along portions of I-805, as well as some local streets (refer to Subchapter 2.5, Traffic and Transportation/Pedestrian and Bicycle Facilities for specific segments).

The Project also would serve to improve the quality of transit service in the Project area, which may entice more people to utilize transit services, as opposed to driving alone, during peak periods. Accordingly, the build alternatives would be consistent with the Transportation Element of the RCP.

Consistency with the Regional Transportation Plan

The Project would be consistent with applicable RTP policy goals and objectives. One of the major objectives of the 2030 RTP is to provide competitive transit travel times to major job centers in the region. New and improved transit services and Managed/HOV lanes are one of the ways that will improve accessibility to these major regional job centers. An integral part of the 2030 RTP is developing a strong Managed Lane/HOV network which includes the two- to four-lane managed facilities on the I-805. Consistent with this objective, the Project would provide a two- to four-lane Managed and HOV/transit lanes facility on the I-805 south corridor.

The Project is intended to maintain or improve 2030 No Build travel times and LOS within the corridor by constructing Managed and HOV/transit lanes and other transit improvements within the corridor. As previously stated, implementation of the Project would improve the quality of transit service in the Project area, which may entice some people to utilize transit services, as opposed to driving alone, during peak periods. In the year 2030, the proposed improvements would reduce traffic congestion along portions of I-805, as well as some local streets (refer to Subchapter 2.5, Traffic and Transportation/Pedestrian and Bicycle Facilities for specific segments).

Some portions of the Project site are located within areas with minority and low-income populations. Consistent with RTP goals and objectives, this Project would benefit these, as well as all, populations within the Project area by providing modal choices, improving transit services, as well as travel times and LOS, in general, within the Project area (refer to Subchapter 2.5, Traffic and Transportation/Pedestrian and Bicycle Facilities).

The Project has been designed to minimize impacts to the environment, as recommended in the RTP. Impacts to biological resources would mostly be limited to non-sensitive vegetation communities (e.g., developed or disturbed land; refer to Subchapter 2.16, Natural Communities) and improvement of an existing freeway is generally less impactful than building in a new R/W. Air quality would be slightly improved with implementation of the Project. As discussed in detail in Subchapter 2.13, Air Quality, CO₂ levels at analyzed intersections would decrease with buildout of the Project. Similarly, GHG emissions, also would slightly decline with the Project, as less congestion on the I-805 corridor would occur.

Consistency with the Regional Transportation Improvement Program

The Project is identified in the 2008 RTIP and would be consistent with the project description provided in the 2008 RTIP. The Project is included in the 2008 RTIP as "I-805 HOV/Managed Lanes - South" RTIP Project MPO ID CAL78C. The description is: "From Palomar Street to Landis Street -preliminary engineering for future construction of managed lanes including design of 2 HOV lanes in the median of I-805 for the South Bay Rapid Transit project including DAR at Palomar Street."

Consistency with Applicable General Plans and Community Plans

The Project would be consistent with most of the applicable goals and policies contained in the General Plans and Community Plans listed under Affected Environment. Goals and policies generally consist of providing a safe and efficient transportation system. Specifically, with regard to the Chula Vista General Plan, the Project would be consistent with applicable policies within the Land Use and Transportation Element by providing infrastructure to accommodate forecasted demand along the I-805 south corridor, through construction of Managed and HOV/transit lanes and associated facilities, such as transit centers, park-and-ride lots, and a DAR. Such improvements also would be consistent with the applicable policy in the Environmental Element, which encourages alternative modes of transportation.

The Project would not be consistent with Chula Vista Land Use and Transportation Element policies of creating enhanced gateway features and improved freeway landscaping at interchanges. At several freeway interchanges in Chula Vista, including the designated gateway street segments of Telegraph Canyon Road, East H Street, E Street, and Bonita Road, existing ornamental landscaping would be reduced due the construction of widened structures and realigned freeway ramps. New dominant visual elements, such as larger overcrossing/undercrossing structures, retaining and/or sound walls also would be constructed at these interchanges.

The Project would be consistent with the two identified relevant policies within the County of San Diego General Plan. The Project would accommodate existing development, as well as anticipated growth in the Project vicinity. Construction of the proposed freeway improvements and facilities would improve the quality of transit services, which may entice more people to utilize such facilities.

There are two applicable goals within the Sweetwater Community Plan, both of which require the provision of efficient roadways adequate for existing and planned land uses. As previously stated, the Project would accommodate existing traffic, as well as the additional demand planned for the I-805 south corridor. The Project also would provide transit services for the planned BRT system.

One applicable policy was identified in the National City General Plan, which recommends the City work with other agencies, including Caltrans, to build needed transportation improvements. Implementation of the Project would provide freeway improvements and transit facilities to accommodate projected traffic along the portion of the I-805 that traverses National City.

The Project also would be consistent with applicable goals and policies within the City of San Diego General Plan. The plan specifically calls out the use of DARs to HOV lanes as a method of relieving traffic congestion. The Project would accommodate future traffic volumes along the I-805 south corridor. The Project has been designed to minimize impacts to the environment, including air quality and GHG emissions, as discussed in Subchapters 2.13, Air Quality, and 3.3, Climate Change, respectively.

The Project would be consistent with the applicable goals within the Greater North Park Community Plan by providing access to the proposed Managed and HOV/transit lane facility via the proposed HOV/transit lane connector and use of other proposed facilities along the corridor such as the proposed DAR, in-line transit stations, and park-and-ride lots. These proposed facilities would provide improved connectivity for HOV, transit users, and potentially toll-paying SOVs to major activity centers along the Project site, including areas located within the Greater North Park Community Plan.

The Mid-City Communities Plan has one goal that is applicable to the Project, which calls for an adequate transportation system that balances community character and multi-modal facilities. Consistent with this goal, the Project would provide an improved freeway through the construction of multi-modal facilities, including transit stations, park-and-ride lots, DAR, and Managed and HOV/transit lanes. These collective facilities would improve the transportation system along the Project site and within adjacent Mid-City Communities Plan areas.

The one applicable objective of the Southeastern San Diego Community Plan calls for the minimization of freeway effects and discouragement of additional freeways in the community. The Project would not entail the construction of a new freeway, but rather would improve an existing facility. In addition, the Project has been designed to minimize environmental impacts.

In summary, the Project would be consistent with all applicable goals, objectives, and policies of the governing general plans and community plans within the Project area.

Consistency with the MSCP

As described previously, the MSCP identifies lands that would conserve habitat for federal and state endangered, threatened, or sensitive species. The input from the involved jurisdictions and other special district and agency participants resulted in the creation of targeted land conservation areas. These areas within the Project area are designated as the City of Chula Vista's Preserve, the County of San Diego PAMA, and the City of San Diego MHPA. Because of the highly developed setting, most of the Project site is not located within the Preserve, PAMA, or MHPA, as previously stated. Nonetheless, the Project may impact very small portions of the Chula Vista Preserve, PAMA, and MHPA within the freeway R/W.

The Project would impact very small portions of the City of Chula Vista Preserve, the County of San Diego PAMA, and the City of San Diego MHPA. Project impacts would occur within the freeway R/W. Although Caltrans is not a signatory agency to the MSCP, the Project would minimize impacts to the Preserve, PAMA, and MHPA to the maximum extent practicable.

Project impacts to the Chula Vista Preserve would occur at two locations on the east side of I-805 within the freeway R/W: (1) between East J Street and East H Street; and (2) just north of Bonita Road. The 2003 City of Chula Vista MSCP Subarea Plan allows roads within the Preserve if: (1) impacts are minimized; (2) Covered Species and Wetlands, Narrow Endemic Species, and Quino checkerspot butterfly (*Euphydryas editha quino*) are avoided to the maximum extent practicable; (3) wildlife movement is uninhibited; and (4) roads are narrowed to the maximum extent practicable. The Project would result in temporary and permanent impacts to the Preserve and the areas that would be impacted are relatively small and are bordered by the freeway. Impacts would occur to small patches of disturbed coastal sage scrub, disturbed chaparral, disturbed maritime succulent scrub, southern willow scrub, freshwater marsh, eucalyptus, as well as some disturbed habitat. Minimization measures for biological impacts to sensitive vegetation communities are identified in Subchapters 2.16, Natural Communities, and 2.17, Wetlands and Other Waters. The Project would not directly impact any Covered or

Narrow Endemic Species or Quino checkerspot butterfly. Although the Project would entail the construction of retaining walls within the Preserve, such walls would not impact wildlife movement, as walls would be placed adjacent to the freeways and/or residences and would not divide the Preserve areas. Accordingly, the Project would not conflict with the City of Chula Vista MSCP Subarea Plan.

The 1997 County of San Diego MSCP Subarea Plan states, "Existing uses shall be allowed to continue, including any annual clearing, maintenance and replacement of existing facilities, roads and structures. However, there may be no expansion of such uses or the clearing of additional areas unless appropriate local, state, and federal permits have first been obtained." Project impacts to the PAMA would occur at one location on the east side of I-805 within the freeway R/W between East H Street and Bonita Road. Minimization measures for biological impacts to sensitive vegetation communities are identified in Subchapters 2.16, Natural Communities, and 2.17, Wetlands and Other Waters. Caltrans would acquire all necessary permits prior to Project construction. Therefore, the Project would be consistent with the County of San Diego MSCP Subarea Plan.

Project impacts to the MHPA would occur at two locations along I-805 within the freeway R/W, including (1) on the west side of I-805 between the I-805/SR 15 interchange and Landis Street, and (2) on the east side of I-805 near the I-805/SR 15 interchange. The 1997 City of San Diego MSCP Subarea Plan allows for the provision of roads within the MHPA if: (1) impacts are minimized; (2) temporary impact locations are restored and/or temporary impacts are mitigated; (3) significant disruption of wildlife corridor usage is avoided; (4) roads are within the Circulation Elements of community plans; (5) impacts avoid canyon bottoms; (6) necessary impacts are located in lower quality habitat; and (7) roads are narrowed to the maximum extent practicable. The Project would involve the improvement of an existing freeway. All impacts to the MHPA would occur immediately adjacent to I-805 and SR 15. Almost all impacts within the MHPA would be located within relatively small areas that are mostly covered with ornamental vegetation and surrounded by development. Impacts to the MHPA have been minimized to the maximum extent practicable. Although the Project would entail the construction of retaining and sound walls within the MHPA, such walls would not impact wildlife movement. These areas are not corridors and the walls would be placed adjacent to the freeways and/or residences. Accordingly, the Project would not conflict with the City of San Diego's MSCP Subarea Plan.

Consistency with the San Diego County Community Trails Master Plan

As previously stated, the Community Trails Master Plan contains a trails map for the Sweetwater community, which identifies an existing regional trail (the Sweetwater Loop and River Trail) along a portion of the Sweetwater River adjacent to I-805. The Project, however, would not impact this trail because the freeway and modified structures would span over the trail. Therefore, the Project would not conflict with the San Diego County Community Trails Master Plan.

No Build Alternative

The No Build Alternative assumes that no improvements to I-805, or related facilities, would be constructed. Project objectives contained in the relevant land use plans would not be met with implementation of the No Build Alternative. Accordingly, the No Build Alternative would be inconsistent with policies contained in SANDAG's RCP, 2030 RTP, and 2008 RTIP, or within the City general and community plans.

Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

Build Alternatives 1 and 2 would be consistent with applicable goals, policies, and objectives in the RCP, 2030 RTP, 2008 RTIP, County of San Diego General Plan, Sweetwater Community Plan, National City General Plan, City of San Diego General Plan, Greater North Park Community Plan, Mid-City Communities Plan, Southeastern San Diego Community Plan, and the City of San Diego MSCP Subarea Plan. The build alternatives would be consistent with the Chula Vista and County of San Diego MSCP Subarea Plans with implementation of the minimization measures for biological impacts to sensitive vegetation communities that are identified in Subchapters 2.16, Natural Communities, and 2.17, Wetlands and Other Waters. The build alternatives would not be consistent with two policies in the Land Use and Transportation Element of the Chula Vista General Plan related to enhanced gateway features and landscaping at freeway interchanges. Implementation of the visual mitigation identified in Subchapter 2.6, Visual/Aesthetics, would minimize or avoid land use policy consistency impacts.

No Build Alternative

The No Build Alternative would be inconsistent with the RCP, 2030 RTP, and 2008 RTIP, and policies of applicable General and Community plans. Nonetheless, as no action is proposed, no avoidance, minimization, or mitigation measures are required for this alternative.

2.1.3 Parks and Recreational Facilities

Affected Environment

There are 17 park/recreational facilities located within 0.5 mile of the Project site. These facilities, listed in Table 2.1-2, range from very small community parks to large regional multi-use parks and/or recreation centers. Descriptions of these parks and recreational facilities are contained in Appendix B, Resources Evaluated Relative to the Requirements of Section 4(f).

Name	Address/Location
City of Chula Vista	
Greg Rogers Park	1189 Oleander Avenue
Halecrest Park (Gayle L. McCandliss Park)	Immediately east of Halecrest Elementary School on East J Street
Palomar Park	1359 Park Drive
County of San Diego	
Lincoln Acres County Park	2725 Granger Avenue
Sweetwater Regional Park	3218 Summit Meadow Road, Bonita
National City	
El Toyon Park and Recreation Center	2005 East 4 th Street
Las Palmas Park	1800 East Newell Street

Table 2.1-2 (cont.) PARKS AND RECREATIONAL FACILITIES WITHIN 0.5 MILE OF THE PROJECT SITE	
Name	Address/Location
City of San Diego	
Azalea Park and Fieldhouse	4001 Poplar Street
Park De La Cruz	3901 Landis Street
Dennis V. Allen Park (Allen Park)	3850 Market Street
Willie Henderson Sports Complex and Fieldhouse	1035 South 45 th Street
Hollywood Park	Pepper Drive and Violet Street
John F. Kennedy Park	4801 Ocean View Boulevard
Montclair Park	2800 Vancouver Avenue
South Crest Park and Recreation Center	4149 Newton Avenue
Sunshine Berardini Field Park	4402 Federal Boulevard
Wabash Park	Along Wabash Avenue between Lincoln Avenue and University Avenue

In addition to these parks and recreational facilities, the Sweetwater Loop and River Trail is located adjacent to the Sweetwater River.

Environmental Consequences

The following analysis of impacts related to parks and recreational facilities applies to both Build Alternative 1 and 2 because the build alternatives would occur in the same locations with similar Project footprints. Potentially affected facilities would be the same. Resources evaluated relative to the requirements of Section 4(f) are presented in Appendix B.

Build Alternatives

Implementation of the build alternatives would not directly impact parks or recreational facilities, with the exception of Las Palmas Park and Halecrest Park. Although retaining walls and possible sound walls would be constructed along the I-805 south near several of these parks and recreational facilities, no walls would be constructed within any park or recreational facility properties. Project effects on Las Palmas and Halecrest Parks are discussed below.

Las Palmas Park

The Project would replace the existing East 22nd Street pedestrian overcrossing (POC) structure that currently lands within Las Palmas Park. Replacement of the POC would require a temporary construction easement within the park, but would be limited to a small area (0.2 acre) at the new overcrossing landing location at the eastern edge of the park adjacent to I-805. The estimated time to demolish the existing POC and replace with a new one is six months. The remainder of the park would not be affected, and the active and passive park areas would remain functional throughout the construction period.

Halecrest Park

The Project proposes local roadway improvements along East J Street and the Halecrest Park driveway, as well as a retaining wall adjacent to the bridge abutment in the vicinity to the park,

along the eastern side of the I-805 alignment, within the I-805 R/W. Improvements along East J Street and construction of the retaining wall could result in temporary park access impacts during construction. Upon construction, roadway improvements, including park driveway improvements are anticipated to result in a beneficial effect to park access.

No Build Alternative

Under the No Build Alternative, no improvements are proposed. Accordingly, public parks and recreational facilities would not be affected. No impacts would occur.

Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

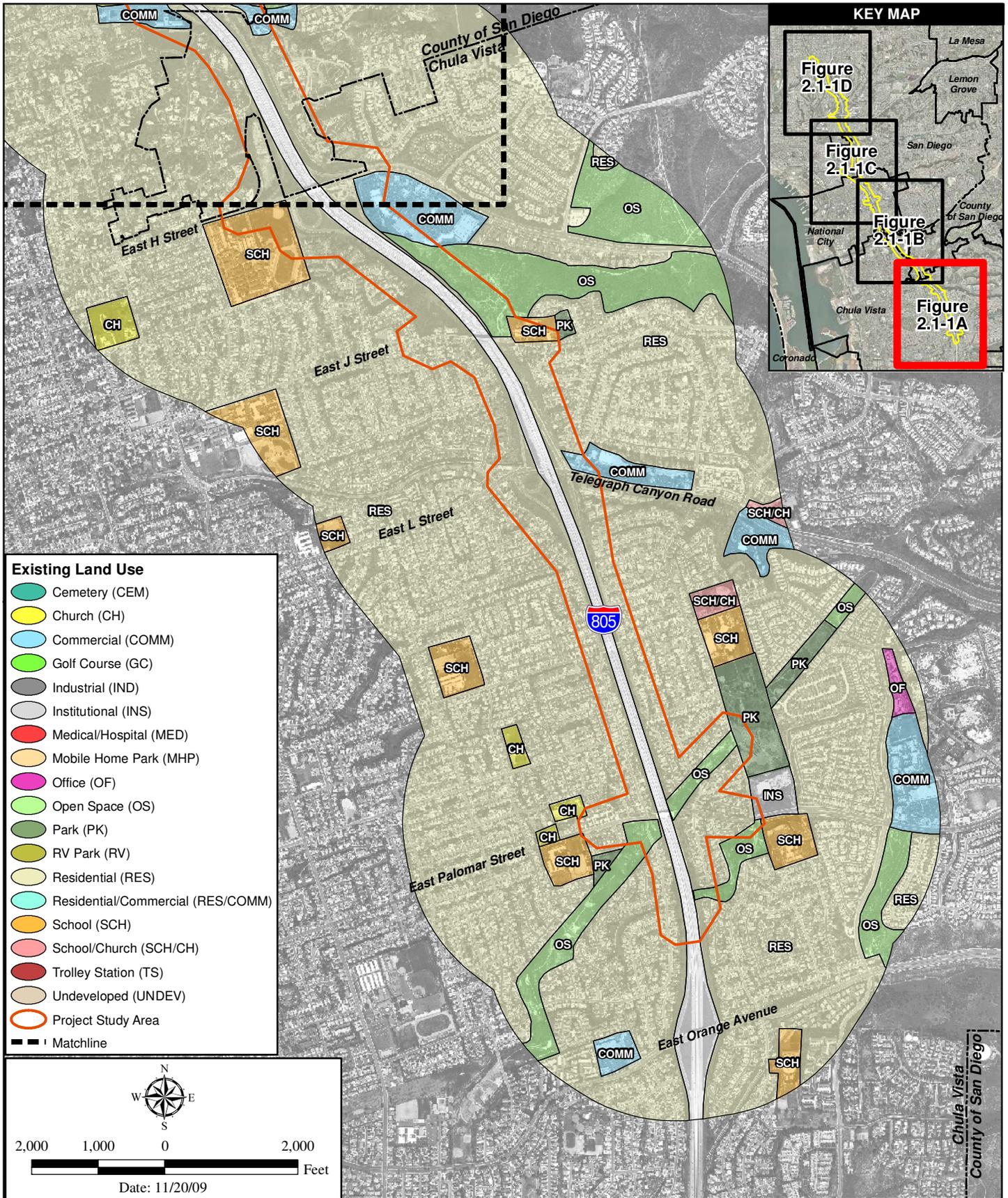
The build alternatives would result in temporary access impacts to Las Palmas and Halecrest Park. Implementation of the following measures would minimize temporary access impacts to these public parks.

The new East 22nd Street POC would be constructed adjacent to the existing POC if practicable, to minimize the length of time the East 22nd Street POC would be closed during demolition and construction. During this time, the existing POC would remain open the majority of the time for public use and upon completion of the new POC, pedestrian travel would be switched to the new POC with minimal closure during the switch. If during the design phase of this Project it is determined to be impracticable to construct an adjacent POC, then the residents in the immediate area would be notified of the dates and duration of the POC closure and alternate routes that are available to cross I-805.

Construction activities for the East J Street and the park driveway improvements would be scheduled when street lane closures are permitted (typically nighttime hours).

No Build Alternative

Because no Project-related improvements are proposed under the No Build Alternative, no avoidance, minimization, and/or mitigation measures would be required.

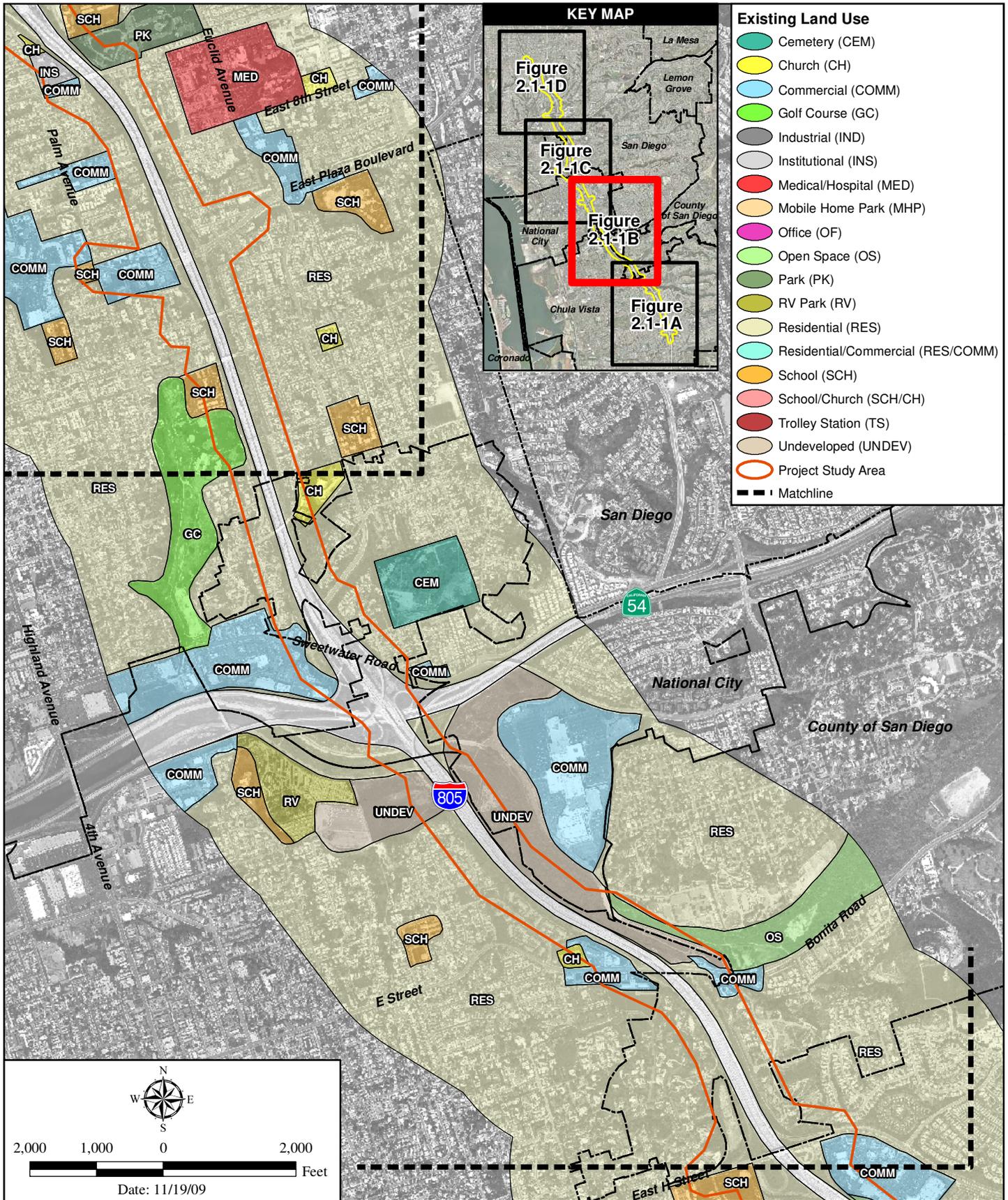


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Existing Land Uses

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.1-1A

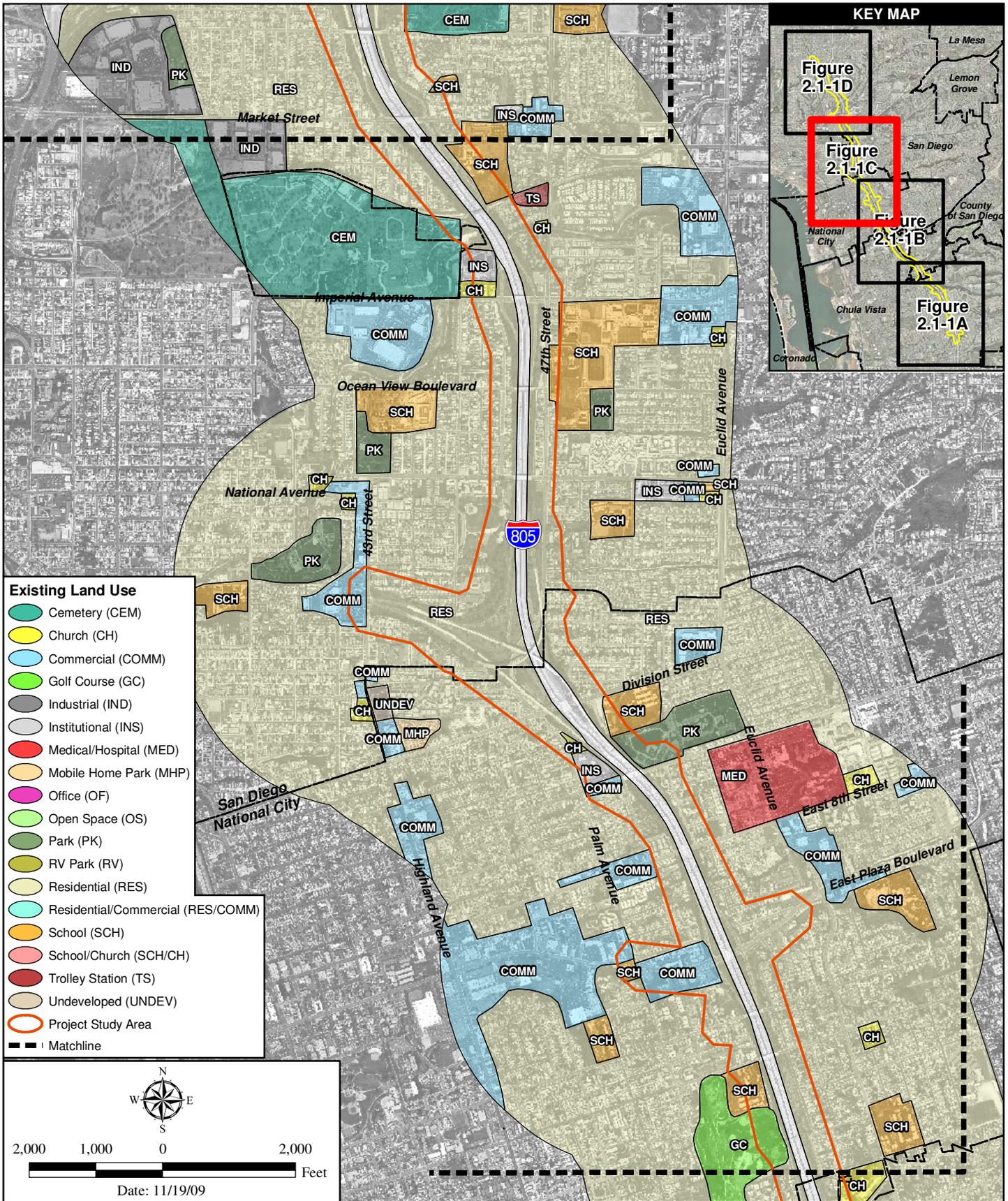


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Existing Land Uses

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.1-1B

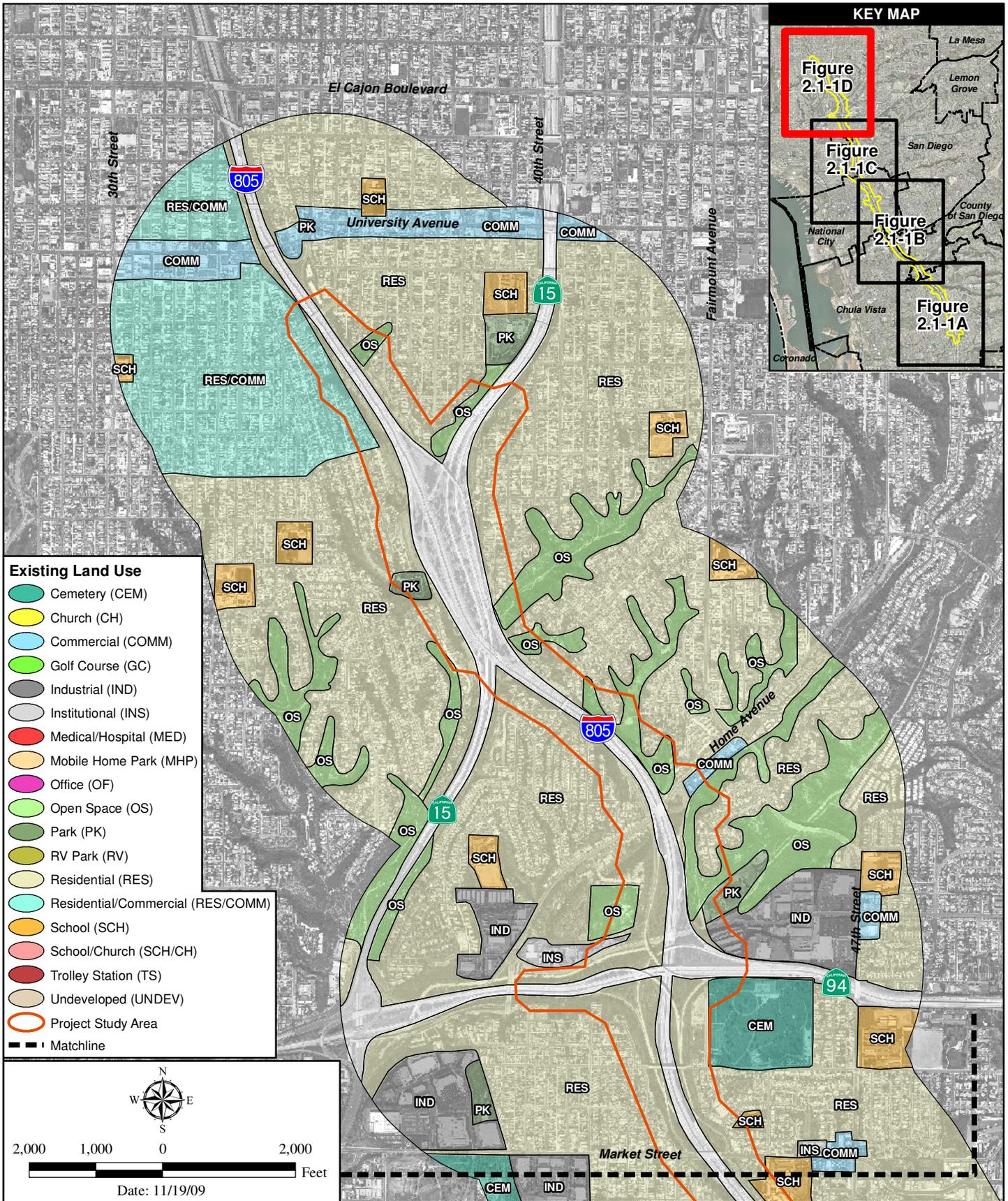


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Existing Land Uses

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.1-1C



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Existing Land Uses

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.1-1D

2.2 GROWTH

2.2.1 Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with NEPA, require evaluation of the potential environmental consequences of all proposed federal activities and programs. This provision includes a requirement to examine indirect consequences, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations, 40 Code of Federal Regulations (CFR) 1508.8, refer to these consequences as secondary impacts. Secondary impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

CEQA also requires the analysis of a project's potential to induce growth. CEQA guidelines, Section 15126.2(d), require that environmental documents "...discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment..."

2.2.2 Affected Environment

Demographic information, growth forecasts, and associated analysis presented in this subchapter are based on the CIA prepared for the Project in March 2010. For the purposes of the growth analysis, the CIA evaluated the Project area using various geographic units, including the San Diego region (which includes all incorporated cities and unincorporated areas within the County of San Diego), cities/county jurisdictions, and subregional areas (SRAs)¹. The Project site is located within the following SRAs: Chula Vista, Sweetwater, National City, Southeastern San Diego, Mid-City, and Central San Diego.

Table 2.2-1 presents a summary of growth forecasts (both population and housing) within the Project area for the San Diego region, study area cities and applicable SRAs. As shown in Table 2.2-1, the San Diego region had a population of 2,813,833 people in 2000, and it is projected to increase by 42 percent by 2030. Within the County of San Diego and cities of Chula Vista, National City, and San Diego, as well as the five SRAs within or adjacent to the Project site, the forecasted population growth between 2000 and 2030 ranges from 15 to 134 percent.

The number of housing units would increase by 21 percent from 2000 to 2030 within the San Diego region overall. Within the studied jurisdictions and SRAs, the increase in housing units ranges from 6 to 95 percent.

Vacant developable land within the region (as well as cities and SRAs specifically within the study area) is limited and decreasing. As shown in Table 2.2-2, acres of developable land in all analyzed geographical units would decrease more than 60 percent by 2030 from that available in 2000. The study area, however, is not expected to markedly change during this period since properties along the Project site are largely built out or in permanently conserved open space, with few areas of developable land.

¹ SANDAG has divided the County of San Diego into SRAs, which are geographic units used for demographic analysis. SRA boundaries do not necessarily shadow boundaries of cities or communities, nor are they necessarily divided by major roadways/freeways (although they are divided by such in some cases).

**Table 2.2-1
SUMMARY OF POPULATION AND HOUSING GROWTH FORECASTS**

Characteristics	San Diego Region ¹	City of Chula Vista	County of San Diego	City of National City	City of San Diego	SRAs					
						21 (Chula Vista)	20 (Sweet-water)	1 (Central San Diego)	4 (National City)	5 (South-eastern San Diego)	6 (Mid-City)
Population											
2000 Population ²	2,813,833	173,556	442,919	54,260	1,223,400	108,907	74,542	155,827	53,859	156,124	168,125
2010 Population ³	3,245,279	248,174	504,719	59,905	1,365,130	115,060	139,455	184,957	59,525	163,143	174,355
2030 Population ³	3,984,753	316,445	723,392	74,241	1,656,257	150,249	174,774	259,856	73,922	180,029	220,777
Change from 2000 to 2030	1,170,920 (42%)	142,889 (82%)	280,473 (63%)	19,981 (37%)	432,857 (35%)	41,342 (37%)	100,232 (134%)	104,029 (67%)	20,063 (37%)	23,905 (15%)	52,652 (31%)
Housing Units											
2000 Housing Units ²	1,140,349	77,452	166,972	15,737	508,450	38,742	41,081	70,466	15,552	43,661	59,502
2010 Housing Units ³	1,174,180	84,166	172,443	15,722	518,063	41,208	45,296	87,165	15,556	44,208	59,953
2030 Housing Units ³	1,383,803	102,885	325,861	19,108	610,049	50,247	55,612	126,935	18,980	46,309	73,260
Change from 2000 to 2030	243,454 (21%)	25,433 (33%)	158,889 (95%)	3,371 (21%)	101,599 (20%)	11,505 (30%)	14,531 (35%)	56,469 (80%)	3,428 (22%)	2,648 (6%)	13,758 (23%)

¹Includes incorporated cities and unincorporated areas within the County of San Diego.

2.2.3 Environmental Consequences

This section evaluates the potential for the Project build alternatives and No Build Alternative to result in impacts related to growth in the Project area. The assessment is based on Caltrans guidance for the first-cut screening analysis. The first-cut screening analysis examines the Project's potential to change accessibility, as well as the Project type, location (e.g., urban, urban/suburban fringe, suburban, or rural), and growth pressure, as factors influencing the likelihood of growth-related impacts.

Build Alternatives

Because the location and Project footprints, as well as circulation effects, of both build alternatives are essentially the same, impacts related to growth would be the same. Consequently, the following analysis applies to both build alternatives.

Accessibility

Accessibility reflects both the attractiveness of potential destinations and ease of reaching them, which, in turn, are related to land use and circulation issues.

The Project would provide a Managed and HOV/transit lane facility and associated improvements (transit centers, park-and-ride, and ramp modifications) to accommodate transit and HOVs along I-805 south. The Project also proposes to construct a DAR and an HOV/transit direct connector (I-805 to SR 15), which would improve access for HOV, transit, and toll-paying SOVs along I-805 within the Project limits. The Project would redirect HOV and transit trips from the general purpose lanes to the Managed and HOV/transit lanes by constructing the DAR and the Managed and HOV/transit lanes.

The Project would not provide access to previously inaccessible areas. Both the freeway and the interchange currently exist. The DAR would provide access to the proposed Managed and HOV/transit lanes for HOV, transit vehicles, and potentially toll-paying SOVs. Additionally, the proposed HOV/transit connector would provide direct access for these same users between the SR 15 and I-805 HOV/transit lanes. While the connector would serve these specific users, it would not create a new access point to or from a currently inaccessible locale. Furthermore, existing utilities (e.g., electrical lines) necessary to operate Managed Lane and HOV signs or toll booths are located within the Project area, and no major utility line extensions would be necessary.

The Project would not provide new access where none currently exists and would therefore not influence growth.

Project Type, Location, and Growth Pressure

The type of transportation project is important when determining if it would have growth-related impacts. Certain types of transportation projects, such as a new road or interchange, are more apt to promote growth because they could open existing inaccessible or land-locked areas to vehicular use. Other transportation project types, including widening existing lanes, pavement rehabilitation, and culvert work, are not likely to influence growth, because they would provide improvements to existing facilities where access is already provided.

Table 2.2-2 SUMMARY OF DEVELOPABLE LAND FORECASTS (acres)											
Year	San Diego Region	City of Chula Vista	County of San Diego	City of National City	City of San Diego	SRAs					
						21 (Chula Vista)	20 (Sweet-water)	1 (Central San Diego)	4 (National City)	5 (South-eastern San Diego)	6 (Mid-City)
2000	550,674.8	7,185.7	506,100.9	178.6	14,576.5	345.5	7,800.2	373.4	177	466.8	164.4
2004	441,782.5	6,120.8	395,940.7	181	13,120.6	362.6	6,398.7	400.6	178.8	435.9	137.1
2010	390,913.2	3,509.7	361,696	125.6	9,077.9	260.7	4,306.1	287.6	135.3	236.3	96
2020	309,492	2,523.5	291,166.4	74.1	5,554.2	248.3	2,930.8	153.8	83.8	87.8	25.4
2030	124,933.3	1,698.5	113,757.3	53	4,083.3	108.4	2,161	22.6	65.2	46.3	5.6
Change from 2000 to 2030	-77%	-76%	-78%	-70%	-72%	69%	-73%	-94%	-63%	-90%	-97%

¹Includes incorporated cities and unincorporated areas within the County of San Diego.

The Project consists of the construction of Managed and HOV/transit lanes along a portion of I-805, a DAR to connect the proposed Managed and HOV/transit lanes facility with the local street system, HOV/transit direct connector between I-805 and SR 15, park-and-ride facilities, and transit stations. The Managed and HOV/transit lanes would add capacity to the existing facility and the Project would provide for alternative modes of transportation that currently do not exist along this freeway. Following completion of the Project, I-805 south may be more attractive for freeway users compared to the current condition, given the proposed improvements and new facilities. The proposed improvements, however, would occur along an existing freeway corridor, addressing projected traffic volumes along I-805 south and primarily would redirect trips from the general purpose lanes and freeway interchanges to the Managed and HOV/transit lanes.

Project location (i.e., urban, urban/suburban fringe, suburban, or rural) is another factor useful when considering whether a transportation project would cause growth-related impacts with respect to this Project. Transportation projects in heavily urbanized areas have a relatively low potential to cause growth-related impacts because of the built-out land use pattern in the area.

The communities, neighborhoods, and SRAs within and near the Project site are mostly developed and major commercial, office, industrial, and residential developments have been built in the vicinity since construction of I-805. There is little undeveloped land in the Project vicinity and what is present is primarily protected open space, which would not be available for development. Since the Project vicinity is mainly built out, projects are limited to redevelopment of areas with existing development. Investments in redevelopment projects have occurred without the proposed improvements and would be expected to continue, pursuant to development controls within applicable General Plans and Community Plans. Given this, construction of the Project is not likely to result in additional capital investment in the area.

Overall Potential for Growth-related Impacts

Overall, consideration of first-cut screening factors, such as changes in accessibility, type of transportation project, urban/suburban/rural project location, and growth pressure, lead to the conclusion that there is little or no potential to influence growth and consequent reasonably foreseeable growth-related impacts. Accordingly, the build alternatives would not be expected to influence the overall amount, type, location, or timing of reasonably foreseeable growth in the Project area. No further analysis is warranted.

No Build Alternative

Under the No Build Alternative, no improvements would occur. No changes to accessibility would occur, and therefore no growth-related impacts would result.

2.2.4 Avoidance, Minimization, and/or Mitigation Measures

Because no growth-related impacts would occur under the Project build alternatives or No Build Alternative, no avoidance, minimization, or mitigation measures would be required.

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2.3 COMMUNITY IMPACTS

2.3.1 Community Character and Cohesion

Regulatory Setting

NEPA established that the federal government use all practicable means to ensure that all Americans have safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 USC 4331[b][2]). The FHWA in its implementation of NEPA (23 USC 109[h]) directs that final decisions regarding projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under CEQA, an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change results in a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this Project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the Project's effects.

Affected Environment

The CIA prepared for the Project in March 2010 evaluates the current land use, social, economic, community facilities, and growth conditions within the Project area and the larger socioeconomic study area. The analysis presented in this subchapter is based on the CIA, along with other applicable data.

The Project would serve the San Diego regional population, but community impacts would be primarily localized to the neighborhoods and communities the Project would traverse. To analyze the affected environment and potential impacts, the CIA relies on statistics from the 2000 U.S. Census, as well as SANDAG demographic statistics (based on the 2000 U.S. Census) as augmented by annual population and housing estimates developed in cooperation with local agencies and the California State Department of Finance. SANDAG data are available for various geographical units at the regional, subregional, community, and census tract level. County-, City-, and subregional- level geographical units used for the analysis of community impacts include the San Diego region, the City of Chula Vista, the City of National City, the City of San Diego, the County of San Diego, the Chula Vista SRA (SRA 21), Sweetwater (SRA 20), the National City SRA (SRA 4), Central San Diego (SRA 1), Southeastern San Diego (SRA 5), and Mid-City (SRA 6).

Community Character

South to north, the Project site is located within the City of Chula Vista, County of San Diego (within the Sweetwater and County Islands communities), City of National City, and City of San Diego (within the Greater North Park, Mid-City [City Heights], Southeastern San Diego, and Encanto Neighborhoods communities). Existing land uses throughout the urbanized Project area are diverse and include: single- and multi-family residential, mobile home parks, commercial/office, institutional, industrial, cemeteries, schools, churches, park/recreational facilities, and public services. In general, community areas within the immediate vicinity of the Project site are highly urbanized and mostly built out, with little undeveloped land and small pockets of open space. Please refer to Subchapter 2.1, Land Use, for more detail, and Figures 1-2 and 2.1-1A through 2.1-1D for jurisdictional and surrounding land uses.

City of Chula Vista

The City of Chula Vista encompasses approximately 33,000 acres. Chula Vista is bordered by National City to the north and the City of San Diego to the south, and is bisected by I-5 and I-805. Over time, the City has evolved into varying and distinct neighborhoods and communities as a result of these divisions. Many Chula Vista citizens recognize what has been characterized as two cities: older or western Chula Vista (west of I-805) and eastern Chula Vista (east of I-805). Western Chula Vista residents desire revitalization of the older areas, but at the same time value the quiet, suburban village character that has existed and continues to exist. Eastern Chula Vista, built under more contemporary development and design standards, is often seen as having more and improved amenities than Western Chula Vista.

Western Chula Vista is generally characterized by a traditional street grid, with single-family residential neighborhoods separated by commercial corridors. Eastern Chula Vista is suburban in nature, characterized by master-planned residential neighborhoods with curvilinear streets, cul-de-sacs, commercial malls, and villages with neighborhood serving shops, and community facilities. Activity centers within the Project area in Chula Vista include the Canyon Plaza and Terra Nova Plaza Shopping Centers and other commercial strip shopping centers and several community parks (refer to Table 2.1-2 in Subchapter 2.1, Land Use, for a list of parks and recreational facilities). Educational facilities within the immediate Project area include Bay View Christian Academy, Halecrest Elementary, Hilltop High, Karl H. Kellogg Elementary, Palomar Elementary, Parkview Elementary, and Rogers Elementary. There also are two medical centers, Scripps Mercy Hospital Chula Vista and Sharp Chula Vista Medical Center, regional access to which is provided by I-805 south.

County of San Diego

The County Islands portion of the Project area is surrounded by other jurisdictions (the cities of Chula Vista and National City) and includes two cemeteries and some residences. These facilities are part of the surrounding communities and do not stand alone as isolated communities.

The Sweetwater Community is a semi-rural equestrian community that is close to urban areas and employment opportunities. The western half of the plan area is mostly developed residential land with single-family homes on parcels less than one acre. There is little commercial land and no industrial land in the community planning area. The City of Chula Vista commercial areas along Bonita Road and other adjacent commercial areas provide commercial services to the primarily residential Sweetwater Valley. The other major land use in the area is the Sweetwater River Valley, which is devoted to parks, golf courses, and other open space uses. Lincoln Acres County Park also is located within the vicinity of the Project site.

City of National City

The City of National City is essentially built out and is predominantly urban in nature. It is bordered by the City of San Diego to the north and east, the San Diego Bay to the west, and the City of Chula Vista to the south, and is generally circled by I-5, I-805, SR 54, and SR 15. Land uses consist of older residential neighborhoods arranged in grid patterns, commercial areas, and schools and parks. There is very little undeveloped land, and most of the waterways have been channelized. Activity centers within the Project area in National City include the Westfield Plaza Bonita Mall, Sweetwater Town and Country Shopping Center, numerous strip commercial shopping centers along East Plaza Boulevard, the National City Municipal Golf Course,

El Toyon Park and Recreation Center, and Las Palmas Park. Schools adjacent to the Project site in National City include El Toyon Elementary and Las Palmas Elementary.

City of San Diego

The Greater North Park community is located in the central portion of the City of San Diego and is in close proximity to downtown San Diego. The Greater North Park community is identified in the City of San Diego General Plan as an urbanized community. Most of its developable land is devoted to residential use. Approximately 81 percent of the community (1,182 acres) is residential, with about 689 acres currently in single-family neighborhoods. Greater North Park is one of the older urbanized communities in the City of San Diego, with original subdivisions being recorded just after the turn of the century. Home to hundreds of classic California Style Craftsman houses, Greater North Park maintains a strong residential character in its tree-lined parkways, wide streets, and canyon cul-de-sacs. The style of the major business corridors along University Avenue, 30th Street, and El Cajon Boulevard dates back to the 1950s. North Park has attracted a variety of businesses, higher density residential developments, and mixed uses, particularly within the commercial districts.

City Heights is centrally located in the City of San Diego metropolitan area, north of SR 94, between SR 15 and I-805. Development in City Heights is a mixture of single- and multi-family residential with commercial and other non-residential development concentrated along the major arterials, including El Cajon Boulevard, University Avenue, Fairmount Avenue, and Euclid Avenue. There are also pockets of neighborhood commercial areas throughout the community and some industrial development on the southern edge of the community. Several City Heights community parks are located in the Project area, as discussed in Subchapter 2.1.

The Southeastern San Diego community, south of SR 94 and west of I-805, is a large urbanized and ethnically diverse community located adjacent to downtown San Diego. According to the Southeastern San Diego Community Plan, the community encompasses almost 7,200 acres. A third of this total is used for R/W and easements for freeways, streets, drainage facilities, and other public improvements. Approximately 3,044 acres of the remaining land, or 63.8 percent of the entire community supports residential use. Vacant land is the next largest land use category, encompassing almost 800 acres. Commercial, industrial, and public uses comprise the remaining land area and total less than 1,000 acres. Community recreational facilities within the project area include the Willie Henderson Sports complex and Jackie Robinson Family YMCA.

The Encanto Neighborhoods community is located south of SR 94 and east of I-805 and immediately adjacent to the Southeastern San Diego community. It shares some similarities with the Southeastern San Diego community in terms of ethnic diversity, ongoing revitalization efforts, infill development opportunities, and strong community involvement. It is predominantly a low-density residential community with more dense residential projects and commercial and industrial uses located near major streets in the core. Schools within the immediate Project area include Chollas Mead Elementary, Lincoln High, Kennedy Elementary, Knox Elementary, Mt. Erie Christian Academy, and Walter Porter Elementary.

Demographic Characteristics

Table 2.3-1 presents a demographic profile of the San Diego region, County of San Diego, the cities within the Project area, and SRAs adjacent to or within the Project area. Demographic data was derived from the 2000 U.S. Census. Following Table 2.3-1, a general discussion of demographic characteristics within the analyzed geographic units is provided.

Characteristics	San Diego Region ¹	City of Chula Vista	County of San Diego	City of National City	City of San Diego	Chula Vista (SRA 21)	Sweet- water (SRA 20)	Central San Diego (SRA 1)	National City (SRA 4)	South- eastern San Diego (SRA 5)	Mid-City (SRA 6)
Population											
2000 Population ²	2,813,833	173,556	442,919	54,260	1,223,400	108,907	74,542	155,827	53,859	156,124	168,125
2010 Projected Population ³	3,245,279	248,174	504,719	59,905	1,365,130	115,060	139,455	184,957	59,525	163,143	174,355
Household Characteristics											
Persons in Households	2,716,820	172,477	415,782	50,917	1,177,582	107,931	74,305	139,992	50,520	155,508	163,279
In Group Quarters	97,013	1,079	27,127	3,343	45,818	976	237	15,835	3,339	616	4,846
Average Household Size	2.73	3.02	2.92	3.52	2.6	2.9	3.17	2.09	3.54	3.75	2.87
Race and Ethnicity⁴											
White	67%	55%	78%	35%	60 %	55%	57%	63%	35%	26%	45%
Black or African American	6%	5%	4%	6%	8 %	5%	4%	9%	5%	23%	14%
American Indian	1%	1%	2%	1%	1 %	1%	0%	1%	1%	1%	1%
Asian	9%	11%	3%	19%	14 %	5%	19%	4%	18%	22%	13%
Native Hawaiian and Other Pacific Islander	0%	1%	0%	1%	0 %	1%	1%	0%	1%	1%	0%
Some Other Race	13%	22%	9%	34%	12 %	27%	13%	18%	34%	22%	20%
Two or More Races	5%	6%	4%	5%	5 %	6%	5%	5%	5%	6%	6 %
Origin											
Hispanic*	27%	50%	20%	59%	25%	57%	37%	37%	60%	40%	37%
Non-Hispanic	73%	50%	80%	41%	75%	43%	63%	63%	40%	60%	63%
Age Characteristics											
Median Age	33.2	33.0	34.7	28.8	32.6	32.7	34.1	32.9	28.6	29.1	27.8
Persons 65+ Years of Age ⁵	11%	11%	9%	11%	10%	13%	8%	10%	11%	8%	8%
Unemployment Rates⁶											
% Unemployed (2006)	--	4.7%	4.0%	8.0%	4.0%	--	--	--	--	--	--
% Unemployed (June 2009)	--	11.7%	10.1%	19.1%	10.0%	--	--	--	--	--	--
Income Characteristics											
Median Household Income	\$47,268	\$44,834	\$53,520	\$29,980	\$45,825	\$35,125	\$68,243	\$31,621	\$29,490	\$41,014	\$29,750
% Below Poverty Level	13%	11%	9%	22%	15%	15%	5%	22%	22%	17%	28%

Table 2.3-1 (cont.)
DEMOGRAPHIC CHARACTERISTICS OF THE SAN DIEGO REGION, CITY OF CHULA VISTA, COUNTY OF SAN DIEGO, CITY OF NATIONAL CITY, CITY OF SAN DIEGO, AND SUB-REGIONAL AREAS

Characteristics	San Diego Region ¹	City of Chula Vista	County of San Diego	City of National City	City of San Diego	Chula Vista (SRA 21)	Sweet-water (SRA 20)	Central San Diego (SRA 1)	National City (SRA 4)	South-eastern San Diego (SRA 5)	Mid-City (SRA 6)
Housing Characteristics											
Total Housing Units	1,140,349	77,452	166,972	15,737	508,450	38,742	41,081	70,466	15,552	43,661	59,502
% Owner-occupied ²	66%	57%	70%	35%	51%	45%	81%	25%	34%	59%	34%
% Renter-occupied ²	34%	43%	30%	65%	49%	55%	19%	75%	66%	41%	66%
Occupied Housing Units	97%	97%	94%	97%	96%	97%	97%	95%	97%	98%	97%
Vacant Housing Units	3%	3%	6%	3%	4%	3%	3%	5%	3%	2%	3%

¹Includes incorporated cities and unincorporated areas within the County of San Diego.

²Source: U.S. Census Bureau: Census 2000.

³Source: SANDAG 2030 Regional Growth Forecast Update, 2007.

⁴Percentages may not equal 100 percent because individuals may report more than one race.

⁵Percentages are based on percentage of people 65 years of age or older within the total, by region, City, County, and study area SRAs, respectively.

⁶Source: State of California, Employment Development Department: Monthly Labor Force Data for California, California Counties, and Metropolitan Statistical Areas. www.labormarketinfo.edd.ca.gov.

* The terms "Hispanic" or "Latino" refer to people who trace their origin or descent to Mexico, Puerto Rico, Cuba, Spanish-speaking Central and South America countries, and other Spanish cultures. Origin can be considered as the heritage, nationality group, lineage, or country of the person or the person's parents or ancestors before their arrival in the U.S. People who identify their origin as Hispanic or Latino may be of any race. (Source: U.S. Census Bureau, Population Division. <http://www.census.gov/population/www/socdemo/hispanic/about.html>)

City of Chula Vista

The 2000 U.S. Census population estimate for the City of Chula Vista was 173,556 people, with the majority of its residents identifying as White (55 percent), followed by Some Other Race (22 percent) and Asian (11 percent). Approximately 50 percent of the population identifies their origin as Hispanic, and 50 percent as Non-Hispanic. The median age in Chula Vista is 33. The unemployment rate rose from 7.0 percent in 2006 to 11.7 percent in 2009. The median household income is \$44,834, and 11 percent of the population is below the poverty level. Approximately 97 percent of homes are occupied (3 percent are vacant) and the majority of homes are owner-occupied (57 percent). The average household size is 3.02 people.

County of San Diego

The population of the County of San Diego was approximately 442,919, 78 percent of which was identified as White; the remainder of the races each comprised less than 10 percent of the population. Approximately 20 percent of the population identifies their origin as Hispanic, and 80 percent as Non-Hispanic. The median age in the County is 35. The unemployment rate rose from 4.0 percent in 2006 to 10.1 percent in 2009. The median household income is \$53,520, and population below the poverty level is 9 percent. Approximately 94 percent of homes are occupied, 6 percent are vacant, and the majority of homes are owner-occupied (70 percent). The average household size is 2.92 people.

City of National City

The City of National City had approximately 54,260 people, with nearly the same percentages of people of White ethnicity as people of Some Other Race (35 and 34 percent, respectively). Over half the population in National City identifies their origin as Hispanic (59 percent), compared to 41 percent Non-Hispanic. The unemployment rate rose from 8.0 percent in 2006 to 19.1 percent in 2009. The median age in National City is 29. The median household income is \$29,980, and 22 percent of the population is below the poverty level. Approximately 97 percent of homes are occupied (3 percent are vacant), and only 35 percent of homes are owner-occupied. The average household size is 3.52 people.

City of San Diego

The population of the City of San Diego was 1,223,400, the majority of which is White (60 percent). Approximately 25 percent of the population identifies their origin as Hispanic, and 75 percent as Non-Hispanic. The median age in the City of San Diego is 33. The unemployment rate rose from 4.0 percent in 2006 to 10.0 percent in 2009. The median household income is \$45,825, and population below the poverty level is 15 percent. Approximately 96 percent of homes are occupied (4 percent are vacant), and approximately half (51 percent) of homes are owner-occupied. The average household size is 2.6 people.

Subregional Areas

The SRAs within the Project area are more diverse when compared to the regional level ethnicity percentages. The largest population race/ethnicity group within each SRA is White. Of the total populations within the Chula Vista SRA (108,907 people), Sweetwater (74,542 people), and Central San Diego (155,827 people), over half are White, while the National City SRA (53,859 people), Southeastern San Diego (156,124 people), and Mid-City (168,125 people) have a White population of less than 50 percent. Over half the population in Chula Vista and

National City identifies their origin as Hispanic (57 and 60 percent, respectively). Within Southeastern San Diego, 40 percent have a Hispanic origin. Approximately 37 percent of the population within Sweetwater, Central San Diego, and Mid-City are of Hispanic origin. The median age in the SRAs ranges from 28 to 34, while the Chula Vista SRA has the highest percentage of people that are 65 years of age or older within the Project area (13 percent).

According to the U.S. Census data, the Chula Vista SRA had an unemployment rate of 7.5 percent, Sweetwater had a 5.4-percent unemployment rate, Central San Diego had an unemployment rate of 6.3 percent, the National City SRA had a 9.9-percent unemployment rate, Southeastern San Diego had a rate of 8.8 percent, and Mid-City had the highest rate of 10.3 percent. Median household incomes range from \$29,750 to \$68,243, with Mid-City having the lowest and Sweetwater having the highest. The poverty levels within the SRAs inversely correspond to the median income levels and range from 5 percent (in Sweetwater) to 28 percent (in Mid-City). All of the SRAs show housing vacancies at or below 5 percent. Average household sizes range from 2.09 to 3.75 people, with Central San Diego having the fewest people per household and Southeastern San Diego having the most.

Growth

The San Diego region's population is projected to increase by 32 percent between 2004 and 2030, with an increase of approximately one million people. Employment growth within the San Diego region is also projected to increase by 32 percent between 2004 and 2030, with an estimated increase of 465,000 jobs (SANDAG 2006). Within that same period, the population and employment would also increase within the SRAs along the I-805 south corridor (refer to Table 1-1). Southeastern San Diego is anticipated to have the least amount of population growth with a 13-percent increase, whereas Sweetwater is expected to have the highest with a 67-percent increase in population between 2004 and 2030. Sweetwater also is expected to have the highest employment increase (192 percent) during this time period. The National City SRA is projected to have the lowest employment increase between 2004 and 2030 (10 percent).

Community Cohesion

Community cohesion is the degree to which residents have a "sense of belonging" to their neighborhood; a level of commitment of the residents to the community; or a strong attachment to neighbors, groups and institutions, usually as a result of continued association over time. Cohesion also refers to the degree of interaction among the individuals, groups, and institutions that make up a community.

Some specific characteristics or indicators of a cohesive community may include long residency tenures, high percentage of home ownership and single-family homes, ethnic homogeneity, households with two or more people, frequent personal contact, high degree of community activity, and a high percentage of elderly residents. The following discussion identifies existing community cohesion within the communities along the Project site, from south to north.

Many Chula Vista citizens recognize what has been characterized as two cities; older or western Chula Vista (west of I-805), and eastern Chula Vista (east of I-805). The east, built under more contemporary development and design standards, is often seen as having more and improved amenities than western Chula Vista. Both the physical division of Chula Vista by I-805 and the differences in available amenities and levels of development between the eastern and western areas reduce the level of community cohesiveness. However, established neighborhoods and extensive available amenities and services contribute to a cohesive

community. Demographic data indicate that Chula Vista has a moderate level of community cohesiveness. This is based on the fact that a relatively high percent of housing units are owner-occupied (57 percent), as opposed to being rentals (43 percent); the average household is above three people; the majority of the population belongs to a single ethnic group (55 percent); and the percentage of elderly residents (65 years of age or older) is 11 percent.

The County Islands portion of the unincorporated County areas of the Project is surrounded by other jurisdictions and does not stand alone as an isolated community. The semi-rural equestrian community of Sweetwater is primarily developed with low density single-family residences with little to no commercial or industrial land, while the Sweetwater River Valley is primarily comprised of open space or recreational areas. The open, semi-rural, equestrian atmosphere of much of the Sweetwater community facilitates an active and involved cohesive community. As indicated by demographic data, community cohesiveness for the County of San Diego's unincorporated areas is moderate based on the fact that a relatively high percentage of housing units within the Sweetwater SRA are owner-occupied (81 percent); the majority of the population belongs to a single ethnic group (57 percent), and there is a relatively high percentage of people within the second-highest ethnicity (19 percent); and the percentage of elderly residents is 8 percent, which is lower than the region (11 percent).

The City of National City is an urbanized, mostly developed city separated into three distinct communities: El Toyon, Kimball, and Las Palmas. In addition, the Port of San Diego and U.S. Navy are large landowners within the western portion of the City. The Project site is located within the El Toyon and Las Palmas communities. Demographic data indicate that National City has a moderate to low level of community cohesiveness. This is based on the fact that few housing units are owner-occupied (35 percent); ethnic/race diversity within the population is almost evenly divided between two ethnic/race groups at 35 percent and 24 percent, and an additional large group at 18 percent; and the percentage of elderly residents is 11 percent, which is the same as the region.

The portions of the City of San Diego within the Project area are divided into four distinct communities: Greater North Park, City Heights, Southeastern San Diego, and Encanto. The City of San Diego has developed a "City of Villages" strategy, which would focus future housing, retail, employment, educational, and civic uses in mixed-use village centers of different scales in order to preserve established neighborhoods, which would promote community cohesiveness. Greater North Park is one of the older urbanized areas of the City, with a strong residential character and established commercial districts which provide the community with a strong sense of belonging, and thus a high level of cohesiveness.

City Heights is one of the most ethnically diverse communities in the City of San Diego, with a high concentration of lower income households and businesses and immigrant communities, the variability of which reduces the community cohesiveness. Additionally, there are 16 distinct and cohesive neighborhoods within City Heights, each with its own identity and neighborhood association. Demographically, City Heights has a moderate to low level of community cohesiveness. This is based on the fact that few housing units are owner-occupied (34 percent); approximately half (48 percent) of the housing units are single-family; the area is very ethnically/racially diverse; there is a moderate percentage of family households (60 percent); and the percentage of elderly residents is 8 percent, which is lower than the region (11 percent).

A third of the total land within Southeastern San Diego is used for transportation and public utilities easements, while much of the remaining land supports residential use. Although this

community is physically less cohesive and provides fewer amenities than the other areas of the City of San Diego within the Project area, there is a strong community involvement. Demographic data indicated that more than half (59 percent) housing units are owner-occupied; 76 percent of the housing units are single-family; the area is very ethnically/racially diverse; there is a high percentage of family households (84 percent); and the percentage of elderly residents is 8 percent, which is lower than the region (11 percent). Southeastern San Diego has a moderate level of community cohesiveness.

Encanto shares similarities with the Southeastern San Diego community in terms of ethnic diversity and the level of commitment of the residents to their community, resulting in a moderate level of community cohesiveness.

Environmental Consequences

The following analysis of impacts related to community character and cohesion applies to both Build Alternative 1 and 2 because the build alternatives would occur in the same locations with such similar Project footprints. Community elements and characteristics are the same.

Community Character and Cohesion Impacts

Projects can divide cohesive communities when they act as new physical or psychological barriers, when they remove facilities that are used as gathering places of the community (such as religious centers, recreation centers), or when they remove substantial residences or businesses. Impacts to community cohesion relate to changes in land use, neighborhoods, visual quality, the economy, or community facilities and services.

Build Alternatives

The Project would not construct a new freeway, major roadway, or other feature that would divide existing communities in the Project area, but rather would improve and expand the existing I-805 south freeway that currently traverses and, in some cases, defines the edges of established neighborhoods. While the Project would include outside widening of the general purpose freeway lanes and longer overcrossing and undercrossing structures, access over and under the freeway would be maintained on local roadways that provide connections between, and within, communities along the Project site. Similarly, access to major activity centers, such as shopping centers, parks, schools, and transit facilities within each community would not be impeded by the Project. In fact, the Project would benefit the adjacent communities by providing unifying facilities that would bring people together to common facilities. The Project would provide improved access to transit facilities through the construction of the three proposed transit stations, park-and-ride lots, DAR, and the Managed Lanes and HOV/transit lanes. None of these proposed improvements would create new divisions or physical barriers within the various communities along the Project site.

Most of the proposed components of the build alternatives would be located within the existing freeway R/W, except for the proposed transit center and park-and-ride lot near East Palomar Street in the City of Chula Vista, and the park-and-ride lot adjacent to East Plaza Boulevard in National City. Most of the land has been developed up to the R/W with residential, commercial, and industrial uses. Although the Project has been designed to minimize impacts to existing uses and communities within the Project area, some Project components would require the displacement of existing homes and people. The number of displacements, however, has been minimized to the extent feasible and occurs only in areas near East Palomar Street and East

Plaza Boulevard, on the edge of the existing communities. Please refer to Section 2.3.2, Relocations and Real Property Acquisition, for more details pertaining to displacements. In addition, park-and-ride lots would be developed on vacant land or utility easements near residences and parks. These proposed facilities would not substantially change the character of the communities, as they would occur along an existing major transportation corridor and their use would be compatible with freeway operations. As discussed above, provision of new transit facilities would benefit the communities along the Project site.

Existing landscaped buffers would be substantially reduced in size or removed altogether and replaced with retaining walls and/or noise barriers. This condition would have a particularly noticeable effect for residents whose homes are located adjacent to I-805 at elevations at or below the freeway. Residents along the freeway that currently have open views across the freeway from their backyards would view large retaining and/or sound barriers upon implementation of the Project. Although walls currently exist along the freeway, the addition of the proposed retaining walls and sound barriers would intensify the magnitude of the effect the walls have on the character of the Project area.

Several freeway interchanges, overcrossing and undercrossing structures, and some local streets would be modified (realigned, widened, or replaced with new, larger structures), which would create a slightly intensified built urban environment. The communities along the Project area, however, are highly urbanized and mostly built out; therefore, these proposed improvements would not adversely affect the existing character of the communities along the Project site.

Access to businesses, residences, and recreational facilities would be maintained throughout the construction period. Impacts to traffic flow within the Project vicinity would be avoided or minimized during the construction period. Temporary construction impacts resulting from the demolition and construction of a new 22nd Street POC would last approximately nine months, resulting in a lengthy temporary detour for pedestrians, including students. The residents and businesses of the local community would experience some temporary noise and accessibility restrictions during construction, but the build alternatives would not impact community cohesion and character in this regard.

No Build Alternative

The No Build Alternative would have no permanent or temporary impacts to community character or cohesion.

Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

Impacts to community character resulting from the removal of existing landscaping and the construction of retaining and/or noise barriers would be minimized to the extent possible by implementation of landscape design guidelines, as outlined in detail in Subchapter 2.6, Visual/Aesthetics.

Limited hours of construction activity along with best management practices (BMPs) would be followed to reduce the likelihood that commercial customers, residents, and recreational and other users would be discouraged by construction activities and related traffic congestion. The Project would include a TMP to minimize interruptions to traffic patterns, and to avoid related safety hazards during construction. Specific elements of this plan would include the use of flaggers and temporary lane realignments to maintain through traffic, concrete barriers, signage

to direct traffic movements, and possible reduction of speed limits in construction zones. Access to existing businesses within the Project vicinity would be maintained during construction by creating temporary driveways, and/or providing alternate access points.

Temporary construction impacts from the demolition and construction of the new 22nd Street POC would be minimized to the extent possible and may include the following measures:

- Notification posted at the POC in advance of any work done to alert users
- Public Awareness Campaign
- Construction information sent to neighboring schools and/or nearby recreational facilities
- Temporary detours

No Build Alternative

No avoidance, minimization, or mitigation measures are required for the No Build Alternative.

2.3.2 Relocations and Real Property Acquisition

Regulatory Setting

The Caltrans Relocation Assistance Program (RAP) is based on the federal *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970* (as amended) and Title 49 CFR Part 24. The purpose of RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. A summary of Caltrans' relocation benefits and assistance program is provided in Appendix D.

All relocation services and benefits are administered without regard to race, color, national origin, or gender in compliance with Title VI of the Civil Rights Act (42 USC 2000d, et seq.). A copy of Caltrans' Title VI Policy Statement is provided in Appendix C.

Affected Environment

A Draft Relocation Impact Statement (DRIS) was prepared for the Project in October 2008. As shown on Figures 2.1-1A through 2.1-1D, the Project R/W is primarily abutted by residential and other developed uses, while open space is in proximity to the R/W in several locations. Relocation impacts would occur within the City of Chula Vista and in the City of National City. No predominance of minority or low-income communities was noted based on visual inspection and San Diego County Assessor parcel information.

Environmental Consequences

The following analysis of impacts related to displacement, with information taken from the DRIS, applies to both Build Alternative 1 and 2 because the build alternatives would occur in the same locations with such similar Project footprints. Impacted properties would be the same under each build alternative.

Build Alternatives

Table 2.3-2 identifies the proposed R/W acquisitions necessary to construct the Project. The locations are shown in Figures 1-5A through 1-5W.

While most of the acquisition areas would be partial acquisitions and would not affect existing uses, the Project would require full acquisition of six residential properties, resulting in the displacement of six existing single-family houses and associated residents. The proposed East Palomar Street transit center and road widening in the City of Chula Vista would displace two existing single-family homes, and the proposed East Plaza Boulevard transit station and modifications to the East Plaza Boulevard interchange would displace four existing single-family homes in the City of National City.

**Table 2.3-2
PROPOSED RIGHT-OF-WAY ACQUISITION**

APN	Owner	Existing Use	Parcel Size (acre)	Acquisition Area (acre)	Purpose
620-610-58	Public	Vacant land	0.36	0.32	Widening of East Palomar Street
620-651-01	Private	Single-family residential	0.28	0.28	Park-and-ride lot and East Palomar Street road widening
620-651-02	Private	Vacant land/Utility easement	2.65	2.65	Park-and-ride lot and East Palomar Street road widening
620-651-30	Private	Single-family residential	0.30	0.30	Widening of East Palomar Street
620-651-31	Private	Vacant land/Utility easement	4.18	3.79	Park-and-ride lot near East Palomar Street
620-660-09	Private	Single-family residential	0.21	0.03	Widening of East Palomar Street
620-660-10	Private	Single-family residential	0.18	0.02	Widening of East Palomar Street
620-660-11	Private	Single-family residential	0.19	0.01	Widening of East Palomar Street
620-660-12	Private	Single-family residential	0.16	0.001	Widening of East Palomar Street
620-660-13	Private	Single-family residential	0.21	0.01	Widening of East Palomar Street
639-710-57	Private	Multi-family residential	2.29	0.09	Widening of SB off-ramp to Telegraph Canyon Road
557-280-08	Private	Single-family residential	0.09	0.09	Ramp realignment
557-280-10	Private	Single-family residential	0.13	0.13	Ramp realignment
557-280-39	Private	Single-family residential	0.26	0.26	Ramp realignment
557-280-41	Private	Single-family residential	0.16	0.16	Ramp realignment
557-220-19	Private	Vacant land	0.32	0.05	Retaining and sound walls
552-010-12	Private	Vacant land	1.49	0.94	Widening of freeway

Shaded rows denote full takes and displacement of existing homes.

No Build Alternative

The No Build Alternative would not displace any houses or businesses, and thus, would not require the relocation of people.

Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

The Project has been designed to minimize impacts to residents and businesses by minimizing R/W acquisition and limiting Project grading while still meeting Project objectives. Suitable relocation resources would be made available to all displacees. Since it is unknown if suitable replacement properties would remain available at the actual time of displacement, it is recommended that a minimum of nine months to relocate the residential displacements be considered. Displacees would be treated in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, as amended. A Relocation Agent would work with each displacee to ensure that they receive full relocation benefits and that all activities are conducted in accordance with the regulatory statute. This is to ensure that persons displaced as a result of the acquisition of property for public use (transportation project) are treated fairly, consistently, and equitably so that such persons would not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.

Single-family residential replacement properties similar to the impacted properties are available for the small number of residents displaced relative to available housing. Caltrans would utilize the Last Resort Housing provisions of the RAP to ensure housing availability is within the financial means of the displacees.

No Build Alternative

No avoidance, minimization, or mitigation measures are required for the No Build Alternative because no relocation impacts would occur.

2.3.3 Environmental Justice

Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President Clinton on February 11, 1994. This EO directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2009, this was \$22,050 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this Project. Caltrans' commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement, signed by the Director, which can be found in Appendix C of this document.

Affected Environment

The CIA prepared for the Project (March 2010) evaluates, among other subjects, environmental justice impacts. This section is partially based upon information provided in the Project CIA.

The analysis of potential environmental justice impacts begins with identifying whether minority or low-income populations occur within the Project area. Demographic data used to evaluate the potential for environmental justice impacts to occur from the Project were derived from the 2000 U.S. Census. In accordance with federal guidelines, a minority population occurs when either (a) the minority population of the affected area exceeds 50 percent, or (b) the minority population percentage of the affected area is meaningfully greater than the minority population of the general population or other appropriate unit of geographic analysis. As stated above, low-income populations are identified from the statistical poverty guidelines.

As discussed in Section 2.3.1 and as shown in Table 2.3-1, over 50 percent of the population within the City of National City, the National City SRA, Southeastern San Diego, and Mid-City are considered minority. Because the minority population is greater than 50 percent and/or is notably higher than the region, minority populations are identified within these communities of the Project area. No other analyzed populations within the Project area are considered a minority population.

As shown in Table 2.3-1, the percentage of households below the poverty level within the San Diego region is 13 percent. The City of National City, the National City SRA, and Mid-City all have a poverty level notably higher than that of the region (22, 22, and 28 percent, respectively). Consequently, low-income populations are identified within these areas.

Environmental Consequences

The following analysis of impacts related to environmental justice applies to both Build Alternative 1 and 2 because the build alternatives would occur in the same locations with similar Project footprints.

Build Alternatives

The DRIS states that Build Alternatives 1 and 2 would impact six existing single-family homes, and suggests that the affected properties are primarily owner-occupied. Although four affected homes are located within National City, no predominance of minority or low-income communities was noted for these specific properties.

The build alternatives would include features designed to improve the efficiency of local transit services and accommodate carpooling, such as a DAR, transit centers, and park-and-ride facilities. These added features, along with the additional Managed and HOV lanes, would be beneficial to bus service and HOVs throughout the Project area. The additional bus service and HOV facilities would be a substantial benefit to all populations and communities along I-805 south within the Project area.

The Project may include a value pricing program. Value pricing allows the ability to manage any available capacity of managed lanes by allowing SOVs to pay to use the lanes. Current legislation (AB 2032) exists for this Project to allow for excess capacity to be sold on the HOV lanes as long as a LOS C or better is maintained on the Managed Lanes.

The value pricing program proposed for I-805 south would be similar to those on I-15 Managed Lanes and as proposed for I-5. Value pricing studies were conducted for both the I-15 Managed Lanes and the I-5 projects. These studies included public outreach, public meetings, mailers, and telephone surveys. Both negative and positive sentiments were equally distributed throughout all income and ethnic groups. Some respondents believed that the costs of the toll

represented a significant barrier to public use of the value pricing program; however, this sentiment was not isolated to low income or minority populations and was spread through all segments of the populations surveyed. Most respondents did not associate a lack of fairness or equity with the value pricing program. They considered the extension of the value pricing program to be fair to both the users of the HOV lanes and the general purpose lanes. No identifiable pattern of opinions and attitudes based on ethnicity or income was found. The Project, with the inclusion of the value pricing program, would not cause disproportionately high and adverse effects on any minority or low-income populations as discussed in EO 12898 regarding environmental justice. The addition of transit options and overall improvement of the flow of traffic would be beneficial to all users, populations, and communities, in both the general purpose and Managed Lanes. In addition, a percentage of the money collected from SOV users would go back in to the regional system, benefiting all users in the region.

Based on the above discussion, the build alternatives, with relocation assistance and the public's input on the value pricing program, would not cause disproportionately high and adverse effects on any minority or low-income populations as discussed in EO 12898 regarding environmental justice. The additional transit benefits, modal choices, and overall improvement of the flow of traffic resulting from the build alternatives would be beneficial to all freeway users, in both the general and managed lanes. Therefore, there would be no impacts related to environmental justice.

No Build Alternative

The No Build Alternative would not displace substantial amounts of existing homes or people, since activities would include regular maintenance or reconstruction of an existing facility.

2.3.4 Avoidance, Minimization, and/or Mitigation Measures

Based on the above discussion and analysis, the Project build alternatives and No Build Alternative would not cause disproportionately high and adverse effects on minority or low-income populations, as per EO 12898 regarding environmental justice. Therefore, no avoidance, minimization, or mitigation measures are required.

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2.4 UTILITIES/EMERGENCY SERVICES

2.4.1 Affected Environment

Utilities

Numerous public utilities are located within the area of potential Project footprint effects (i.e., the area disturbed during construction or under proposed improved facilities). The utilities include electrical, gas, water, sewer, and telecommunications lines. These existing utility lines are mostly located within public R/W. Gas and electrical services are provided by SDG&E. Water service is provided by Otay Water District, Sweetwater Authority, and the cities of Chula Vista and San Diego. Wastewater services are provided by the cities of Chula Vista, National City, and San Diego and the County of San Diego. The numerous telephone, cable, and fiber optic lines within the Project limits provide for multiple carriers operations.

Solid waste disposal within the Project limits is provided by Allied Waste Services, EDCO, and the City of San Diego.

Emergency Services

In the discussions below, all service distances provided represent driving distance.

Police Protection Services

The California Highway Patrol (CHP) is responsible for the administration and enforcement of the laws, and the investigation of traffic accidents on all toll highways and state highways constructed as freeways, including transit-related facilities located on or along the R/W of those toll highways or freeways. Law enforcement activities on I-805, SR 54, SR 94, and SR 15 would be provided by the CHP.

The Southeastern Division of the City of San Diego Police Department provides police protection services in the neighborhoods of Alta Vista, Bay Terrace, Chollas View, Emerald City, Encanto, Jamacha-Lomita, Lincoln Park, Mountain View, Mount Hope, Paradise Hills, Shelltown, Skyline, Southcrest, and Valencia. The Southeastern Division station is located at 7222 Skyline Drive in San Diego, approximately 3.5 miles east of I-805, and provides police protection within the Project limits in the City of San Diego.

The National City Police Department also provides service within the Project area (within the City of National City). The police station is located at 1200 National City Boulevard in National City, and is approximately 1.4 miles west of I-805.

The Chula Vista Police Department serves the southern portion of the Project area. The police station is located at 315 Fourth Avenue in Chula Vista, approximately 2.1 miles west of I-805.

In addition, the County of San Diego Sheriff's Department serves the unincorporated portion of the County within the Project limits. The closest station is the Lemon Grove Station, located at 3240 Main Street in Lemon Grove, approximately 5.4 miles east of I-805.

Fire Protection and Emergency Medical Services

The City of San Diego Fire-Rescue Department provides fire and paramedic services to the Project area. Station 12 serves the neighborhoods within the portion of the Project site within the City of San Diego, and is located at 4964 Imperial Avenue, approximately 0.4 mile east of I-805. The station is equipped with an engine, battalion, truck, and medic vehicle.

Station 31 of the National City Fire Department would serve the neighborhood within the Project site within the City of National City. Station 31 is located approximately 0.5 mile east of I-805, at 2333 Euclid Avenue.

The community within the southern portion of the Project site would be served by the City of Chula Vista Fire Department. Stations 1, 2, 3, and 9 would serve the Project site. Station 1 is located at 447 F Street in Chula Vista, approximately 1.7 miles to the west of I-805, and is equipped with an engine, battalion, and truck. Station 2 is located at 80 East J Street in Chula Vista, approximately 0.7 mile to the west of I-805, and is equipped with an engine and brush truck. Station 3 is located at 1410 Brandywine Avenue in Chula Vista, approximately 0.6 mile to the east of I-805, and is equipped with two Urban Search and Rescue vehicles and a tender/trailer. Station 9 is located at 266 East Oneida Street in Chula Vista, approximately 0.5 mile to the west of I-805, and is equipped with an engine.

In addition, the Lower Sweetwater Fire Protection District serves portions of the unincorporated areas along the Project site. The Lower Sweetwater Fire Protection District station is located at 2711 Granger Avenue within Lincoln Acres, approximately 0.6 mile (driving distance) to the east of I-805. The Bonita-Sunnyside Fire Protection District also would serve portions of the Project site within the unincorporated community of Sweetwater. The station is located at 4900 Bonita Road, approximately 2.5 miles to the east of I-805.

2.4.2 Environmental Consequences

The following analysis of impacts related to utilities and emergency services applies to both Build Alternative 1 and 2 because the build alternatives would occur in the same locations with similar Project footprints and the service areas of utility and emergency services providers are the same. Therefore, impacts related to utilities and emergency services would be the same for both alternatives.

Utilities

Build Alternatives

Utilities Services – Temporary Construction Impacts

During the demolition phases of Project construction, an increase in the demand for solid waste disposal services is anticipated. This impact would be temporary due to implementation of a Waste Management Plan (WMP), which would minimize the Project's solid waste impact and ensure compliance with applicable policies and regulations. The WMP would address demolition and construction phases of the Project, as applicable.

Removal and/or Relocation of Utilities

The build alternatives would require numerous relocations and/or removal of existing water, sewer, gas, electrical, and telecommunications lines along I-805 south. Proposed utility relocations would occur within existing utility easements or public R/W, wherever possible. No transmission lines over 50 kV would need to be relocated as part of the Project. A list of utility relocations is included in Appendix E of this document.

Notices to relocate utilities (Notice to Owner) would be required for each company that owns and operates a utility in conflict with areas of proposed work. Encroachment permits would be obtained from Caltrans for utilities to perform relocation work within the state R/W.

Environmental effects resulting from ground disturbance within the proposed R/W (which would include removal and/or relocation of these utility facilities) have been assessed under the respective environmental issues sections in this document. The relocation of underground water or wastewater lines would be undertaken in such a manner as to avoid contamination of drinking water.

No Build Alternative

Under the No Build Alternative, no improvements are proposed, and therefore, no impacts to utilities would occur.

Emergency Services

Build Alternatives

Construction of either build alternative may require temporary detours or lane closures that would temporarily disrupt travel along existing roadways within the construction zone, potentially affecting emergency response times during construction. Temporary lane closures during construction activities can result in increased traffic delays and queues along the affected roadway, and detours often result in longer travel routes to destinations. Emergency vehicles traveling along an affected roadway may take longer to reach the scene, resulting in temporary increases in response times.

Once the Project is built, the proposed Managed Lanes and HOV/transit lanes and DAR would likely improve emergency response times to accidents and emergency incidents on the I-805, which would benefit public safety. Emergency vehicles would directly access the Managed Lanes via the DAR and could freely cross between the general purpose lanes and the Managed Lanes or HOV/transit lanes in responding to emergency situations since they would be separated by a buffer as opposed to a physical barrier. Additionally, both the Managed Lanes and HOV/transit lanes would include shoulders to allow for emergency parking.

No Build Alternative

Because construction would not occur under the No Build Alternative, no disruptions of existing emergency vehicle travel patterns would occur. However, emergency response times to accidents along the freeway would not be improved, because no HOV/transit lanes or DAR would be constructed.

2.4.3 Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

A TMP would be implemented to provide passage for emergency vehicles on roadways that would be temporarily affected during Project construction. In addition, construction plans generally require the contractor to coordinate with local emergency services so that public safety is not threatened.

A WMP would be implemented during Project construction to minimize generation of construction debris and solid waste throughout the construction phase of the Project.

No Build Alternative

Because no Project-related improvements are proposed under the No Build Alternative, no avoidance, minimization, and/or mitigation measures would be required.

2.5 TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES

2.5.1 Regulatory Setting

Caltrans, as assigned by the FHWA, directs that full consideration be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 CFR 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

Caltrans is committed to carrying out the 1990 Americans with Disabilities Act by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

2.5.2 Affected Environment

The analysis and findings presented in this subchapter are based on two traffic reports prepared for the Project (*Interstate 805 Managed Lanes South Project – Final Existing Conditions and Traffic Operations Analysis Report*, July 2009; and *Interstate 805 Managed Lanes South Project – East Palomar Direct Access Ramp and East Palomar, H Street and Plaza Boulevard Park-and-Rides Local Circulation System Traffic Study*, June 2009). These reports analyzed existing and future traffic conditions on freeway segments (general purpose and Managed and HOV/transit lanes), local roadways, and intersections in the Project area.

Both reports utilized objective, quantitative criteria to evaluate the performance of the I-805 south corridor, as a whole, and to determine how well the Project would achieve established objectives. As part of this traffic analysis, traffic volumes were developed for the following traffic scenarios:

- Existing conditions
- Year 2015 No Build
- Year 2015 Build
- Year 2030 No Build
- Year 2030 Build

Traffic Study Area

The traffic study area for the Project includes freeway segments, freeway ramps, local roadway segments, and intersections that are likely to be affected by the Project. A total of 73 freeway segments were analyzed along I-805 from Main Street to University Avenue, SR 54 from Highland Avenue to Reo Drive, SR 94 from Euclid Avenue to 28th Street, and SR 15 from Market Street to University Avenue (refer to Table 2.5-3). A total of 43 roadway segments were analyzed (refer to Table 2.5-4). A total of 68 intersections between Orange Avenue and Home Avenue were analyzed (refer to Table 2.5-5). Figures 2.5-1A through 2.5-1C show the locations of the analyzed intersections and roadway segments.

Roadway Network

Existing freeway interchanges and roadways analyzed in the Project traffic study area are briefly described below.

Orange Avenue/Olympic Parkway

Orange Avenue/Olympic Parkway, an east-west, four-lane major street, is within the City of Chula Vista and forms the southern extent of the traffic study area. Orange Avenue extends westerly of I-805 to Broadway in downtown Chula Vista. Olympic Parkway extends to the east from I-805 to SR 125. Orange Avenue/Olympic Parkway crosses the I-805 on an overcrossing structure. The I-805 interchange at Orange Avenue/Olympic Parkway is a diamond interchange. Land uses along this roadway in the immediate vicinity of I-805 are primarily residential. Orange Avenue/Olympic Parkway has a designated Class II bike lane in each direction. At the I-805 interchange, however, the roadway has a shared R/W bicycle route designated only by signs (i.e., bicycle traffic shares the roadway with motor vehicles on the overcrossing). On-street parking along Orange Avenue/Olympic Parkway is not allowed. The posted speed limit along the roadway is 35 miles per hour (mph).

East Palomar Street

East Palomar Street trends east-west between Broadway to the west and SR 125 to the east, entirely within the city of Chula Vista. In the vicinity of I-805, East Palomar Street consists of a four-lane roadway and crosses over I-805 on an overcrossing structure. There is no existing access to I-805 at East Palomar Street. East Palomar Street has a shared R/W, designated by signs only, for both bicycle traffic and motor vehicles. The posted speed limit along this roadway is 35 mph.

Telegraph Canyon Road

Telegraph Canyon Road/East L Street extends east-west between I-5 westerly of I-805 and Otay Lakes Road to the east. The roadway varies between four to seven lanes and segments are classified as major streets or prime arterials. Telegraph Canyon Road crosses under I-805. The I-805 interchange at Telegraph Canyon Road consists of a partial diamond interchange with a loop-ramp for SB I-805 to EB Telegraph Canyon Road traffic. Telegraph Canyon Road includes a Class II bike route, except at the I-805 interchange. On-street parking is not allowed along the roadway. The posted speed limit along this roadway is 40 mph.

East H Street

East H Street trends east-west between I-5 to the west and Mount Miguel Road to the east. The roadway crosses over I-805 on an overcrossing structure and contains four lanes to the west of I-805 and seven lanes to the east. Segments are classified as major streets or prime arterials. The I-805 interchange at East H Street is a partial cloverleaf interchange with two loop ramps, including the SB I-805 to EB East H Street off-ramp and the EB East H Street to NB I-805 on-ramp. East H Street to the west of the interchange has a shared R/W, designated by signs only, where bicycle traffic shares the roadway with motor vehicles. East of the I-805 interchange, East H Street has a designated bike lane for one-way bike travel identified by special signs, lane striping, and other pavement markings. On-street parking is not allowed along East H Street. The posted speed limit along this roadway is 40 mph.

Bonita Road

Bonita Road/E Street extends east-west between Bay Boulevard, west of I-5 and Sweetwater Road east of I-805. In the vicinity of I-805, Bonita Road/E Street contains four lanes and is classified as a gateway street to the west of the I-805 and a Major Street to the east. Access to the I-805, which crosses over Bonita Road, is provided by a diamond interchange. Bonita Road has a designated bike lane for one-way bike travel in each direction, identified by special signs, lane striping, and other pavement markings. On-street parking is not allowed along Bonita Road. The posted speed limit along this roadway is 35 mph.

Sweetwater Road

Sweetwater Road trends southeast-northwest in the vicinity of I-805 and is classified as a major arterial. Sweetwater Road extends from North 2nd Avenue, west of I-805 to SR 125 on the east. I-805 crosses over Sweetwater Road, and the interchange at Sweetwater Road consists of a diamond interchange except for a loop ramp for the SB I-805 exiting traffic. Sweetwater Road has a shared R/W designated by signs only, with bicycles traffic sharing the roadway with motor vehicles. On-street parking is not allowed along this roadway, and the posted speed limit is 45 mph.

East Plaza Boulevard

East Plaza Boulevard extends east-west between I-5 and East 8th Street within National City. The roadway contains four lanes in the vicinity of I-805 and is classified as a major arterial. I-805 crosses over East Plaza Boulevard and the interchange is diamond configuration. No designated bikeways are located along East Plaza Boulevard. On-street parking is not allowed along this roadway. The posted speed limit along this roadway is 35 mph.

43rd Street

43rd Street is a north-south roadway, parallel to I-805, connecting Logan Avenue and Delta Street within the City of San Diego. It is classified as a collector south of the I-805 ramps and a major arterial north of the ramps. This roadway contains two lanes with a median two way left-turn lane both north and south of the I-805 ramps. At the intersection with the I-805 ramps, the street widens to accommodate turning lanes in each direction. I-805 connects with 43rd Street via ramps that were originally freeway-to-freeway direct connectors to join I-805 with SR 252, a state highway that is no longer planned. No designated bikeways are located along 43rd Street. On-street parking is not allowed along this roadway, and the posted speed is 25 mph.

Palm Avenue/47th Street

Palm Avenue is a north-south roadway consisting of four lanes in the vicinity of the I-805. It extends along the western side of I-805 and connects with 47th Street at an undercrossing of I-805. South 47th Street continues north and parallel to I-805 on the eastern side of the freeway. The roadway is classified as a major arterial to the west of I-805 and as a collector to the east. The I-805 interchange at Palm Avenue is in a diamond configuration and is located directly beneath the 43rd Street interchange. No designated bikeways are located along Palm Avenue. On-street parking is not allowed along Palm Avenue. The posted speed limit along this roadway is 35 mph.

Imperial Avenue

Imperial Avenue is an east-west roadway in the vicinity of I-805, extending between Park Boulevard in downtown San Diego, west of I-805, east to the City of Lemon Grove where it becomes Lemon Grove Avenue. It is classified as a major arterial and contains four lanes, except in the vicinity of the freeway, where it expands to accommodate turning lanes. Imperial Avenue crosses over I-805 on an overcrossing structure and includes freeway ramps to form a diamond interchange. Imperial Avenue does not contain any designated bikeways to the west of I-805; however, it does have a designated bike lane for one-way bike travel in each direction to the east of the interchange, which is identified by special signs, lane striping, and other pavement markings. On-street parking is provided along the northern side of the roadway. The posted speed limit along this roadway is 40 mph.

Market Street

Market Street extends east-west from West Harbor Street to Iona Drive. Market Street is four lanes in the vicinity of I-805 and crosses over the freeway. The I-805 interchange at Market Street is a diamond. Market Street includes a designated bike lane for one-way bike travel in each direction to the west of I-805. The bike lanes are identified by special signs, lane striping, and other pavement markings. On the east side of I-805, Market Street has a shared R/W bicycle route. On-street parking is not allowed along Market Street. The posted speed limit along this roadway is 30 mph.

Home Avenue

Home Avenue trends southwest-northeast between 39th Street (just south of SR 94) and Euclid Avenue and crosses under I-805. Home Avenue is classified as a collector from just south of SR 94 to I-805 and a major arterial east of I-805. The existing roadway lane configuration varies from two to four lanes between SR 94 and I-805, and five lanes east of I-805. The I-805 interchange at Home Avenue is a modified diamond, with a loop ramp in the southeastern quadrant of the interchange serving the NB on-ramp movement. No designated bikeways are located along Home Avenue. On-street parking is not allowed along the roadway and the posted speed limit is 35 mph.

I-805/SR 54 Interchange

SR 54 is an east-west, six-lane freeway in the vicinity of I-805. SR 54 merges with SR 125 to the east of the I-805 interchange and with I-5 to the west. The SR 54/I-805 interchange consists of full freeway-to-freeway connectors with loop ramps connecting I-805 NB to SR 54 westbound (WB) and I-805 SB to SR 54 EB. All other ramps are flyover (i.e., freeway-to-freeway ramps that cross over a freeway interchange) or direct connector ramps. I-805 crosses over SR 54. The posted speed limit along the freeway is 65 mph.

I-805/SR 94 Interchange

SR 94 consists of an east-west, eight-lane freeway that crosses over I-805. SR 94 joins with SR 125 to the east of the I-805 interchange, and terminates at I-5 to the west. The I-805/SR 94 interchange consists of direct connector ramps and flyovers. The posted speed limit along SR 94 is 65 mph.

I-805/SR 15 Interchange

SR 15 consists of a north-south six-lane freeway that connects I-8 and I-5. Freeway-to-freeway direct connector ramps serve traffic through the interchange. The posted speed limit along this freeway is 65 mph.

Transit

Transit services and facilities are provided in the Project area, in or near the I-805 south. Several local bus routes, provided by the San Diego MTS, operate within the Project area along major roadways. These include Oceanview Boulevard (Route 3), Imperial Avenue (Route 4), Market Street (Route 5), Euclid Avenue (Routes 13 and 955), Bonita Road (Route 705), East H Street (Route 709), East Palomar Street (Route 712), 43rd Street (Route 955), Logan Avenue (Route 955), East Plaza Boulevard (Routes 962 and 963), Division Street (Route 967), and Sweetwater Road (Route 961). Bus stops also are located along these roadways. In addition, Route 960 runs along the portion of I-805 south between the I-805/SR 15 interchange and SR 94. Existing bus operations and ridership along these routes is presented in Table 2.5-1.

Table 2.5-1 EXISTING BUS OPERATIONS AND RIDERSHIP				
Route	Typical Headway (minutes)		Weekday Ridership	
	Weekday	Weekend	Daily Trips	Daily Boardings
3	15	30 - 60	124	6,803
4	30	60	68	2,899
5	15	30	108	2,557
13	15	--	124	6,817
705	30	45	60	1,042
709	15	30	112	3,918
712	15	60	120	3,846
955	15	30	125	6,198
960	15	--	14	494
961	15	60	112	2,352
962	30	60-90	61	1,794
963	30	--	61	940
967	60	120	17	281

The planned South Bay BRT project would provide transit services in the Project area. The South Bay BRT project plans the construction of a 21-mile BRT line between the Otay Mesa POE and downtown San Diego via eastern Chula Vista, I-805, and SR 94. Access for the BRT at I-805 is planned at the East Palomar Street DAR and transit station.

The San Diego Trolley Orange Line is one of three light rail lines operated by the San Diego Trolley, an operating division of MTS. It currently operates between downtown San Diego and El Cajon and generally parallels SR 94. The Orange Line crosses I-805 between the Market Street overcrossing and the Imperial Avenue overcrossing. Trolley stations in the Project vicinity are located at 47th Street and Euclid Avenue.

Pedestrian and Bicycle Facilities

Pedestrian facilities in the Project area primarily consist of sidewalks along local streets and roads, although the Sweetwater Loop and River Trail is adjacent to the Sweetwater River in the Project vicinity and serves pedestrians and bicyclists. As discussed above, bike lanes are provided along several of the major streets in the Project area, including Orange Avenue, Telegraph Canyon Road, Bonita Road, Imperial Avenue, and Market Street. In addition, East Palomar Street, East H Street, and Sweetwater Road have a shared R/W designated by signs only, with bicycle traffic sharing the roadway with motor vehicles.

Methodologies

Fundamental Traffic Analysis Terminology

Level of service (LOS) is a professional industry standard by which the operating conditions of a given roadway segment are measured. LOS is defined on a scale of A to F, where LOS A represents the best operating conditions, and LOS F represents the worst operating conditions. LOS A facilities are characterized as having free-flowing traffic conditions with no restrictions on maneuvering and few to no delays. LOS F facilities are characterized as having highly unstable, congested conditions with long delays. Refer to Figure 1-3, which illustrates freeway and roadway LOS.

Volume to Capacity (V/C) is a ratio that determines LOS for freeway and roadway segments. V/C is a measure of traffic volume on a freeway or roadway segment compared to its traffic-carrying capacity. Roadway segment LOS definitions, determined by V/C ratios, are provided in Table 2.5-2.

Average daily traffic (ADT) refers to the average number of vehicles along a freeway or roadway segment during any given day. To calculate the ADT of a roadway, the total traffic volume during a given time period in whole days (24-hour periods) is divided by the number of days in that time period.

Table 2.5-2 ROADWAY AND FREEWAY SEGMENT LOS AND V/C DEFINITIONS			
LOS	V/C	Congestion/Delay	Traffic Description
Surface streets, freeways, expressways, and conventional highways			
A	<0.42	None	Free flow
B	0.42 – 0.62	None	Free to stable flow, light to moderate volumes
C	0.63 – 0.80	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted
D	0.81 – 0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver
E	0.93 – 1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor
Surface streets and conventional highways			
F	>1.00	Considerable	Forced or breakdown flow
Freeways and expressways			
F(0)	1.01 – 1.25	Considerable	Forced or breakdown flow
F1	1.26 – 1.35	Severe	Very heavy congestion and long queues
F2	1.36 – 1.45	Very severe	Extremely heavy congestion, longer queues
F3	> 1.45	Extremely severe	Gridlock

Freeway Operations

General Purpose Lanes

Freeway segments and freeway connector lanes were evaluated using the San Diego Traffic Engineer's Council (SANTEC) and Institute of Transportation Engineers (ITE) methodology. Capacity per lane was assumed to be 2,000 vehicles per lane per hour in the general purpose lanes, and 1,200 vehicles per lane per hour on auxiliary lanes.

Managed and HOV/Transit Lanes

The Managed and HOV/transit lanes were modeled to operate at LOS C or better, which equates to 1,600 vehicles per hour per lane. The analysis of the Managed and HOV/transit lanes is based on this operating assumption.

Roadway Segments Operations

The cities of San Diego and Chula Vista have published daily traffic volume standards for roadways within their jurisdictions. City of San Diego standards were adopted by City of National City and used for roadway segments analysis within their jurisdiction. To determine service levels on study area roadway segments, the traffic reports compared the appropriate ADT criteria for LOS to the daily capacity of the Project area roadway segments and the existing and future volumes in the study area. The criteria for determining LOS used in this analysis are summarized above in Table 2.5-2.

Intersection Operations

The analysis of peak hour intersection performance was conducted using the Synchro 7 software program, which uses methods defined in the 2000 Highway Capacity Manual to calculate results. LOS for intersections is determined by control delay. Control delay is defined as the total elapsed time from when a vehicle stops at the end of a queue to the time the vehicle departs from the stop line. The total elapsed time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in the queue. For example, intersections with a control stopped delay of less than 10 seconds would operate at LOS A, while intersections with a control stopped delay of greater than 80 seconds would operate at LOS F. Refer to Appendix F-1 of the *Interstate 805 Managed Lanes South Project – Final Existing Conditions and Traffic Operations Analysis Report* for LOS criteria for signalized intersections.

Existing Conditions of Freeway Segments

Table 2.5-3 and Figures 2.5-2A through 2.5-2F show existing conditions within the general purpose lanes of freeways within the Project traffic study area, including segments of I-805, SR 54, SR 94, and SR 15.

Table 2.5-3 EXISTING FREEWAY SEGMENT CONDITIONS				
Segment	AM Peak Period		PM Peak Period	
	V/C	LOS	V/C	LOS
I-805 Northbound				
Main Street off-ramp to Main Street on-ramp	0.51	B	0.55	B
Main Street on-ramp to Orange Avenue off-ramp	0.55	B	0.59	B
Orange Avenue off-ramp to Orange Avenue on-ramp	0.50	B	0.54	B
Orange Avenue on-ramp to Telegraph Canyon Road off-ramp	0.76	C	0.71	C
Telegraph Canyon Road off-ramp to Telegraph Canyon Road on-ramp	0.64	C	0.59	B
Telegraph Canyon Road on-ramp to East H Street/Bonita Road off-ramp	0.86	D	0.74	C
East H Street off-ramp to East H Street EB on-ramp	0.44	B	0.28	A
East H Street EB on-ramp to East H Street WB on-ramp	0.64	C	0.55	C
East H Street WB on-ramp to East H Street on-ramp	0.97	E	0.77	D
East H Street/Bonita Road off-ramp to East H Street on-ramp	0.77	C	0.66	C
East H Street on-ramp to Bonita Road on-ramp	1.06	F	0.90	D
Bonita Road on-ramp to SR 54 WB/EB off-ramp	1.07	F	0.89	D
SR 54 WB/EB off-ramp to Sweetwater Road off-ramp	0.82	D	0.67	C
Sweetwater Road off-ramp to Sweetwater Road on-ramp	0.76	C	0.62	B
Sweetwater Road on-ramp to SR 54 WB/EB on-ramp	0.83	D	0.68	C
SR 54 WB/EB on-ramp to East Plaza Boulevard off-ramp	0.89	D	0.71	C
East Plaza Boulevard off-ramp to East Plaza Boulevard on-ramp	0.80	D	0.60	B
East Plaza Boulevard on-ramp to 43 rd Street off-ramp	0.79	C	0.61	B
43 rd Street off-ramp to 47 th Street off-ramp	1.01	F	0.80	D
47 th Street off-ramp to 47 th Street on-ramp	0.99	E	0.76	C
47 th Street on-ramp to 43 rd Street on-ramp	1.07	F	0.83	D
43 rd Street on-ramp to Imperial Avenue off-ramp	0.90	D	0.70	C
Imperial Avenue off-ramp to Imperial Avenue on-ramp	0.87	D	0.66	C
Imperial Avenue on-ramp to Market Street off-ramp	0.89	D	0.69	C
Market Street off-ramp to SR 94 WB/EB off-ramp	1.04	F	0.79	C
SR 94 WB/EB off-ramp to Market Street on-ramp	0.92	D	0.67	C
Market Street on-ramp to Home Avenue off-ramp	0.97	E	0.70	C
Home Avenue off-ramp to SR 94 WB on-ramp	0.93	E	0.62	B
SR 94 WB on-ramp to Home Avenue on-ramp	1.03	F	0.69	C
Home Avenue on-ramp to SR 15 NB off-ramp	1.10	F	0.74	C
SR 15 NB off-ramp to SR 15 NB on-ramp	0.77	C	0.51	B
SR 15 NB on-ramp to North Park Way/University Avenue off-ramp	0.83	D	0.58	B
North Park Way/University Avenue off-ramp to North Park Way/University Avenue on-ramp	0.88	D	0.57	B
I-805 Southbound				
North Park Way/University Avenue off-ramp to North Park Way/University Avenue on-ramp	0.33	A	0.76	C
North Park Way/University Avenue on-ramp to SR 15 SB off-ramp	0.38	A	0.80	D
SR 15 SB off-ramp to SR 15 SB on-ramp	0.38	A	0.81	D
SR 15 SB on-ramp to Home Avenue off-ramp	0.58	B	1.09	F
Home Avenue off-ramp to SR 94 EB off-ramp	0.54	B	1.03	F
SR 94 EB off-ramp to Home Avenue on-ramp	0.48	B	0.87	D
Home Avenue on-ramp to Market Street off-ramp	0.54	B	0.93	E
Market Street off-ramp to SR 94 EB/WB on-ramp	0.50	B	0.86	D
SR 94 EB/WB on-ramp to Market Street on-ramp	0.56	B	0.98	E
Market Street on-ramp to Imperial Avenue off-ramp	0.53	B	0.93	E
Imperial Avenue off-ramp to Imperial Avenue on-ramp	0.50	B	0.91	D
Imperial Avenue on-ramp to 43 rd Street off-ramp	0.55	B	0.96	E
43 rd Street off-ramp to 47 th Street off-ramp	0.52	B	0.92	D
47 th Street off-ramp to 47 th Street on-ramp	0.59	B	1.03	F
47 th Street on-ramp to 43 rd Street on-ramp	0.64	C	1.08	F
43 rd Street on-ramp to East Plaza Boulevard off-ramp	0.55	B	0.93	E
East Plaza Boulevard off-ramp to East Plaza Boulevard on-ramp	0.60	B	1.00	E
East Plaza Boulevard on-ramp to SR 94 EB/WB off-ramp	0.59	B	0.98	E
SR 94 EB/WB off-ramp to Sweetwater Road off-ramp	0.52	B	0.86	D
Sweetwater Road off-ramp to Sweetwater Road on-ramp	0.49	B	0.79	C

Table 2.5-3 (cont.) EXISTING FREEWAY SEGMENT CONDITIONS				
Segment	AM Peak Period		PM Peak Period	
	V/C	LOS	V/C	LOS
I-805 Southbound (cont.)				
Sweetwater Road on-ramp to SR 54 EB on-ramp	0.54	B	0.85	D
SR 54 EB on-ramp to SR 54 WB on-ramp	0.57	B	0.96	E
SR 54 WB on-ramp to Bonita Road off-ramp	0.77	C	1.15	F
Bonita Road off-ramp to Bonita Road on-ramp	0.77	C	1.13	F
Bonita Road on-ramp to East H Street WB off-ramp	0.62	B	0.89	D
East H Street WB off-ramp to East H Street EB off-ramp	0.62	B	0.93	E
East H Street EB off-ramp to East H Street on-ramp	0.49	B	0.73	C
East H Street on-ramp to Telegraph Canyon Road off-ramp	0.64	C	0.91	D
Telegraph Canyon Road off-ramp to Telegraph Canyon Road on-ramp	0.50	B	0.67	C
Telegraph Canyon Road on-ramp to Orange Avenue off-ramp	0.62	B	0.79	C
Orange Avenue off-ramp to Orange Avenue on-ramp	0.50	B	0.56	B
Orange Avenue on-ramp to Main Street off-ramp	0.55	B	0.60	B
Main Street off-ramp to Main Street on-ramp	0.52	B	0.54	B
SR 54 Eastbound				
Highland Avenue off-ramp to Highland Avenue on-ramp	0.44	B	0.65	C
Highland Avenue on-ramp to I-805 NB/SB off-ramp	0.45	B	0.68	C
I-805 NB/SB off-ramp to I-805 SB on-ramp	0.22	A	0.39	A
I-805 SB on-ramp to I-805 NB on-ramp	0.30	A	0.57	B
I-805 NB on-ramp to Reo Drive off-ramp	0.52	B	0.85	D
Reo Drive off-ramp to Reo Drive on-ramp	0.42	B	0.60	C
SR 54 Westbound				
Reo Drive off-ramp to Reo Drive on-ramp	0.70	C	0.57	B
Reo Drive on-ramp to I-805 NB/SB off-ramp	0.87	D	0.68	C
I-805 NB/SB off-ramp to I-805 NB on-ramp	0.37	A	0.20	A
I-805 NB on-ramp to I-805 SB on-ramp	0.68	C	0.40	B
I-805 SB on-ramp to Highland Avenue off-ramp	0.82	D	0.57	B
Highland Avenue off-ramp to Highland Avenue on-ramp	0.67	C	0.45	B
SR 94 Eastbound				
28 th Street off-ramp to 28 th Street on-ramp	0.25	A	0.89	D
28 th Street on-ramp to 32 nd Street on-ramp	0.30	A	0.98	E
32 nd Street on-ramp to SR 15 SB off-ramp	0.32	A	0.90	D
SR 15 SB off-ramp to Home Avenue off-ramp	0.30	A	0.84	D
Home Avenue off-ramp to SR 15 NB off-ramp	0.28	A	0.77	C
SR 15 NB off-ramp to SR 15 NB on-ramp	0.25	A	0.63	C
SR 15 NB on-ramp to I-805 SB off-ramp	0.28	A	0.78	C
I-805 SB off-ramp to I-805 NB/SB on-ramp	0.25	A	0.68	C
I-805 NB/SB on-ramp to 47 th Street on-ramp	0.41	A	0.93	E
47 th Street on-ramp to Euclid Avenue off-ramp	--	--	--	--
Euclid Avenue off-ramp to Euclid Avenue on-ramp	--	--	--	--
SR 94 Westbound				
Euclid Avenue off-ramp to Euclid Avenue NB on-ramp	--	--	--	--
Euclid Avenue NB on-ramp to Euclid Avenue SB on-ramp	--	--	--	--
Euclid Avenue SB on-ramp to 49 th Street on-ramp	--	--	--	--
49 th Street on-ramp to I-805 NB/SB off-ramp	1.00	E	0.59	B
I-805 NB/SB off-ramp to I-805 NB on-ramp	0.76	C	0.32	A
I-805 NB on-ramp to Home Avenue on-ramp	0.93	E	0.42	A
Home Avenue on-ramp to SR 15 NB on-ramp	1.00	E	0.49	B
SR 15 NB on-ramp to SR 15 SB off-ramp	1.03	F	0.52	B
SR 15 SB off-ramp to SR 15 SB on-ramp	0.78	C	0.40	A
SR 15 SB on-ramp to 32 nd Street off-ramp	0.78	C	0.46	B
SR 94 Westbound (cont.)				
32 nd Street off-ramp to 32 nd Street on-ramp	0.80	D	0.43	B
32 nd Street on-ramp to 28 th Street off-ramp	0.82	D	0.45	B
28 th Street off-ramp to 28 th Street on-ramp	0.76	C	0.39	A

Table 2.5-3 (cont.) EXISTING FREEWAY SEGMENT CONDITIONS				
Segment	AM Peak Period		PM Peak Period	
	V/C	LOS	V/C	LOS
SR 15 Northbound				
Market Street off-ramp to Market Street on-ramp	0.72	C	0.81	D
Market Street on-ramp to SR 94 EB off-ramp	0.68	C	0.74	C
SR 94 EB off-ramp to SR 94 WB off-ramp	0.67	C	0.51	B
SR 94 WB off-ramp to SR 94 EB on-ramp	0.94	E	0.70	D
SR 94 EB on-ramp to I-805 NB off-ramp	0.74	C	0.80	D
I-805 NB off-ramp to I-805 NB on-ramp	0.49	B	0.59	B
I-805 NB on-ramp to North Park Way/University Avenue off-ramp	0.69	C	0.62	B
North Park Way/University Avenue off-ramp to North Park Way/University Avenue on-ramp	0.64	C	0.56	B
SR 15 Southbound				
North Park Way/University Avenue off-ramp to North Park Way/University Avenue on-ramp	0.57	B	0.70	C
North Park Way/University Avenue on-ramp to I-805 SB off-ramp	0.57	B	0.67	C
I-805 SB off-ramp to I-805 SB on-ramp	0.75	D	0.67	C
I-805 SB on-ramp to SR 94 WB off-ramp	0.64	C	0.76	D
SR 94 WB off-ramp to SR 94 EB/WB on-ramp	0.71	D	0.89	D
SR 94 EB/WB on-ramp to Market Street off-ramp	0.70	C	0.70	C
Market Street off-ramp to Market Street on-ramp	0.79	D	0.76	D

Shaded cells denote freeway segments operating at LOS E or F.
No traffic data available for cells with --.

Existing Conditions of Roadway Segments

Existing conditions for roadway segments within the Project traffic study area are summarized in Table 2.5-4 and shown in Figures 2.5-2A through 2.5-2F.

Table 2.5-4 EXISTING ROADWAY SEGMENT CONDITIONS			
Roadway Segment	Lanes/Classification	ADT	LOS
Orange Avenue			
Melrose Avenue to I-805 SB ramps	4-lane Major Street	32,040	D
I-805 SB ramps to I-805 NB ramps	6-lane Prime Arterial	46,530	C
I-805 NB ramps to Oleander Avenue	6-lane Prime Arterial	55,830	D
East Palomar Street			
Hilltop Drive to Nolan Avenue	2-lane Collector	7,198	A
Nolan Avenue to Nacion Avenue	2-lane Collector + 2WLT	6,709	B
Nacion Avenue to I-805 SB Ramps	4-lane Class I Collector	9,470	A
I-805 to Oleander Avenue	4-lane Major Street	9,470	A
Oleander Avenue to Medical Center Drive	4-lane Major Street	9,406	A
Nacion Avenue			
East Naples Street to East Palomar Street	2-lane Collector (no CL)	2,655	A
East Palomar Street to Melrose Avenue	2-lane Collector (no CL)	2,543	A
East Naples Street			
Melrose Avenue to Nacion Avenue	2-lane Collector (no CL)	5,229	A
Nacion Avenue to Oleander Avenue	2-lane Collector (no CL)	6,676	A
Telegraph Canyon Road			
Nacion Avenue to I-805 SB ramps	4-lane Major Street	47,430	F
I-805 SB ramps to I-805 NB ramps	7-lane Prime Arterial	59,630	D
I-805 NB ramps to Crest Drive	7-lane Prime Arterial	61,940	D

Table 2.5-4 (cont.) EXISTING ROADWAY SEGMENT CONDITIONS			
Roadway Segment	Lanes/Classification	ADT	LOS
East H Street			
Hilltop Drive to I-805 SB ramps	4-lane Major Arterial	42,850	F
I-805 SB ramps to I-805 NB ramps	7-lane Prime Arterial	57,200	C
I-805 NB ramps to Hidden Vista Drive	7-lane Prime Arterial	71,210	E
Bonita Road			
Bonita Glen Drive to I-805 SB ramps	4-lane Gateway Street	30,640	B
I-805 SB ramps to I-805 NB ramps	4-lane Major Street	33,780	D
I-805 NB ramps to Lynwood Drive	4-lane Major Street	38,550	F
Sweetwater Road			
Prospect Street to I-805 SB ramps	4-lane Major Arterial	24,770	C
I-805 SB ramps to I-805 NB ramps	4-lane Major Arterial	27,060	C
I-805 NB ramps to Valley Road	4-lane Major Arterial	22,590	C
East Plaza Boulevard			
Palm Avenue to I-805 SB ramps	4-lane Major Arterial	32,150	D
I-805 SB ramps to I-805 NB ramps	4-lane Major Arterial	40,160	F
I-805 NB ramps to Grove Street	4-lane Major Arterial	42,500	F
47th Street			
Division Street to I-805 SB ramps	4-lane Major Arterial	24,310	C
I-805 SB ramps to I-805 NB ramps	4-lane Major Arterial	16,200	B
I-805 NB ramps to Logan Avenue	4-lane Collector	14,790	C
43rd Street			
Delta Street to I-805 ramps	2-lane Collector (cont. LTL)	18,320	F
I-805 ramps to Alpha Street	4-lane Major Arterial	26,310	C
Imperial Avenue			
45 th Street to I-805 SB ramps	4-lane Major Arterial	26,080	C
I-805 SB ramps to I-805 NB ramps	5-lane Major Arterial	29,980	C
I-805 NB ramps to 47 th Street	4-lane Major Arterial	33,930	D
Market Street			
42 nd Street to I-805 SB ramps	4-lane Major Arterial	18,630	B
I-805 SB ramps to I-805 NB ramps	4-lane Major Arterial	18,940	B
I-805 NB ramps to 45 th Street	4-lane Major Arterial	20,310	B
Home Avenue			
Gateway Drive to I-805 SB ramps	4-lane Collector	19,980	C
I-805 SB ramps to I-805 NB ramps	4-lane Major Arterial	27,350	C
I-805 NB ramps to Fairmount Avenue	5-lane Major Arterial	32,060	C
South of SR 94	2-lane Collector (cont. LTL)	10,570	D
North of SR 94	4-lane Collector	17,200	C

CL = center lane; cont. LTL = continuous left-turn lane; 2WLT = two-way left-turn lane
Shaded cells denote roadway segments operating at LOS E or F.

Existing Conditions of Intersections

Table 2.5-5 shows the existing conditions for intersections within the Project traffic study area (refer to Figures 2.5-1A through 2.5-1C).

Table 2.5-5 EXISTING INTERSECTION CONDITIONS						
ID ¹	Intersection	Signal Control ²	AM Peak Period		PM Peak Period	
			Delay (seconds)	LOS	Delay (seconds)	LOS
1	Orange Avenue/Hilltop Drive	S	38.0	D	22.1	C
2	Orange Avenue/Melrose Avenue	S	18.0	B	20.7	C
3	Orange Avenue/I-805 SB off-ramp	S	25.5	C	53.2	D
4	Orange Avenue/I-805 NB on-ramp	S	53.7	D	40.3	D
5	Orange Avenue/Oleander Avenue	S	51.7	D	47.6	D
6	Orange Avenue/Brandywine Avenue	S	33.3	C	43.9	D
7	Rienstra Street/Melrose Avenue	U	11.6	B	12.4	B
8	East Palomar Street/Hilltop Drive	S	31.2	C	31.4	C
9	East Palomar Street/Melrose Avenue	U	13.0	B	10.9	B
10	East Palomar Street/Monserate Avenue	U	11.0	B	10.7	B
11	East Palomar Street/Nacion Avenue	U	10.8	B	10.2	B
12	East Palomar Street/DAR	--	--	--	--	--
13	East Palomar Street/Raven Avenue	U	12.2	B	12.5	B
14	East Palomar Street/Oleander Avenue	U	13.2	B	13.0	B
15	East Palomar Street/Medical Center Drive	S	45.3	D	30.7	C
16	East Palomar Street/Paseo Ladera Street	S	28.4	C	29.2	C
17	Wildauer Street/Medical Center Drive	S	52.8	D	26.3	C
18	East Naples Street/Hilltop Drive	S	56.7	E	33.9	C
19	East Naples Street/Nacion Avenue	U	11.6	B	10.8	B
20	East Naples Street/Oleander Avenue	S	18.8	B	21.3	C
21	East Naples Street/Medical Center Drive	S	34.1	C	31.3	C
22	L Street/Hilltop Drive	S	27.7	C	42.7	D
23	Telegraph Canyon Road/Nacion Avenue	S	42.4	D	48.8	D
24	Telegraph Canyon Road/I-805 SB on- and off-ramps	S	36.3	D	105.2	F
25	Telegraph Canyon Road/I-805 SB to WB off-ramp	S	6.9	A	17.7	B
26	Telegraph Canyon Road/I-805 NB on-ramp	S	100.4	F	29.7	C
27	Telegraph Canyon Road/Halecrest Drive	S	26.3	C	15.3	B
28	Telegraph Canyon Road/mall entrance	S	27.3	C	17.2	B
29	Telegraph Canyon Road/Crest Drive	S	18.9	B	17.7	B
30	Telegraph Canyon Road/Medical Center Drive	S	13.7	B	19.1	B
31	Telegraph Canyon Road/Paseo Ladera Street	S	33.9	C	30.5	C
32	East H Street/Hilltop Drive	S	38.0	D	39.8	D
33	East H Street/I-805 SB on- and off-ramps	S	16.2	B	113.7	F
34	East H Street/I-805 NB off-ramp	S	12.7	B	20.4	C
35	East H Street/Hidden Vista Drive	S	48.9	D	90.1	F
36	Bonita Road/mall entrance/exit	S	16.3	B	18.4	B
37	Bonita Road/I-805 SB off-ramp	S	15.9	B	25.9	C
38	Bonita Road/I-805 NB on-ramp	S	28.7	C	22.2	C
39	Bonita Road/Plaza Bonita Road	S	20.2	C	19.7	B
40	Sweetwater Road/Prospect Street	S	25.8	C	33.7	C
41	Sweetwater Road/Euclid Avenue	S	31.2	C	36.7	D
42	Sweetwater Road/I-805 NB on-ramp	S	31.2	C	22.8	C
43	Sweetwater Road/Valley Road	S	14.1	B	13.5	B
44	East Plaza Boulevard/Palm Avenue	S	28.3	C	39.7	D
45	East Plaza Boulevard/I-805 SB off-ramp	S	17.3	B	29.8	C
46	East Plaza Boulevard/I-805 NB on-ramp	S	10.4	B	14.8	B
47	East Plaza Boulevard/Grove Street	S	22.5	C	23.9	C
48	43 rd Street/Delta Street	S	25.6	C	24.9	C
49	43 rd Street/mall entrance	S	34.5	C	51.2	D
50	43 rd Street/Boston Avenue	S	23.1	C	21.2	C
51	47 th Street/Palm Avenue/Division Street	S	35.8	D	39.3	D
52	47 th Street/I-805 SB off-ramp	S	15.3	B	35.9	D
53	47 th Street/I-805 NB on-ramp	S	14.9	B	18.8	B
54	47 th Street/Logan Avenue	S	29.2	C	32.9	C
55	Imperial Avenue/YMCA Way	S	9.1	A	12.1	B
56	Imperial Avenue/I-805 SB off-ramp	S	17.8	B	36.1	D
57	Imperial Avenue/I-805 NB on-ramp	S	51.3	D	38.3	D

ID ¹	Intersection	Signal Control ²	AM Peak Period		PM Peak Period	
			Delay (seconds)	LOS	Delay (seconds)	LOS
58	Imperial Avenue/47 th Street	S	47.4	D	38.1	D
59	Market Street/42 nd Street	S	7.8	A	6.2	A
60	Market Street/I-805 SB off-ramp	S	18.3	B	40.1	D
61	Market Street/I-805 NB on-ramp	S	16.2	B	13.5	B
62	Market Street/45 th Street	S	17.9	B	9.7	A
63	Home Avenue/SR 15-SR 94 off-ramp	U	9.2	A	23.5	C
64	Home Avenue/Ash Street	S	20.9	C	21.2	C
65	Home Avenue/Gateway Drive	S	15.6	B	21.2	C
66	Home Avenue/I-805 SB off-ramp	S	25.1	C	30.9	C
67	Home Avenue/I-805 NB on- and off-ramp	S	18.7	B	18.8	B
68	Home Avenue/Fairmount Avenue	S	39.6	D	57.2	E

¹Number corresponds to intersection location on Figures 2.5-1A through 2.5-1C.

²S = signalized; U = Unsignalized

Shaded cells denote intersections operating at LOS E or F.

2.5.3 Environmental Consequences

Freeway operations along I-805 south and surrounding local roadways and intersections near the proposed DAR, East Palomar Street transit center, and park-and-ride lots, were analyzed for the build alternatives under Years 2015 and 2030 conditions. The Year 2015 represents near-term traffic conditions of the Project, which includes construction of one HOV/transit lane in each direction in the freeway median, replacement of the East Palomar Street overcrossing, modifications to East Palomar Street, implementation of the DAR at the East Palomar Street overcrossing, and construction of the East Palomar Street transit station and adjacent park-and-ride lot. The Year 2030 represents future buildout traffic conditions upon completion of the Project. Under Year 2030 conditions, all Project features would be constructed and operational, and it is assumed that transportation improvements identified in the Revenue Constrained Scenario of the 2030 RTP would be in place. It is also assumed that roadways in the Project study area would be improved to their ultimate recommended street classifications, as designated in applicable general and community plans.

The analysis in this section evaluates Project impacts on freeway segments (general purpose and Managed and HOV/transit lanes), local roadways, and intersections. Additionally, the overall traffic benefits of the Project are described.

Build Alternatives

The build alternatives would occur in the same locations with similar Project footprints. The study area for traffic is the same under both build alternatives. Therefore, construction and operational impacts under both build alternatives would be the same.

Freeway Segments

Freeway segment operations under 2015 and 2030 No Build and Build conditions are presented in Table 2.5-6 and in Figures 2.5-2A through 2.5-2F. Segments that would operate at LOS E or F are shaded in the table. Comparing the LOS between the build and no build conditions, the Project would reduce the number of freeway segments along I-805 forecasted to operate at LOS E or F.

Under 2015 conditions with the Project, the number of freeway segments forecasted to operate at LOS E or F along NB I-805 would be reduced from 17 to 11 in the AM peak period and from 3 to 0 in the PM peak period. Along SB I-805, the number of segments forecasted to operate at LOS E or F would be reduced from 20 to 10 during the PM peak period. No segments would operate at LOS E or F in the AM peak period under 2015 No Build or Build conditions.

Under 2030 conditions along NB I-805, the Project would reduce the number of freeway segments forecasted to operate at LOS E or F from 26 to 18 during the AM peak period and from 5 to 2 during the PM peak period. In the SB direction, the number of segments forecasted to operate at LOS E or F would be reduced from 27 to 14 during the PM peak period. No segments would operate at LOS E or F in the AM peak period under 2030 No Build or Build conditions.

This indicates that the Project would result in additional capacity in the I-805 general purpose lanes due to the implementation and operation of the new Managed and HOV/transit lanes and other multi-modal improvements, causing a modal shift between SOV and HOV/transit along I-805 south. The proposed facilities would provide additional choices for users along I-805 that are not currently available.

The LOS along freeway segments of SR 54 and SR 15 would be maintained or improved in both the AM and PM peak periods and in both directions when comparing the 2015 and 2030 build conditions to no build conditions (refer to Table 2.5-6).

On SR 94, the LOS on EB freeway segments during the AM and PM peak period would be maintained or improved between the 2015 and 2030 no build and build conditions. The LOS at five segments of WB SR 94, however, would degrade to E or F during the AM peak period in the 2015 and 2030 build conditions (refer to Table 2.5-6). These include:

- Euclid Avenue NB off-ramp to Euclid Avenue SB on-ramp (2015)
- I-805 NB on-ramp to Home Avenue on-ramp (2030)
- SR 15 SB off-ramp to SR 15 SB on-ramp (2015)
- SR 15 SB on-ramp to 32nd Street off-ramp (2015 and 2030)
- 32nd Street off-ramp to 32nd Street on-ramp (2015 and 2030)
- 32nd Street on-ramp to 28th Street off-ramp (2015 and 2030)
- 28th Street off-ramp to 28th Street on-ramp (2030)

Additional trips would be generated along these segments of SR 94 because the capacity of I-805 south would increase and therefore, more vehicles traveling to and from destinations accessible from SR 94 would occur.

Despite the increased congestion on this portion of SR 94, the Project would result in regional benefits due to improved travel times and throughput for vehicles along I-805 south. The new Managed and HOV/transit lanes would provide additional capacity along I-805 south and would redirect traffic trips from the general purpose lanes.

**Table 2.5-6
2015 AND 2030 FREEWAY SEGMENT CONDITIONS (LOS)**

Segment	Existing		2015				2030				
			2015 No Build		2015 Build		2030 No Build		2030 Build		
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
I-805 Northbound											
Main Street off-ramp to Main Street on-ramp	B	B	B	B	B	B	C	C	C	C	
Main Street on-ramp to Orange Avenue off-ramp	B	B	C	C	C	C	C	D	C	D	
Orange Avenue off-ramp to Orange Avenue on-ramp	B	B	C	C	C	C	C	D	C	D	
Orange Avenue on-ramp to Telegraph Canyon Road off-ramp ¹	C	C	D	D	--	--	E	E	--	--	
Orange Avenue on-ramp to East Palomar HOV ingress ²	--	--	--	--	D	D	--	--	E	E	
East Palomar HOV ingress to Telegraph Canyon Road off-ramp ²	--	--	--	--	C	C	--	--	D	D	
Telegraph Canyon Road off-ramp to Telegraph Canyon Road on-ramp	C	B	C	C	C	B	D	D	C	C	
Telegraph Canyon Road on-ramp to East H Street and Bonita Road collector-distributor off-ramp	D	C	D	D	D	C	F	E	D	D	
East H Street off-ramp to East H Street EB on-ramp	B	A	B	A	D	C	B	B	E	C	
East H Street EB on-ramp to East H Street WB on-ramp	C	C	C	C	C	C	D	C	D	C	
East H Street WB on-ramp to East H Street on-ramp	E	D	D	D	D	D	E	D	E	D	
East H Street/Bonita Road off-ramp to East H Street on-ramp	C	C	D	C	C	B	E	D	D	C	
East H Street on-ramp to Bonita Road on-ramp	F	D	F	E	E	D	F	F	D	D	
Bonita Road on-ramp to SR 54 WB/EB off-ramp	F	D	F	D	D	C	F	F	D	D	
SR 54 WB/EB off-ramp to Sweetwater Road off-ramp	D	C	D	C	C	B	E	D	D	C	
Sweetwater Road off-ramp to Sweetwater Road on-ramp	C	B	C	C	C	B	D	C	C	C	
Sweetwater Road on-ramp to SR 54 WB/EB on-ramp	D	C	D	C	C	C	F	D	D	C	
SR 54 WB/EB on-ramp to East Plaza Boulevard off-ramp	D	C	E	D	D	C	F	E	F	D	
East Plaza Boulevard off-ramp to East Plaza Boulevard on-ramp	D	B	D	C	D	B	F	D	E	C	
East Plaza Boulevard on-ramp to 43 rd Street off-ramp	C	B	D	C	D	B	F	D	E	C	
43 rd Street off-ramp to 47 th Street off-ramp	F	D	F	E	F	D	F1	F	E	C	
47 th Street off-ramp to 47 th Street on-ramp	E	C	F	D	E	C	F1	F	E	C	
47 th Street on-ramp to 43 rd Street on-ramp	F	D	F	E	F	D	F2	F	D	C	
43 rd Street on-ramp to Imperial Avenue off-ramp	D	C	E	D	D	C	F	E	D	C	
Imperial Avenue off-ramp to Imperial Avenue on-ramp	D	C	E	C	D	C	F	D	E	C	
Imperial Avenue on-ramp to Market Street off-ramp	D	C	E	C	D	C	F	D	E	D	
Market Street off-ramp to SR 94 WB/EB off-ramp	F	C	F	D	F	D	F1	F	F	E	
SR 94 WB/EB off-ramp to Market Street on-ramp	D	C	F	C	F	C	F	D	F	C	
Market Street on-ramp to Home Avenue off-ramp	E	C	F	D	F	C	F	D	F	D	
Home Avenue off-ramp to SR 94 WB on-ramp	E	B	F	C	F	C	F	D	F	C	
SR 94 WB on-ramp to Home Avenue on-ramp	F	C	F	C	F	C	F1	D	F	D	
Home Avenue on-ramp to SR 15 NB off-ramp	F	C	F	D	F	D	F1	E	F	D	
SR 15 NB off-ramp to SR 15 NB on-ramp	C	B	D	B	D	B	E	C	D	B	
SR 15 NB on-ramp to North Park Way/University Avenue off-ramp	D	B	E	C	D	C	F	C	E	C	
North Park Way/University Avenue off-ramp to North Park Way/University Avenue on-ramp	D	B	E	C	E	C	E	C	E	C	

**Table 2.5-6 (cont.)
2015 AND 2030 FREEWAY SEGMENT CONDITIONS (LOS)**

Segment	Existing		2015				2030				
			2015 No Build		2015 Build		2030 No Build		2030 Build		
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
I-805 Southbound											
North Park Way/University Avenue off-ramp to North Park Way/University Avenue on-ramp	A	C	A	D	A	D	A	D	A	D	
North Park Way/University Avenue on-ramp to SR 15 SB off-ramp	A	D	A	D	A	D	B	E	B	D	
SR 15 SB off-ramp to SR 15 SB on-ramp	A	D	B	D	B	D	B	E	B	D	
SR 15 SB on-ramp to Home Avenue off-ramp	B	F	C	F	C	F	C	F1	C	F	
Home Avenue off-ramp to SR 94 EB off-ramp	B	F	B	F	B	F	C	F	C	F	
SR 94 EB off-ramp to Home Avenue on-ramp	B	D	B	E	B	E	C	F	B	E	
Home Avenue on-ramp to Market Street off-ramp	B	E	B	F	B	F	C	F	C	F	
Market Street off-ramp to SR 94 EB/WB on-ramp	B	D	B	E	B	E	C	F	C	E	
SR 94 EB/WB on-ramp to Market Street on-ramp	B	E	B	F	B	F	C	F	C	F	
Market Street on-ramp to Imperial Avenue off-ramp	B	E	B	F	B	D	C	F	B	F	
Imperial Avenue off-ramp to Imperial Avenue on-ramp	B	D	B	E	B	D	C	F	B	F	
Imperial Avenue on-ramp to 43 rd Street off-ramp	B	E	B	F	B	E	C	F	B	F	
43 rd Street off-ramp to 47 th Street off-ramp	B	D	B	F	B	D	C	F	B	F	
47 th Street off-ramp to 47 th Street on-ramp	B	F	C	F	B	F	D	F1	B	E	
47 th Street on-ramp to 43 rd Street on-ramp	C	F	C	F	C	F	D	F2	B	D	
43 rd Street on-ramp to East Plaza Boulevard off-ramp	B	E	C	F	B	E	C	F	B	E	
East Plaza Boulevard off-ramp to East Plaza Boulevard on-ramp	B	E	C	F	B	D	D	F1	B	D	
East Plaza Boulevard on-ramp to SR 94 EB/WB off-ramp	B	E	C	F	B	D	D	F	C	F	
SR 94 EB/WB off-ramp to Sweetwater Road off-ramp	B	D	B	E	B	D	C	F	B	D	
Sweetwater Road off-ramp to Sweetwater Road on-ramp	B	C	B	D	B	C	C	E	B	D	
Sweetwater Road on-ramp to SR 54 EB on-ramp	B	D	B	D	B	D	C	F	B	D	
SR 54 EB on-ramp to SR 54 WB on-ramp	B	E	B	D	B	D	C	F	B	D	
SR 54 WB on-ramp to Bonita Road off-ramp	C	F	C	E	B	D	C	F	C	E	
Bonita Road off-ramp to Bonita Road on-ramp	C	F	C	E	B	D	C	F	C	D	
Bonita Road on-ramp to East H Street WB off-ramp	B	D	C	D	B	D	C	F	C	D	
East H Street WB off-ramp to East H Street EB off-ramp	B	E	C	E	B	C	C	F	B	D	
East H Street EB off-ramp to East H Street on-ramp	B	C	B	C	B	C	C	D	B	C	
East H Street on-ramp to Telegraph Canyon Road off-ramp	C	D	C	E	C	D	D	F	B	C	
Telegraph Canyon Road off-ramp to Telegraph Canyon Road on-ramp	B	C	B	C	B	C	C	D	B	C	
Telegraph Canyon Road on-ramp to Orange Avenue off-ramp ¹	B	C	C	D	--	--	D	F	--	--	
Telegraph Canyon Road on-ramp to East Palomar HOV ingress ²	--	--	--	--	C	D	--	--	C	D	
East Palomar HOV ingress to Orange Avenue off-ramp ²	--	--	--	--	B	C	--	--	C	D	
Orange Avenue off-ramp to Orange Avenue on-ramp	B	B	B	C	C	C	C	D	C	D	
Orange Avenue on-ramp to Main Street off-ramp	B	B	C	C	C	C	C	D	C	D	
Main Street off-ramp to Main Street on-ramp	B	B	B	B	B	B	C	C	C	C	

**Table 2.5-6 (cont.)
2015 AND 2030 FREEWAY SEGMENT CONDITIONS (LOS)**

Segment	Existing		2015				2030			
			2015 No Build		2015 Build		2030 No Build		2030 Build	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SR 54 Eastbound										
Highland Avenue off-ramp to Highland Avenue on-ramp	B	C	B	C	B	C	B	D	B	C
Highland Avenue on-ramp to I-805 NB/SB off-ramp	B	C	B	C	B	C	B	C	B	C
I-805 NB/SB off-ramp to I-805 SB on-ramp	A	A	A	B	A	B	A	B	A	B
I-805 SB on-ramp to I-805 NB on-ramp	A	B	A	C	A	C	A	D	A	C
I-805 NB on-ramp to Reo Drive off-ramp	B	D	B	E	B	E	C	F	C	F
Reo Drive off-ramp to Reo Drive on-ramp	B	C	B	C	B	C	B	D	B	D
SR 54 Westbound										
Reo Drive off-ramp to Reo Drive on-ramp	C	B	D	C	D	C	E	D	E	C
Reo Drive on-ramp to I-805 NB/SB off-ramp	D	C	F	D	E	D	F	D	F	D
I-805 NB/SB off-ramp to I-805 NB on-ramp	A	A	B	A	B	A	B	A	B	A
I-805 NB on-ramp to I-805 SB on-ramp	C	B	D	B	C	B	D	B	D	B
I-805 SB on-ramp to Highland Avenue off-ramp	D	B	D	C	D	C	E	C	E	C
Highland Avenue off-ramp to Highland Avenue on-ramp	C	B	D	B	C	B	D	B	D	B
SR 94 Eastbound										
28 th Street off-ramp to 28 th Street on-ramp	A	D	A	F	A	F	A	F	A	F
28 th Street on-ramp to 32 nd Street on-ramp	A	E	A	F	A	F	A	F	A	F
32 nd Street on-ramp to SR 15 SB off-ramp	A	D	A	F	A	F	A	F	A	F
SR 15 SB off-ramp to Home Avenue off-ramp	A	D	A	E	A	E	A	F	A	E
Home Avenue off-ramp to SR 15 NB off-ramp	A	C	A	D	A	D	A	D	A	D
SR 15 NB off-ramp to SR 15 NB on-ramp	A	C	A	C	A	C	A	C	A	C
SR 15 NB on-ramp to I-805 SB off-ramp	A	C	A	D	A	D	A	D	A	D
I-805 SB off-ramp to I-805 NB/SB on-ramp	A	C	A	C	A	C	A	B	A	B
I-805 NB/SB on-ramp to 47 th Street on-ramp	A	E	B	F	B	F	B	F	B	F
47 th Street on-ramp to Euclid Avenue off-ramp	--	--	B	F	A	E	B	F	B	E
Euclid Avenue off-ramp to Euclid Avenue on-ramp	--	--	A	D	A	D	A	E	A	E
SR 94 Westbound										
Euclid Avenue off-ramp to Euclid Avenue NB on-ramp	--	--	E	B	E	B	E	B	E	B
Euclid Avenue NB on-ramp to Euclid Avenue SB on-ramp	--	--	E	B	F	B	F	B	F	B
Euclid Avenue SB on-ramp to 49 th Street on-ramp	--	--	F	B	F	B	F	C	F	B
49 th Street on-ramp to I-805 NB/SB off-ramp	E	B	F	C	F	C	F	C	F	C
I-805 NB/SB off-ramp to I-805 NB on-ramp	C	A	D	A	D	A	C	A	D	A
I-805 NB on-ramp to Home Avenue on-ramp	E	A	F	B	F	B	E	B	F	B
Home Avenue on-ramp to SR 15 NB on-ramp	E	B	F	B	F	B	F	B	F	B
SR 15 NB on-ramp to SR 15 SB off-ramp	F	B	F	B	F	B	F	B	F	B
SR 15 SB off-ramp to SR 15 SB on-ramp	C	A	D	B	E	B	D	A	D	B
SR 15 SB on-ramp to 32 nd Street off-ramp	C	B	D	B	E	B	D	B	E	B
32 nd Street off-ramp to 32 nd Street on-ramp	D	B	D	B	E	B	D	B	E	B
32 nd Street on-ramp to 28 th Street off-ramp	D	B	D	B	E	B	D	B	E	B
28 th Street off-ramp to 28 th Street on-ramp	C	A	D	B	D	B	D	B	E	B

Table 2.5-6 (cont.) 2015 AND 2030 FREEWAY SEGMENT CONDITIONS (LOS)										
Segment	Existing		2015				2030			
			2015 No Build		2015 Build		2030 No Build		2030 Build	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SR 15 Northbound										
Market Street off-ramp to Market Street on-ramp	C	D	D	D	D	D	D	F	D	E
Market Street on-ramp to SR 94 EB off-ramp	C	C	C	D	C	D	D	D	D	D
SR 94 EB off-ramp to SR 94 WB off-ramp	C	B	D	B	C	B	D	C	D	C
SR 94 WB off-ramp to SR 94 EB on-ramp	E	D	F	D	F	D	F	E	F	D
SR 94 EB on-ramp to I-805 NB off-ramp	C	D	D	D	D	D	E	F	D	E
I-805 NB off-ramp to I-805 NB on-ramp	B	B	B	C	B	C	B	C	B	C
I-805 NB on-ramp to North Park Way/University Avenue off-ramp	C	B	C	C	C	C	C	C	C	C
North Park Way/University Avenue off-ramp to North Park Way/University Avenue on-ramp	C	B	C	B	C	B	C	B	C	C
SR 15 Southbound										
North Park Way/University Avenue off-ramp to North Park Way/University Avenue on-ramp	B	C	C	D	C	C	C	D	C	D
North Park Way/University Avenue on-ramp to I-805 SB off-ramp	B	C	C	C	B	C	C	D	C	C
I-805 SB off-ramp to I-805 SB on-ramp	D	C	D	D	D	D	E	D	D	D
I-805 SB on-ramp to SR 94 WB off-ramp	C	D	D	D	C	D	D	E	D	E
SR 94 WB off-ramp to SR 94 EB/WB on-ramp	D	D	D	F	D	E	D	F	D	E
SR 94 EB/WB on-ramp to Market Street off-ramp	C	C	C	C	C	C	D	D	D	D
Market Street off-ramp to Market Street on-ramp	D	D	D	D	D	D	E	E	D	D

¹Under the build scenario, this segment is divided into two segments (Orange Avenue to the DAR, and the DAR to Telegraph Canyon Road) because the proposed DAR would create a new interchange.

²This segment includes one of the two created by the DAR (see note 1 above).

Shaded cells denote freeway segments forecasted to operate at LOS E or F.

No traffic data available for cells with --.

Managed and HOV/Transit Lanes

The Managed and HOV/transit Lanes would provide additional capacity along I-805 south and would redirect traffic trips from the general purpose lanes. The proposed Managed and HOV/transit lanes are expected to operate at a high LOS for carpools, bus transit, and vanpools regardless of the traffic operating conditions within the general purpose lanes. To optimize the capacity of the Managed and HOV/transit Lanes and additionally help alleviate congestion of the general purpose lanes, toll-paying SOVs may be able to travel within the Managed Lanes, if there is available capacity to sell. Achieving LOS C within the Managed and HOV/transit lanes would not be compromised.

Both build alternatives would include construction of two HOV/transit lanes (one in each direction) within the freeway median along the Project site in 2015. Under 2030 with Project conditions, four Managed and HOV/transit lanes would be constructed between East Palomar Street and SR 94. Managed and HOV/transit lane operations under 2015 and 2030 are presented in Table 2.5-7.

Location	2015 Build				2030 Build			
	AM Peak Period		PM Peak Period		AM Peak Period		PM Peak Period	
	Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS
I-805 Northbound								
East Palomar Street to East Palomar Street ingress	350	≤C	315	≤C	1,330	≤C	1,275	≤C
East Palomar Street ingress to Telegraph Canyon Road egress	900	≤C	1,035	≤C	2,520	≤C	2,335	≤C
Telegraph Canyon Road ingress to East H Street egress	845	≤C	985	≤C	2,520	≤C	2,335	≤C
East H Street ingress to Bonita Road egress	870	≤C	1,045	≤C	2,320	≤C	1,975	≤C
Bonita Road ingress to Sweetwater Road egress	845	≤C	945	≤C	2,320	≤C	1,975	≤C
Sweetwater Road ingress to East Plaza Boulevard egress	850	≤C	970	≤C	2,315	≤C	1,975	≤C
East Plaza Boulevard ingress to 47 th Street egress	1,070	≤C	1,260	≤C	2,410	≤C	2,730	≤C
47 th Street ingress to Imperial Avenue egress	1,120	≤C	1,330	≤C	2,800	≤C	2,420	≤C
Imperial Avenue ingress to Market Street egress	1,190	≤C	1,190	≤C	2,795	≤C	2,420	≤C
Market Street ingress to SR 94 WB off-connector	425	≤C	450	≤C	2,795	≤C	2,420	≤C
SR 94 WB off-connector to SR 15 NB off-connector	--	--	--	--	1,440	≤C	1,440	≤C
SR 15 NB off-connector to SR 15 egress	--	--	--	--	790	≤C	690	≤C
SR 15 ingress to University Avenue egress	--	--	--	--	1,260	≤C	1,110	≤C
University Avenue ingress to University Avenue overcrossing	--	--	--	--	1,285	≤C	1,035	≤C
I-805 Southbound								
University Avenue overcrossing to University Avenue egress	--	--	--	--	670	≤C	1,380	≤C
University Avenue ingress to SR 15 egress	--	--	--	--	665	≤C	1,290	≤C
SR 15 ingress to SR 15 SB on-connector	--	--	--	--	425	≤C	895	≤C
SR 15 SB on-connector to SR 94 EB on-connector	--	--	--	--	955	≤C	1,615	D
SR 94 EB on-connector to Market Street egress	240	≤C	395	≤C	1,625	≤C	2,745	≤C
Market Street ingress to Imperial Avenue egress	1,105	≤C	1,345	≤C	1,625	≤C	2,745	≤C
Imperial Avenue ingress to 47 th Street egress	1,000	≤C	1,235	≤C	2,185	≤C	2,630	≤C
47 th Street ingress to East Plaza Boulevard egress	900	≤C	1,145	≤C	2,185	≤C	2,630	≤C
East Plaza Boulevard ingress to Sweetwater Road egress	780	≤C	1,010	≤C	1,700	≤C	2,710	≤C
Sweetwater Road ingress to Bonita Road egress	745	≤C	995	≤C	1,700	≤C	2,710	≤C
Bonita Road ingress to East H Street egress	755	≤C	1,005	≤C	1,700	≤C	2,710	≤C
East H Street ingress to Telegraph Canyon Road egress	710	≤C	995	≤C	2,095	≤C	2,560	≤C
Telegraph Canyon Road ingress to East Palomar Street egress	735	≤C	1,035	≤C	2,095	≤C	2,560	≤C
East Palomar Street egress to East Palomar Street	235	≤C	350	≤C	615	≤C	1,040	≤C

Shaded cell denotes HOV/transit lane segment forecasted to operate at an LOS greater than C.

As shown in Table 2.5-7, the Managed and HOV/transit lanes along I-805 freeway segments would operate at LOS C or better during the AM and PM peak periods under 2015 and 2030 build conditions with the exception of the segment of I-805 SB from the SR 15 SB on-connector to the SR 94 EB on-connector during the PM peak period. The LOS for this segment would be greater than C (LOS D) because only one HOV/transit lane would be constructed along this segment of I-805 SB. This segment is forecasted to have 1,615 vehicles per hour, which is slightly above the 1,600-vehicles per hour (LOS C) capacity assigned to the HOV lanes causing it to slip into operating at LOS D. The difference from LOS C would not be great enough to result in a substantial impact.

The Managed and HOV/transit Lanes would provide additional capacity along I-805 south. Traffic volumes in the Managed and HOV/transit Lanes would primarily consist of trips that are shifting from the general purpose lanes, although it is expected that some new trips from latent demand would be generated. The overall Project benefits from the Managed and HOV/transit lanes become clear upon analysis of freeway performance measures, including vehicle hours of travel, peak direction end-to-end travel time, travel time savings, people movement (throughput), and work trips using alternative modes. An analysis of each of these and the relationship to Managed and HOV/transit lanes is provided below.

Vehicle Hours of Travel

The vehicle hours of travel represents the freeway segment travel time multiplied by the number of vehicles on that segment. Using this concept, a freeway segment might have the same vehicle miles traveled if fewer vehicles took longer to travel through the segment as it would if more vehicles traveled the segment in less time. This concept needs to be considered with the results of the travel times and forecast traffic volumes to get an accurate representation of the effect of proposed improvements. The daily total is a sum of the morning (AM) and afternoon (PM) peak period values, as well as those for the off-peak period.

Table 2.5-8 shows the vehicle hours of travel along I-805 south for existing conditions, as well as 2015 and 2030 Build and No Build conditions, by peak period and direction. The total daily vehicle hours of travel is also shown. These data reveal that the vehicle hours of travel for the 2015 and 2030 with Project scenarios are lower than the 2015 and 2030 without Project scenarios, respectively. This shows that the Project would shift trips from the more congested general purpose lanes to the proposed Managed and HOV/transit lanes facility and would allow more total trips due to the proposed Managed and HOV/transit lanes.

Table 2.5-8 VEHICLE HOURS OF TRAVEL ALONG I-805 SOUTH CORRIDOR							
Scenario	AM Peak Period		PM Peak Period		Off-peak Period		Daily Total
	NB	SB	NB	SB	NB	SB	
2006 Existing Conditions	407,619	204,274	264,557	426,679	809,086	968,558	3,080,774
2015 No Build	518,458	250,045	355,930	477,019	944,004	1,145,759	3,691,215
2015 Build	391,738	244,857	327,841	459,243	841,957	1,054,426	3,320,062
2030 No Build	513,766	325,935	454,796	569,021	1,203,835	1,402,926	4,470,279
2030 Build	482,290	322,352	424,761	548,124	1,097,636	1,332,342	4,207,505

Peak Direction End-to-End Travel Times

The peak direction end-to-end travel time is based on the individual segment travel time values produced by the model. The travel times presented in Table 2.5-9 represent the sum of the travel time on the model links within the I-805 south corridor. These data show that the peak direction end-to-end travel times for the 2015 and 2030 with Project scenarios are lower than the 2015 and 2030 without Project scenarios, respectively. The reduced travel times on the general purpose lanes indicate that the Project would shift trips from the general purpose lanes to the Managed and HOV/transit lanes in 2015 and 2030. This, along with the much lower travel times for the Managed and HOV/transit lanes, reduces the overall travel times for I-805 south under 2015 and 2030 conditions.

Table 2.5-9 PEAK DIRECTION END-TO-END TRAVEL TIMES ALONG I-805 SOUTH CORRIDOR¹						
Scenario	AM Travel Time		PM Travel Time		Off-peak Travel Time	
	NB	SB	NB	SB	NB	SB
2006 Existing Conditions – general purpose lanes	18:15	13:30	15:00	18:15	13:45	14:15
2015 No Build – general purpose lanes	21:00	14:15	17:15	19:00	14:30	15:00
2015 Build – general purpose lanes	17:15	14:00	15:30	18:15	13:15	14:15
2015 Build – HOV/transit lanes	8:15	7:30	9:00	8:45	8:15	8:15
2030 No Build – general purpose lanes	20:30	15:30	19:00	20:45	15:30	16:15
2030 Build – general purpose lanes	17:30	14:30	16:30	18:15	14:00	15:00
2030 Build – Managed and HOV/transit lanes	12:45	10:45	11:45	14:30	9:30	10:45

Source: Interstate 805 Managed Lanes South Project Final Existing Conditions & Traffic Operations Analysis Report. July 2, URS 2009a.

¹ Travel times reported in minutes:seconds. All travel times have been rounded to the nearest 15 seconds.

Travel Time Savings

Travel time savings are derived by subtracting the existing (2006) travel time from each future scenario travel time. Table 2.5-10 shows the peak direction end-to-end travel time savings for each scenario by peak period and direction. Negative values indicate a decrease in travel times and hence a travel time savings. Positive values indicate an increase in travel times. As shown in the table, travel times would be reduced under 2015 and 2030 with Project conditions when compared to existing (2006) conditions, as well as 2015 and 2030 without Project conditions. This shows that the Project would result in travel time savings when compared to without Project conditions, and that trips from the general purpose lanes would be shifted to the Managed and HOV/transit lanes.

Table 2.5-10 GENERAL PURPOSE LANES TRAVEL TIME SAVINGS COMPARED TO EXISTING CONDITIONS¹						
Scenarios	AM Travel Time Savings		PM Travel Time Savings		Off-peak Travel Time Savings	
	NB	SB	NB	SB	NB	SB
2015 No Build	2:45	0:45	2:15	0:45	0:45	0:45
2015 Build	-1:00	0:30	0:30	0:0	-0:30	0:0
2030 No Build	2:15	2:00	4:00	2:30	1:45	2:00
2030 Build	-0:45	1:00	1:30	0:0	0:15	0:45

¹ Travel time savings reported in minutes:seconds. All travel time savings have been rounded to the nearest 15 seconds.

People Movement

A person trip is a trip by one person using any mode of transportation. If more than one person is on the trip, each person is considered as making a one-person trip (e.g., four people traveling together in one vehicle account for four person trips). The term “person trips” is also referred to as “people moved,” because it is a measurement of the total number of people moved on a given facility. Table 2.5-11 shows the number of person trips for each scenario by period and direction. The person trips for the 2015 and 2030 with Project scenarios include person trips from all modes including SOVs, HOVs, and transit vehicles. The data show that the 2015 and 2030 with Project conditions would result in an increase in person trips over the 2015 and 2030 without Project condition. This is true for all periods and in both directions. The increase in person trips indicates that the Project would allow more total trips due to the proposed Managed and HOV/transit lanes and the shift of trips from the general purpose lanes to the Managed and HOV/transit lanes.

Scenario	AM Peak Period		PM Peak Period		Off-peak Period	
	NB	SB	NB	SB	NB	SB
2006 Existing Conditions	65,657	50,569	59,877	75,010	242,096	215,296
2015 No Build	65,792	54,355	62,201	76,730	249,998	222,896
2015 Build	66,398	55,123	63,791	77,862	258,144	230,714
2030 No Build	71,819	61,721	72,990	81,717	285,349	265,329
2030 Build	73,764	64,629	76,769	85,594	298,349	275,552

Work Trips Using Alternative Modes

Work trips using alternative modes are the number of work-based trips that are using travel modes other than SOVs, such as carpool, vanpool, and transit. This analysis compares the number of SOVs trips to the number of HOV trips. Table 5.2-12 shows the number of non-SOV work trips for each scenario by peak period and direction. These data reveal that the 2015 and 2030 build conditions would result in an increase in these trips over the no build condition, indicating that the Project would shift trips from the general purpose lanes to the new Managed and HOV/transit lanes. This modal shift would increase the total number of HOV work trips on I-805 south.

Scenario	AM Peak Period		PM Peak Period		Off-peak Period	
	NB	SB	NB	SB	NB	SB
2006 Existing Conditions	1,336	997	1,495	1,614	6,348	5,781
2015 No Build	1,469	1,198	1,691	1,789	7,207	6,513
2015 Build	1,492	1,255	1,750	1,908	7,692	7,053
2030 No Build	1,513	1,432	1,894	1,986	8,317	7,837
2030 Build	1,663	1,671	2,152	2,250	9,188	8,659

Roadway Segments

Table 2.5-13 and Figures 2.5-2A through 2.5-2F show the roadway segments under Year 2015 and 2030 conditions without and with the Project. Segments forecasted to operate at LOS E or F are shaded in the table. As shown in the table, the LOS of the analyzed roadway segments is generally maintained or improved under 2015 and 2030 build conditions when compared to the no build conditions. Traffic volumes would increase along some roadway segments in the 2015 and 2030 build conditions because additional person trips would occur on I-805 with the Project (refer to Table 2.5-11). These additional trips would utilize local roadways to access I-805.

Additionally, the new DAR, transit stations, and park-and-ride lots would divert trips to East Palomar Street, East H Street, and East Plaza Boulevard. Diverted routes typically result in an increase in traffic volumes along the newly diverted routes and a corresponding decrease in traffic volumes along the original route. The magnitude of the traffic volume increases on roadway segments, however, would not cause any roadway segment to degrade to LOS E or F. Therefore, traffic flows along these segments would not be substantially affected.

Table 2.5-13 2015 and 2030 ROADWAY SEGMENT CONDITIONS (LOS)				
Roadway Segment	2015		2030	
	No Build	Build	No Build	Build
Orange Avenue				
Melrose Avenue to I-805 SB ramps	E	E	F	E
I-805 SB ramps to I-805 NB ramps	C	C	C	C
I-805 NB ramps to Oleander Avenue	C	C	D	D
East Palomar Street				
Hilltop Drive to Nolan Avenue	--	--	A	A
Nolan Avenue to Nacion Avenue	--	--	A	A
Nacion Avenue to I-805 DAR	A	A	A	B
I-805 DAR	--	A	--	A
I-805 DAR to Oleander Avenue	A	A	A	B
Oleander Avenue to Medical Center Drive	--	--	A	A
Nacion Avenue				
East Naples Street to East Palomar Street	--	--	A	A
East Palomar Street to Melrose Avenue	--	--	A	A
East Naples Street				
Melrose Avenue to Nacion Avenue	--	--	A	A
Nacion Avenue to Oleander Avenue	--	--	A	A
Telegraph Canyon Road				
Nacion Avenue to I-805 SB ramps	F	F	F	F
I-805 SB ramps to I-805 NB ramps	D	D	D	D
I-805 NB ramps to Crest Drive	C	C	C	C
East H Street				
Hilltop Drive to I-805 SB ramps	F	C	C	C
I-805 SB ramps to I-805 NB ramps	D	D	D	D
I-805 NB ramps to Hidden Vista Drive	D	D	E	E
Bonita Road				
Bonita Glen Drive to I-805 SB ramps	C	C	C	C
I-805 SB ramps to I-805 NB ramps	E	E	F	F
I-805 NB ramps to Lynwood Drive	E	E	F	F
Sweetwater Road				
Prospect Street to I-805 SB ramps	C	C	C	C
I-805 SB ramps to I-805 NB ramps	D	D	D	D
I-805 NB ramps to Valley Road	C	C	C	C
East Plaza Boulevard				
Palm Avenue to I-805 SB ramps	C	C	C	C
I-805 SB ramps to I-805 NB ramps	D	D	D	D
I-805 NB ramps to Grove Street	D	D	E	E
47th Street				
Division Street to I-805 SB ramps	C	C	C	C
I-805 SB ramps to I-805 NB ramps	B	B	B	C
I-805 NB ramps to Logan Avenue	C	C	C	C

Table 2.5-13 (cont.) 2015 and 2030 ROADWAY SEGMENT CONDITIONS (LOS)				
Roadway Segment	2015		2030	
	No Build	Build	No Build	Build
43rd Street				
Delta Street to I-805 ramps	F	F	F	F
I-805 ramps to Alpha Street	C	C	C	C
Imperial Avenue				
45 th Street to I-805 SB ramps	C	C	C	C
I-805 SB ramps to I-805 NB ramps	C	C	C	C
I-805 NB ramps to 47 th Street	E	E	E	E
Market Street				
42 nd Street to I-805 SB ramps	B	B	B	B
I-805 SB ramps to I-805 NB ramps	B	B	B	B
I-805 NB ramps to 45 th Street	B	B	C	C
Home Avenue				
Gateway Drive to I-805 SB ramps	D	D	D	D
I-805 SB ramps to I-805 NB ramps	C	C	D	D
I-805 NB ramps to Fairmount Avenue	D	D	D	D
South of SR 94	D	D	D	D
North of SR 94	C	C	C	C

Shaded cells denote roadway segments forecasted to operate at LOS E or F.
No traffic data available for cells with --

Intersections

Table 2.5-14 shows the intersections under 2015 and 2030 conditions without and with the Project. Intersections forecasted to operate at LOS E or F are shaded in the table. For most analyzed intersections, the LOS and/or delay would be maintained or improved under 2015 and 2030 build conditions. Due to the new freeway access point created by the DAR at East Palomar Street, some traffic trips would be diverted from their original routes to East Palomar Street. Additionally, the new transit stations and park-and-ride lots also would divert trips to East H Street and East Plaza Boulevard.

The diversion of trips created by the DAR, transit stations, and park-and-ride lots would result in the degradation of LOS at 6 intersections during the AM peak period and 10 during the PM peak period. All but two of these intersections would occur along East Palomar Street, East Plaza Boulevard, and East H Street.

Trips diversions resulting from the Project also would improve the LOS at several intersections during the AM and PM peak periods, as shown in Table 2.5-14.

Construction Impacts

While the Project would generally result in beneficial impacts to traffic and transportation, temporary impacts would result during construction due to planned freeway and ramp closures. During Project construction, it is possible that some freeway segments would be closed in one direction in the nighttime. In addition, it may be necessary to temporarily close some of the entrance and exit ramps at interchanges along the I-805 south corridor. Temporary detours may be required along some roadway segments as well. Temporary roadway, freeway, and ramp closures would result in diversion of through traffic to alternate routes; however, impacts would be minimized by scheduling construction during nighttime or early morning hours and through the implementation of a TMP. Given the temporary nature of the closures, the availability of alternate routes, and the implementation of a TMP, construction impacts to traffic and transportation are expected to be relatively minor. Anticipated construction phasing is described in Chapter 1.0.

ID ¹	Intersection	2015				2030			
		No Build		Build		No Build		Build	
		AM	PM	AM	PM	AM	PM	AM	PM
1	Orange Avenue/Hilltop Drive	--	--	--	--	D	C	D	C
2	Orange Avenue/Melrose Avenue	C	C	C	C	C	C	C	C
3	Orange Avenue/I-805 SB off-ramp	C	C	B	C	C	D	C	D
4	Orange Avenue/I-805 NB on-ramp	C	C	C	C	D	C	D	C
5	Orange Avenue/Oleander Avenue	D	D	D	D	D	E	D	D
6	Orange Avenue/Brandywine Avenue	--	--	--	--	D	E	E	F
7	Rienstra Street/Melrose Avenue	--	--	--	--	C	C	C	C
8	East Palomar Street/Hilltop Drive	--	--	--	--	F	C	F	D
9	East Palomar Street/Melrose Avenue	--	--	--	--	D	B	F	F
10	East Palomar Street/Monserate Avenue	--	--	--	--	C	B	F	F
11	East Palomar Street/Nacion Avenue	B	B	B	B	C	B	C	C
12	East Palomar Street/I-805 DAR	--	--	A	A	--	--	B	D
13	East Palomar Street/Raven Avenue	B	A	A	A	B	A	A	A
14	East Palomar Street/Oleander Avenue	B	B	D	C	D	C	F	F
15	East Palomar Street/Medical Center Drive	--	--	--	--	F	D	F	F
16	East Palomar Street/Paseo Ladera Street	--	--	--	--	D	C	F	D
17	Wildauer Street/Medical Center Drive	--	--	--	--	E	C	E	C
18	East Naples Street/Hilltop Drive	--	--	--	--	E	C	E	C
19	East Naples Street/Nacion Avenue	--	--	--	--	C	B	C	B
20	East Naples Street/Oleander Avenue	--	--	--	--	B	B	B	B
21	East Naples Street/Medical Center Drive	--	--	--	--	D	D	D	D
22	L Street/Hilltop Drive	--	--	--	--	D	F	D	F
23	Telegraph Canyon Road/Nacion Avenue	D	D	D	D	E	E	D	E
24	Telegraph Canyon Road/I-805 SB on- and off-ramps	D	E	C	E	D	F	D	E
25	Telegraph Canyon Road/I-805 SB to WB off-ramp	A	B	A	B	A	C	A	B
26	Telegraph Canyon Road/I-805 NB on-ramp	F	C	E	C	F	C	F	C
27	Telegraph Canyon Road/Halecrest Drive	B	B	B	B	C	B	B	B
28	Telegraph Canyon Road/mall entrance	B	B	B	B	C	B	C	B
29	Telegraph Canyon Road/Crest Drive	B	B	B	B	B	B	B	B
30	Telegraph Canyon Road/Medical Center Drive	--	--	--	--	C	E	B	D
31	Telegraph Canyon Road/Paseo Ladera Street	--	--	--	--	F	F	E	D
32	East H Street/Hilltop Drive	D	D	D	D	D	E	D	E
33	East H Street/I-805 SB on- and off-ramp	B	E	B	F	B	F	C	F
34	East H Street/I-805 NB off-ramp	B	B	B	B	B	C	B	C
35	East H Street/Hidden Vista Drive	D	E	D	E	D	F	D	F
36	Bonita Road/mall entrance	C	C	C	C	C	C	C	C
37	Bonita Road/I-805 SB off-ramp	B	B	B	B	B	C	B	C
38	Bonita Road/I-805 NB on-ramp	C	C	C	C	C	C	C	C
39	Bonita Road/Plaza Bonita Road	B	B	B	B	B	C	B	C
40	Sweetwater Road/Prospect Street	C	D	C	D	C	D	C	D
41	Sweetwater Road/Euclid Avenue	D	D	D	E	D	E	D	E
42	Sweetwater Road/I-805 NB on-ramp	D	C	E	C	E	D	E	D
43	Sweetwater Road/Valley Road	B	B	C	B	C	B	C	B
44	East Plaza Boulevard/Palm Avenue	C	D	C	D	C	D	D	E
45	East Plaza Boulevard/I-805 SB off-ramp	B	C	B	C	B	C	B	C
46	East Plaza Boulevard/I-805 NB on-ramp	A	A	A	A	A	A	A	A
47	East Plaza Boulevard/Grove Street	C	C	C	D	C	C	D	E
48	43 rd Street/Delta Street	C	C	C	C	C	C	C	C
49	43 rd Street/mall entrance	D	D	D	D	D	D	D	D
50	43 rd Street/Boston Avenue	C	C	C	C	C	C	C	C
51	47 th Street/Palm Avenue	C	D	C	D	D	D	D	D
52	47 th Street/I-805 SB off-ramp	B	D	B	D	B	E	B	E
53	47 th Street/I-805 NB on-ramp	B	C	B	B	B	C	B	C
54	47 th Street/Logan Avenue	C	D	C	D	C	D	D	D
55	Imperial Avenue/YMCA Way	A	B	A	B	A	B	A	B

**Table 2.5-14 (cont.)
2015 and 2030 INTERSECTION CONDITIONS**

ID ¹	Intersection	2015				2030			
		No Build		Build		No Build		Build	
		AM	PM	AM	PM	AM	PM	AM	PM
56	Imperial Avenue/I-805 SB off-ramp	B	D	B	D	B	D	B	D
57	Imperial Avenue/I-805 NB on-ramp	D	D	D	D	E	D	E	D
58	Imperial Avenue/47 th Street	D	D	D	D	D	D	D	D
59	Market Street/42 nd Street	A	A	A	A	A	A	A	A
60	Market Street/I-805 SB on-ramp	B	D	B	D	B	D	B	C
61	Market Street/I-805 NB on-ramp	B	B	B	B	B	B	B	B
62	Market Street/45 th Street	B	A	B	A	C	A	C	A
63	Home Avenue/SR 15-SR 94 off-ramp	B	F	B	F	B	F	B	F
64	Home Avenue/Ash Street	C	C	C	D	C	C	D	D
65	Home Avenue/Gateway Drive	B	C	B	C	B	B	B	C
66	Home Avenue/I-805 SB off-ramp	C	D	C	D	C	D	C	E
67	Home Avenue/I-805 NB on-and off-ramp	B	C	B	D	C	C	C	D
68	Home Avenue/Fairmount Avenue	D	E	D	F	D	F	D	F

¹Number corresponds to intersection location on Figures 2.5-1A through 2.5-1C.

sec = seconds

Shaded cells denote intersections that are forecasted to operate at LOS E or F.

No traffic data available for cells with --

Pedestrian and Bicycle Facilities

Implementation of the build alternatives would not result in long-term effects on existing pedestrian and bicycle circulation patterns in the Project area. Project implementation would not permanently remove existing sidewalks or bicycle lanes on roadways along the overcrossings and undercrossings of the I-805 south corridor. Sidewalks and bikeways impacted during widening/realignment of some of the freeway overcrossings and undercrossings would be replaced, and therefore not permanently impacted. Temporary disruptions may occur during construction activities, but alternate routes or detours would be provided. Any temporary impacts would be minimized by implementation of the TMP.

Transit

The build alternatives would facilitate planned BRT and regional transit operations along the I-805 south corridor, where there are currently no Managed or HOV/transit lanes. The proposed Managed and HOV/transit lanes would provide modal choices by constructing dedicated facilities for transit vehicles, allowing them to bypass the general purpose lanes. In addition to the proposed Managed and HOV/transit lanes, the Project proposes to construct three transit stations, park-and-ride lots, and a DAR that would provide a direct link to the proposed Managed and HOV/transit lanes. Construction of the proposed facilities and their connectivity to other facilities implemented in accordance with the 2030 RTP would provide additional modal choices for those traveling through the Project area.

The Project would implement a portion of the 2030 RTP's flexible highway system concept and the identified regional Managed/HOV lanes network. The 2030 RTP envisions a flexible highway system in which transit vehicles share lanes with carpools, vanpools, and toll-paying SOVs. The 2030 RTP also includes an extensive network of Managed/HOV lanes, which are designed to operate at free-flow speeds and improve travel times for transit and other modes.

The Project would accommodate existing transit and planned BRT operations along the I-805 south corridor. BRT routes are planned along several corridors in the region including I-805 south, I-15, and SR 94. New BRT routes that are part of the regional BRT system are proposed to operate along I-805. Planned BRT Routes 628 and 680 would use I-805 and the proposed Managed and HOV/transit lanes and transit stations. Route 628 would provide service between the Otay Mesa border crossing and downtown San Diego, and Route 680 would operate between the Otay Mesa border crossing and Sorrento Mesa. Both of these future BRT routes would have 10-minute headways during the peak commute hours and 15-minute headways during off-peak periods. These two BRT routes are identified in the 2030 RTP as part of the Revenue Constrained¹ Transit network (refer to Figure 1-4).

MTS proposes to construct and implement a 21-mile BRT line between the Otay Mesa POE and downtown San Diego via eastern Chula Vista, I-805, and SR 94. The implementation of the South Bay BRT would improve transit in the corridor by taking advantage of the Managed/HOV/transit lanes system. The South Bay BRT project would utilize the proposed Managed/HOV/transit Lanes, DAR, and in-line transit stations along I-805. Based on forecasted ridership data (refer to Table 1-2), the South Bay BRT would heavily utilize the proposed transit stations at East Palomar Street, East H Street, and East Plaza Boulevard, as well as the proposed park-and-ride lots at East H Street and Plaza Boulevard (refer to Table 1-3).

The Project serves as a critical link in the regional BRT system providing users from outlying residential areas connection to downtown San Diego and other major employment centers. In terms of the planned BRT service that would utilize the Managed Lanes system, other BRT routes would link South Bay communities, East San Diego County, and the northern inland communities with downtown San Diego and other major employment centers. The Project, in conjunction with other planned route improvements, would ensure that BRT commuters could bypass general purpose lane congestion through the Project area. Specifically, construction of a DAR at East Palomar Street would provide a direct connection for transit vehicles to the proposed Managed and HOV/transit lanes facility. Transit vehicles that would otherwise use existing access routes and freeway interchanges would be redirected to the proposed DAR. Moreover, the build alternatives would provide three transit stations and park-and-ride lots to accommodate transit operations in the Project area. The build alternatives, therefore, would provide a benefit to transit service in the Project area. The intent of this Project is to provide a backbone of multi-modal transportation facilities, which includes the transit infrastructure.

No Build Alternative

Year 2015 Conditions

Under 2015 conditions, the No Build Alternative assumes no roadway improvements would be implemented with regard to the Project (i.e., no Managed and HOV/transit lanes, DAR, or East Palomar Street transit station and park-and-ride would be constructed). Traffic volumes, however, would continue to increase on local streets and freeways. Tables 2.5-6, 2.5-13, and 2.5-14 show projected conditions for the No Build Alternative in Year 2015. The reader is referred to these tables, as well as to the build alternatives discussions, for detail on specific freeway segments (general purpose lanes), local roadways, and intersections and associated LOS.

¹ The Revenue Constrained Scenario of the 2030 RTP is based on current sources and levels of federal, state, and local transportation revenue projected out to the year 2030.

Freeway Segments

As shown on Table 2.5-6, 6 segments along I-805 NB, 20 segments along I-805 SB, 1 segment along SR 54 EB, 1 segment along SR 54 WB, 6 segments along SR 94 EB, 7 segments along SR 94 WB, 1 segment along SR 15 NB, and 1 segment along SR 15 SB would operate at LOS E or F during peak periods analyzed under the No Build Alternative.

Managed and HOV/Transit Lanes

Under the No Build Alternative, no improvements would occur, including Managed and HOV/transit lanes. Therefore, no Project-related changes would occur.

Roadway Segments

Table 2.5-13 presents the LOS of the analyzed roadway segments under the No Build Alternative. As shown in the referenced table, seven roadway segments would operate at LOS E or F. These roadway segments are located along Orange Avenue, Telegraph Canyon Road, East H Street, Bonita Road, 43rd Street, and Imperial Avenue.

Intersections

Table 2.5-14 presents the LOS of the analyzed intersections under the No Build Alternative. As shown in the referenced table, six intersections would operate at LOS E or F during peak periods under the No Build Alternative (two intersections along Telegraph Canyon Road, two along East H Street, and two along Home Avenue).

Year 2030 Conditions

Under 2030 conditions, the No Build Alternative assumes no roadway improvements would be made with regard to the Project (i.e., no Managed HOV/transit lanes, transit stations, or park-and-rides would be constructed). Traffic volumes would continue to increase on freeways and local streets. Tables 2.5-6, 2.5-13, and 2.5-14 show projected conditions for the No Build Alternative in Year 2030. The reader is referred to these tables, as well as to the Build Alternatives discussions, for detail on specific freeway segments (general purpose, Managed, and HOV/transit lanes), local roadways, and intersections and associated LOS.

Freeway Segments

As shown in Table 2.5-6, 26 segments along I-805 NB, 27 segments along I-805 SB, 1 segment along SR 54 EB, 3 segments along SR 54 WB, 7 segments along SR 94 EB, 7 segments along SR 94 WB, 3 segments along SR 15 NB, and 4 segments along SR 15 SB would operate at LOS E or F during peak periods analyzed under the No Build Alternative.

Managed and HOV/Transit Lanes

Under the No Build Alternative, no improvements would occur, including I-805 Managed and HOV/transit lanes. The analyzed HOV lanes along SR 15 would operate at LOS C or less under the No Build Alternative in 2030.

Roadway Segments

Table 2.5-13 presents the LOS of the analyzed roadway segments under the No Build Alternative in 2030. As shown in the referenced table, eight roadway segments would operate at LOS E or F. These roadway segments are located along Orange Avenue, Telegraph Canyon Road, East H Street, Bonita Road, East Plaza Boulevard, 43rd Street, and Imperial Avenue.

Intersections

Table 2.5-14 presents the LOS of the analyzed intersections under the No Build Alternative in 2030. As shown in the referenced table, 21 intersections would operate at LOS E or F during peak periods under the No Build Alternative. These include intersections along Orange Avenue, East Palomar Street, Wildauer Street, East Naples Street, L Street, Telegraph Canyon Road, East H Street, Sweetwater Road, 47th Street, Imperial Avenue, and Home Avenue.

Transit

Under the No Build Alternative, no transit improvements would be constructed, including the proposed transit stations, DAR, and the Managed and HOV/transit lane that are identified in the RTP. Accordingly, traffic flows, including transit services, would experience increased delays in the future, as additional traffic is added to the freeways and local roadway system.

2.5.4 Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

Traffic and Circulation

The anticipated construction phasing program is identified in Chapter 1, which outlines the anticipated construction sequence of proposed improvements. Traffic delays would be controlled to the extent possible. A comprehensive TMP would be developed for the Project following selection of the preferred alternative, prior to the start of construction. The objective of a TMP is to maintain the safe movement of vehicles through the construction zone, as well as to provide the highest level of traffic flow and access during construction periods. The Project TMP would be implemented prior to, and throughout the construction period. Elements within the Project TMP would include the following:

- A public awareness program would notify the public about the Project and its potential effects through brochures, press releases, advertising, public meetings, construction bulletins, and Caltrans (District 11) website (<http://www.dot.dot.ca.gov/dist11/>).
- Motorist information strategies would include changeable message signs, ground-mounted signs, and the use of web cameras. These strategies would provide current road conditions and would enable motorists to make informed decisions about their own travel plans and options available for alternative routes.
- Incident management elements would include the Construction Zone Enhanced Enforcement Program (COZEEP), the Freeway Service patrol (FSP), and the Traffic Management Team (TMT). Implementation of these elements would identify incidents that occur within the construction area and provide corrective action in a timely manner.

COZEEP provides CHP assistance and surveillance within construction areas, which can allow enforcement of speed limits and provide emergency response support within the work zones.

The FSP provides towing service and assistance to motorists during vehicle breakdowns.

The TMT would be involved in the planning and coordinating of major lane or freeway closures and can help evaluate signs for detours and provide advance warning to motorists in case of an accident or non-recurring congestion.

- Demand management techniques intended to reduce traffic volumes within the construction zones, including promoting variable work hours to vary peak travel times, installing temporary ramp meters and/or modifying existing ramp meters to control the volumes entering the freeway within the construction zones.

Ramp meters would be installed on all entrance ramps, which would allow for the control of volumes entering the freeway.

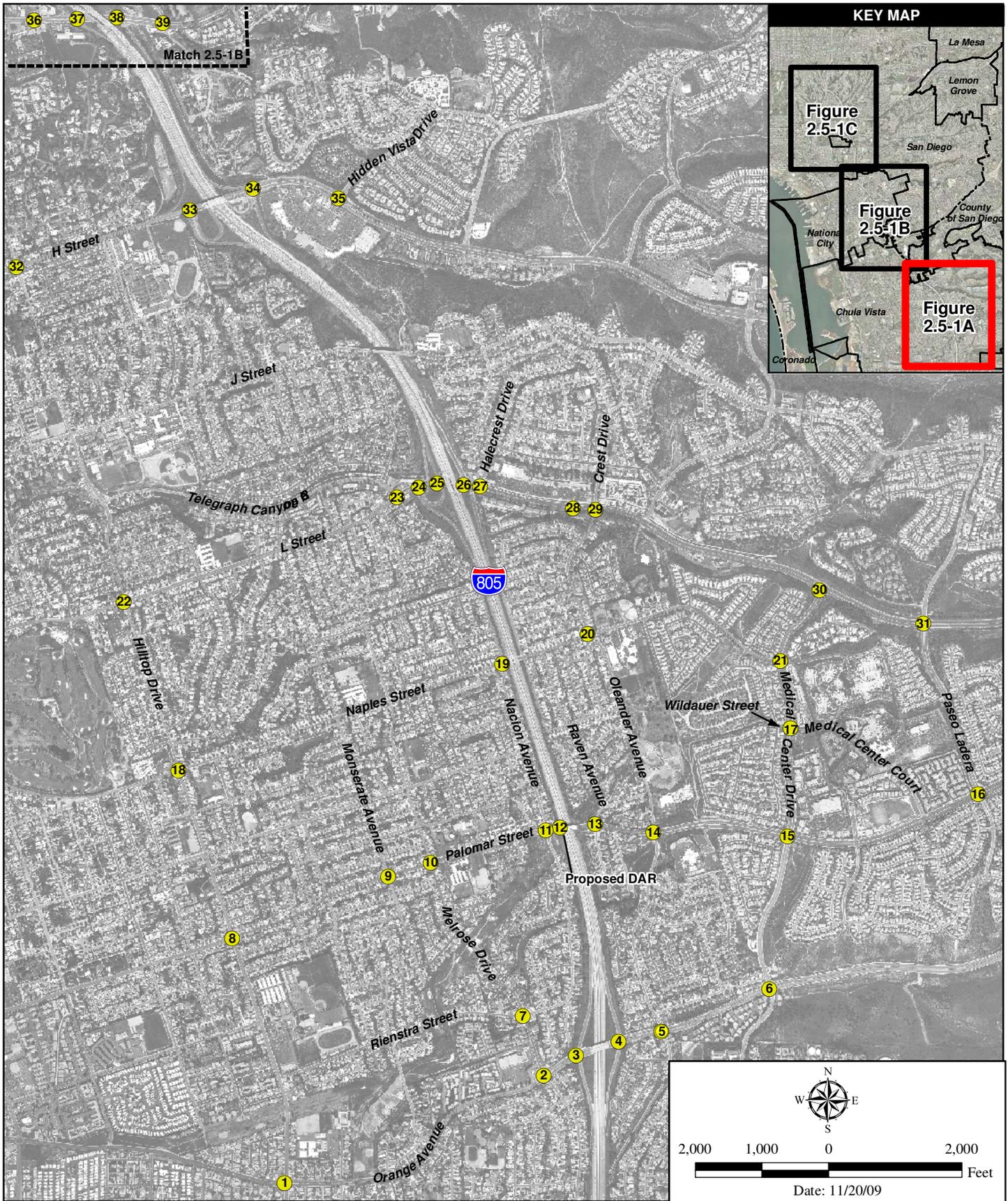
Affected intersections and roadways would be signalized and/or re-striped, as required.

Pedestrian and Bicycle Facilities

During construction of the proposed improvements, construction activities would potentially restrict access to sidewalks and bikeways. Any temporary impacts would be minimized by implementation of the Project TMP, which would include components for pedestrians and bicyclists such as signage to provide notices of temporary bicycle and pedestrian closures and detours.

No Build Alternative

Adverse traffic conditions would continue and worsen under the No Build Alternative, as discussed above. However, because no Project-related improvements are proposed, no avoidance, minimization, or mitigation measures are required.

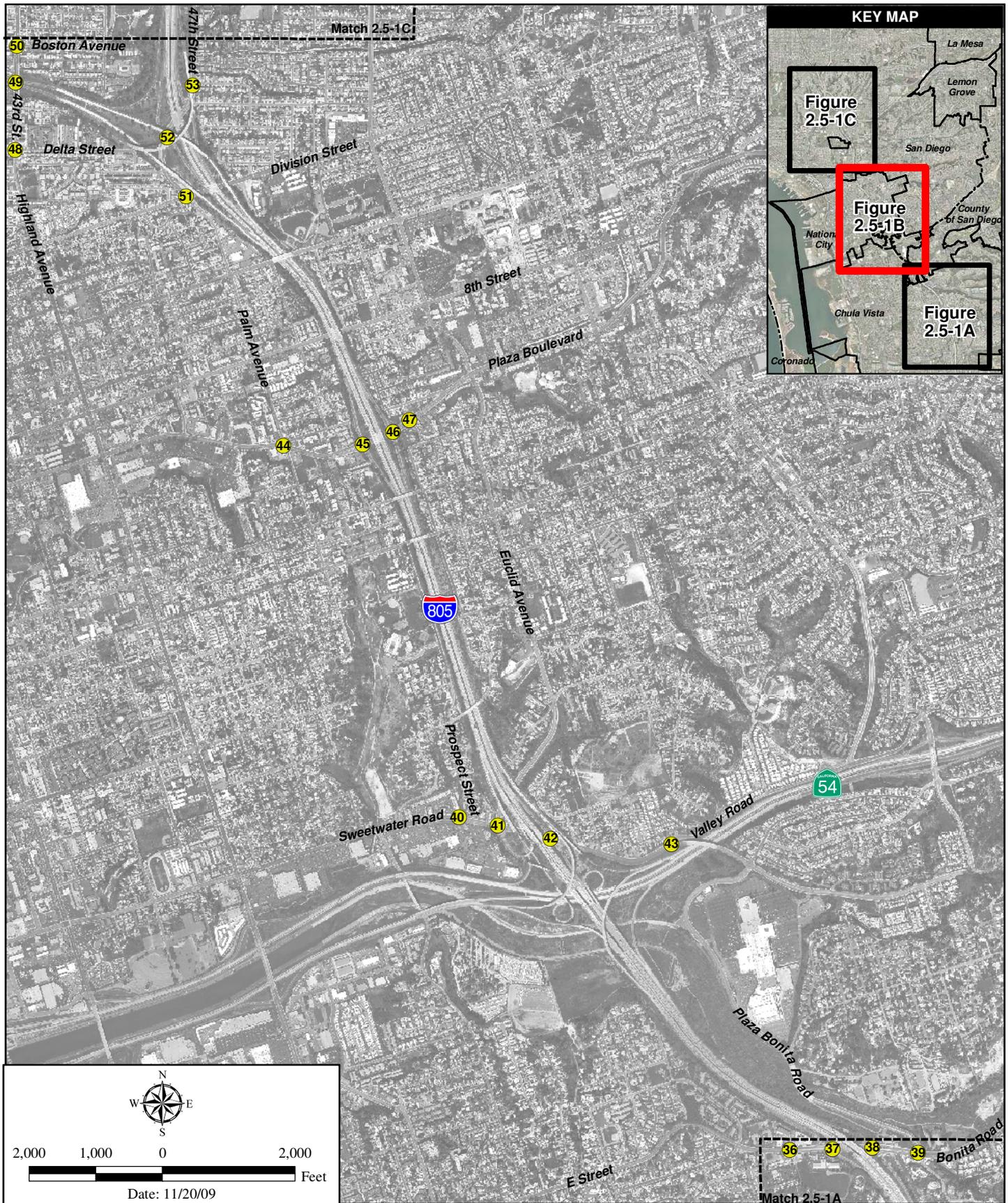


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Intersections and Roadways in the Traffic Study Area

I-805 MANAGED LANES SOUTH PROJECT

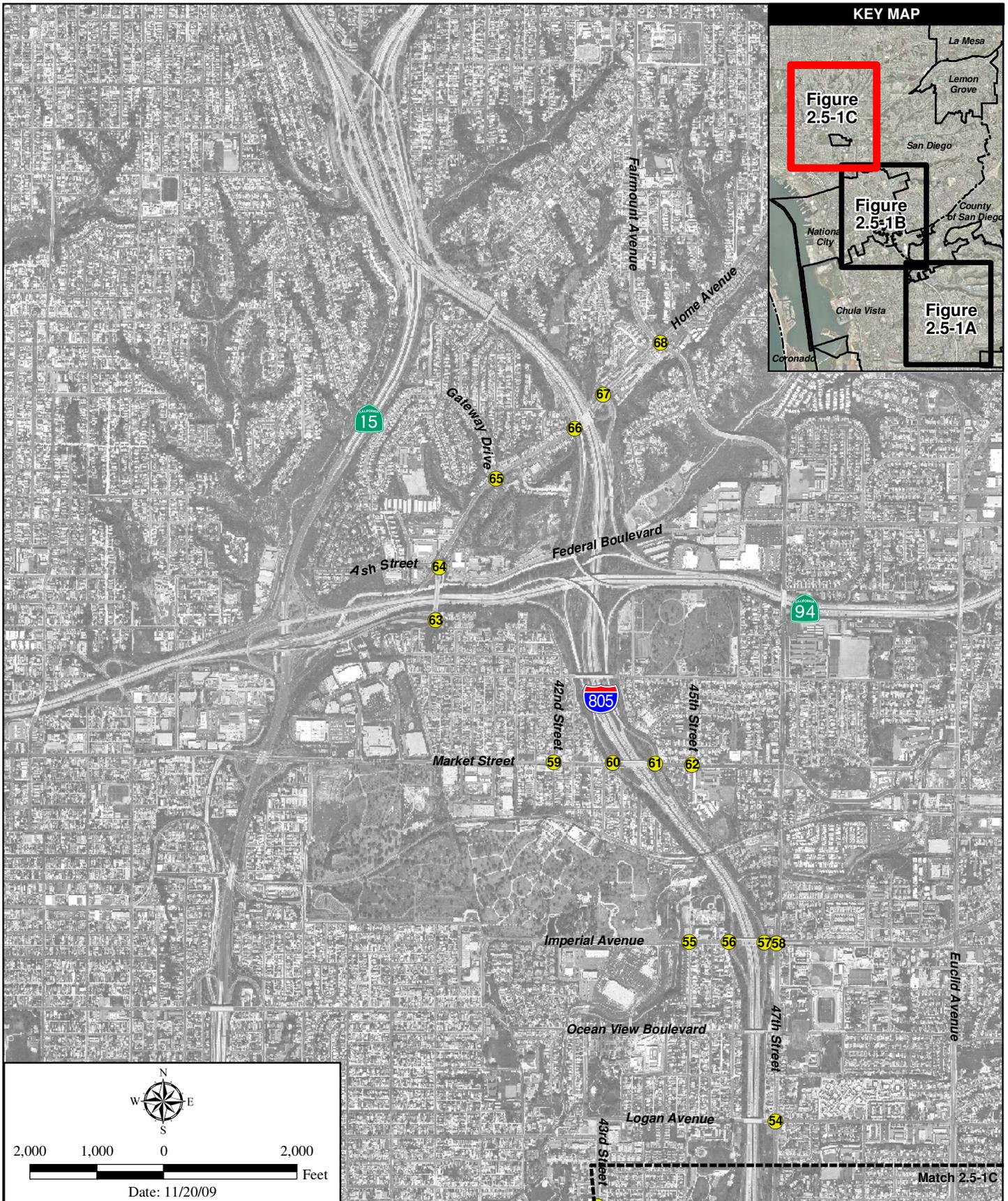
Figure 2.5-1A



Intersections and Roadways in the Traffic Study Area

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.5-1B

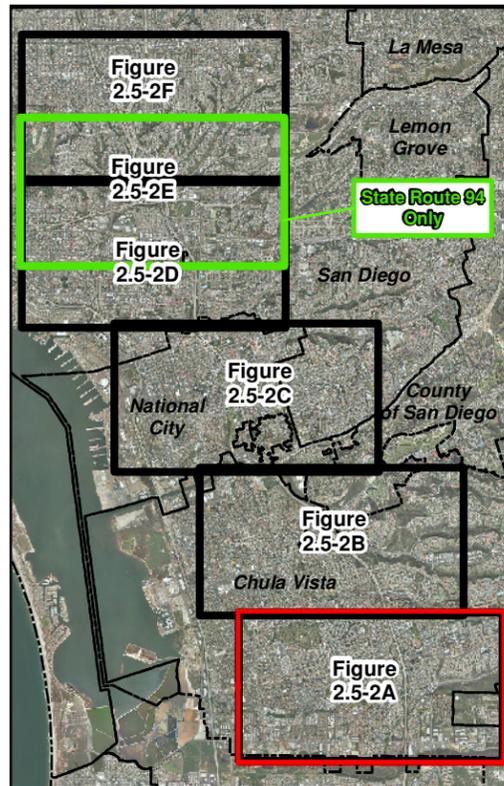


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Intersections and Roadways in the Traffic Study Area

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.5-1C



I-805 SB - Telegraph Canyon Road on-ramp to Palomar DAR

	ADT	AM Peak Volume	PM Peak Volume	AM Peak LOS	PM Peak LOS
Existing	--	--	--	--	--
Year 2015	85,600	5,260	6,510	C	D
Year 2030	95,100	5,355	7,135	C	D

Naples Street - Melrose Avenue to Nacion Avenue

	ADT	LOS
Existing	5,229	A
Year 2015	--	--
Year 2030	5,139	A

I-805 NB - Palomar DAR to Telegraph Canyon Road off-ramp

	ADT	AM Peak Volume	PM Peak Volume	AM Peak LOS	PM Peak LOS
Existing	--	--	--	--	--
Year 2015	85,700	6,130	5,645	C	C
Year 2030	98,700	6,825	6,640	D	D

Naples Street - Nacion Avenue to Oleander Avenue

	ADT	LOS
Existing	6,676	A
Year 2015	--	--
Year 2030	5,788	A

Nacion Avenue - Naples Street to Palomar Street

	ADT	LOS
Existing	2,655	A
Year 2015	--	--
Year 2030	7,510	A

Palomar Street - Nacion Avenue to I-805 DAR

	ADT	LOS
Existing	9,470	A
Year 2015	11,660	A
Year 2030	17,290	B

Palomar Street - I-805 DAR

	ADT	LOS
Existing	--	--
Year 2015	13,730	A
Year 2030	20,460	A

Palomar Street - I-805 DAR to Oleander Avenue

	ADT	LOS
Existing	9,470	A
Year 2015	15,320	A
Year 2030	23,820	B

Palomar Street - Nolan Avenue to Nacion Avenue

	ADT	LOS
Existing	6,709	B
Year 2015	--	--
Year 2030	12,572	A

I-805 NB - Orange Avenue on-ramp to Palomar DAR

	ADT	AM Peak Volume	PM Peak Volume	AM Peak LOS	PM Peak LOS
Existing	--	--	--	--	--
Year 2015	97,600	6,675	6,370	D	D
Year 2030	120,500	8,015	7,705	E	E

Palomar Street - Oleander Avenue to Medical Center Drive

	ADT	LOS
Existing	9,406	A
Year 2015	--	--
Year 2030	20,700	A

I-805 SB - Palomar DAR to Orange Avenue off-ramp

	ADT	AM Peak Volume	PM Peak Volume	AM Peak LOS	PM Peak LOS
Existing	--	--	--	--	--
Year 2015	96,000	5,760	7,190	B	C
Year 2030	116,900	6,835	6,030	B	C

I-805 NB - Orange Avenue off-ramp to Orange Avenue on-ramp

	ADT	AM Peak Volume	PM Peak Volume	AM Peak LOS	PM Peak LOS
Existing	68,200	3,965	4,315	B	B
Year 2015	81,600	5,020	5,280	C	C
Year 2030	103,200	6,210	6,520	C	D

Palomar Street - Hilltop Drive to Nolan Avenue

	ADT	LOS
Existing	7,198	A
Year 2015	--	--
Year 2030	12,015	A

Nacion Avenue - Palomar Street to Melrose Avenue

	ADT	LOS
Existing	2,543	A
Year 2015	--	--
Year 2030	3,815	A

Orange Avenue - I-805 NB ramps to Oleander Avenue

	ADT	LOS
Existing	55,830	D
Year 2015	47,080	C
Year 2030	50,890	D

I-805 SB - Orange Avenue off-ramp to Orange Avenue on-ramp

	ADT	AM Peak Volume	PM Peak Volume	AM Peak LOS	PM Peak LOS
Existing	63,900	4,000	4,490	B	B
Year 2015	79,700	5,015	5,730	C	C
Year 2030	99,200	6,040	7,090	C	D

Orange Avenue - I-805 SB ramps to I-805 NB ramps

	ADT	LOS
Existing	46,530	C
Year 2015	47,050	C
Year 2030	47,570	C

Orange Avenue - Melrose Avenue to I-805 SB ramps

	ADT	LOS
Existing	32,040	D
Year 2015	34,160	E
Year 2030	36,930	E

I-805 NB - Main Street on-ramp to Orange Avenue off-ramp

	ADT	AM Peak Volume	PM Peak Volume	AM Peak LOS	PM Peak LOS
Existing	82,000	5,040	5,410	B	B
Year 2015	93,600	5,945	6,225	C	C
Year 2030	116,100	7,210	7,540	C	D

I-805 SB - Orange Avenue on-ramp to Main Street off-ramp

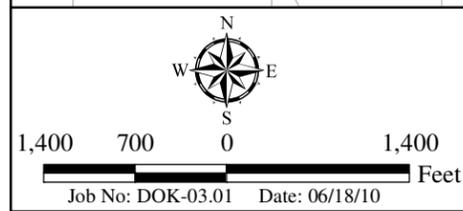
	ADT	AM Peak Volume	PM Peak Volume	AM Peak LOS	PM Peak LOS
Existing	78,000	5,100	5,505	B	B
Year 2015	91,900	5,965	6,605	C	C
Year 2030	112,400	7,060	8,030	C	D

I-805 NB - Main Street off-ramp to Main Street on-ramp

	ADT	AM Peak Volume	PM Peak Volume	AM Peak LOS	PM Peak LOS
Existing	68,900	4,075	4,370	B	B
Year 2015	75,300	4,585	4,775	B	B
Year 2030	96,400	5,745	5,975	C	C

I-805 SB - Main Street off-ramp to Main Street on-ramp

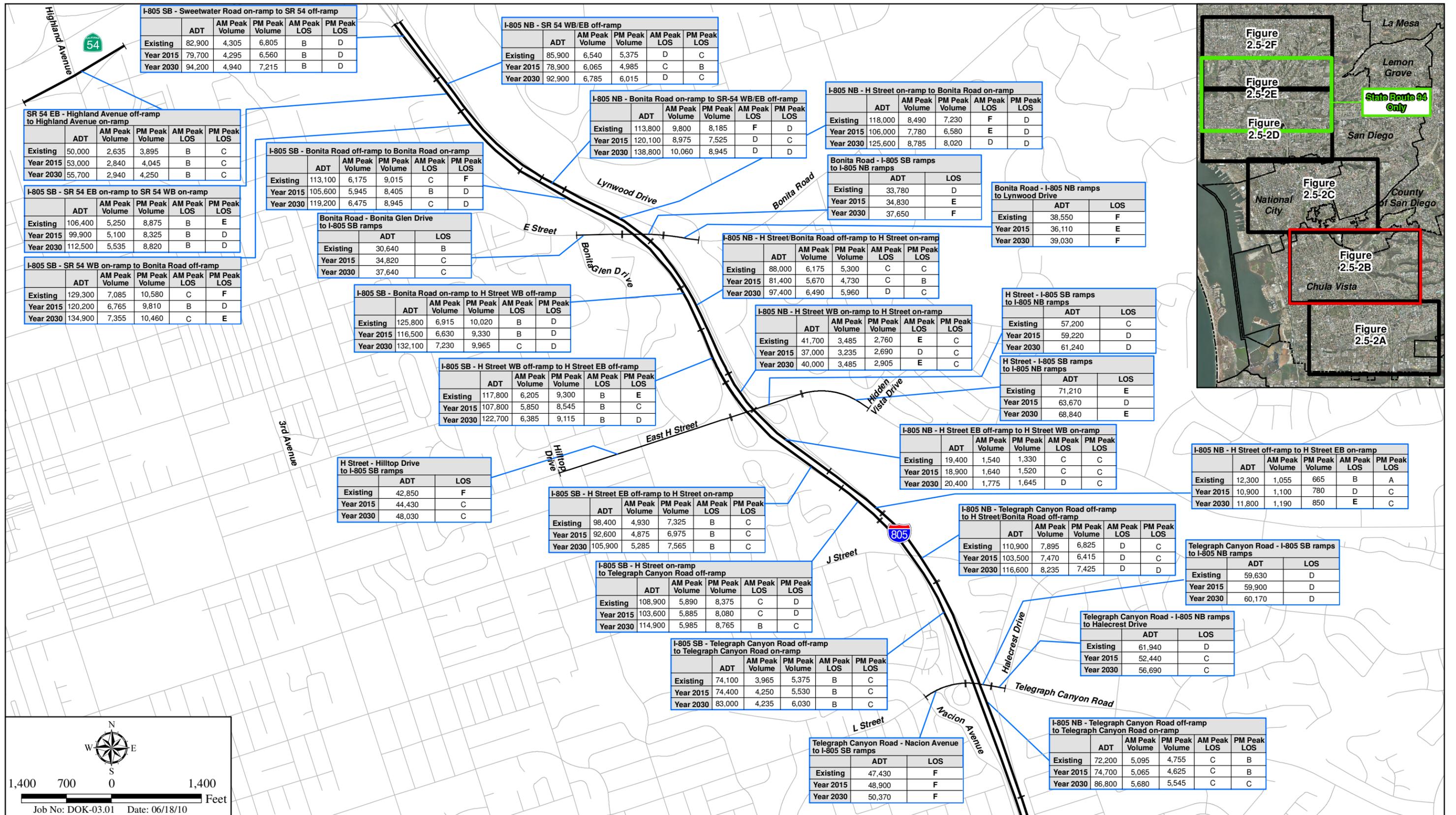
	ADT	AM Peak Volume	PM Peak Volume	AM Peak LOS	PM Peak LOS
Existing	63,800	4,150	4,295	B	B
Year 2015	72,600	4,670	4,960	B	B
Year 2030	91,500	5,665	6,250	C	C



Traffic Volumes for Existing, 2015, and 2030 Build Conditions

I-805 MANAGED LANES SOUTH PROJECT

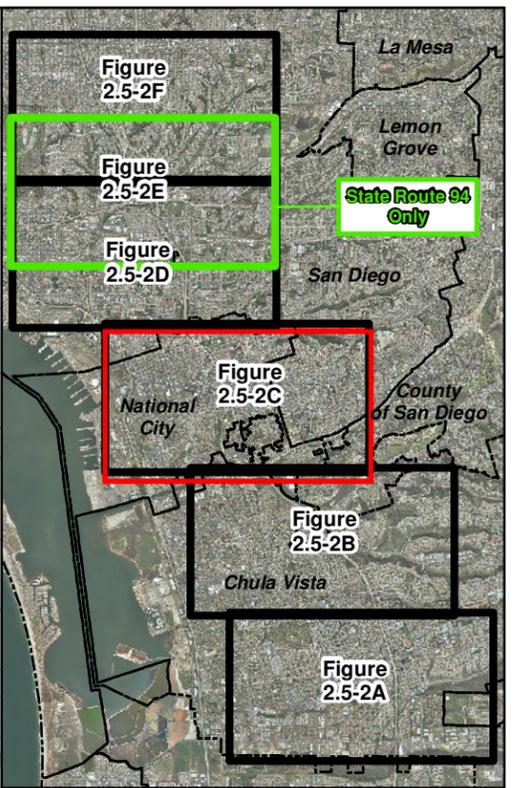
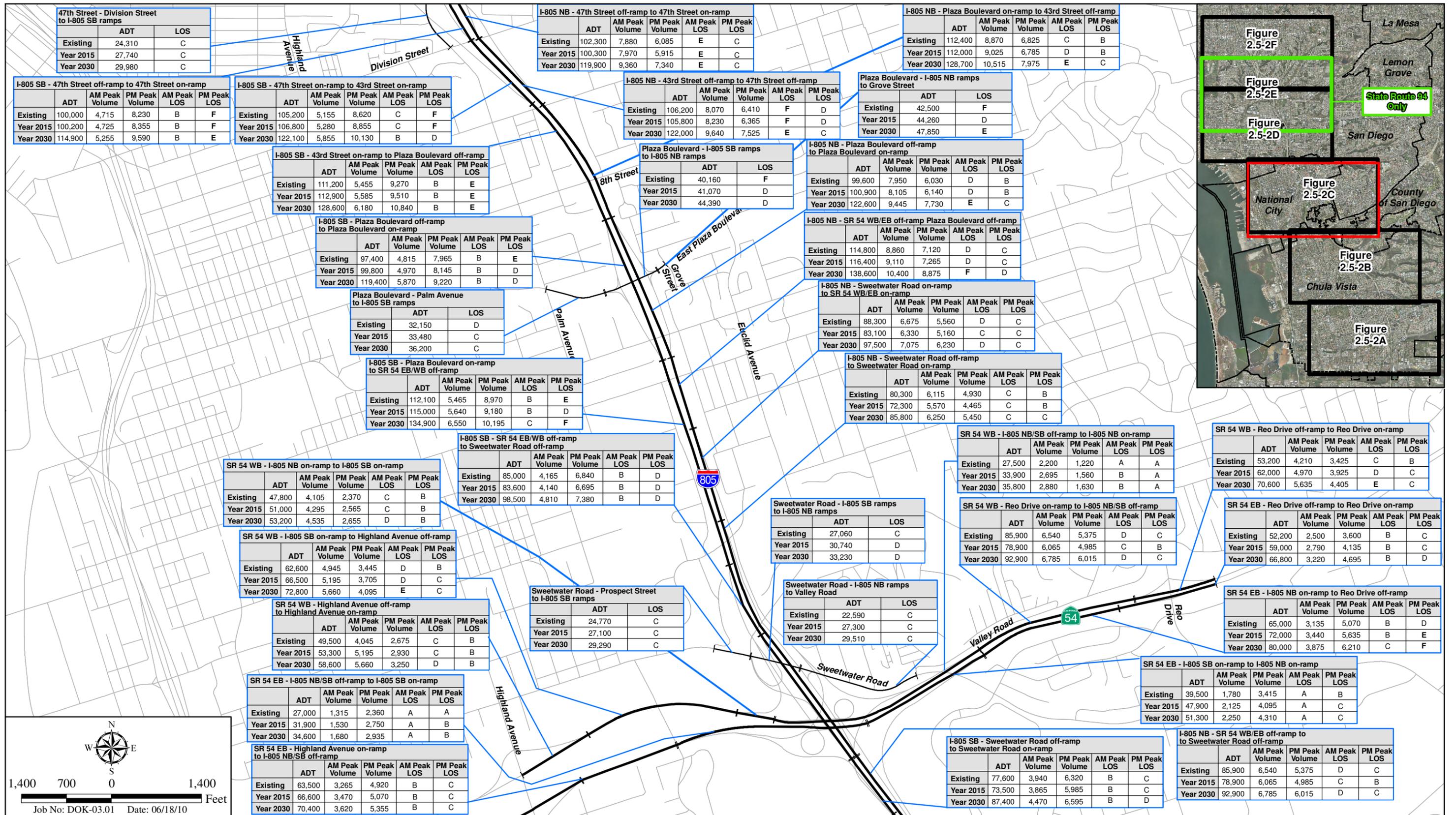
Figure 2.5-2A



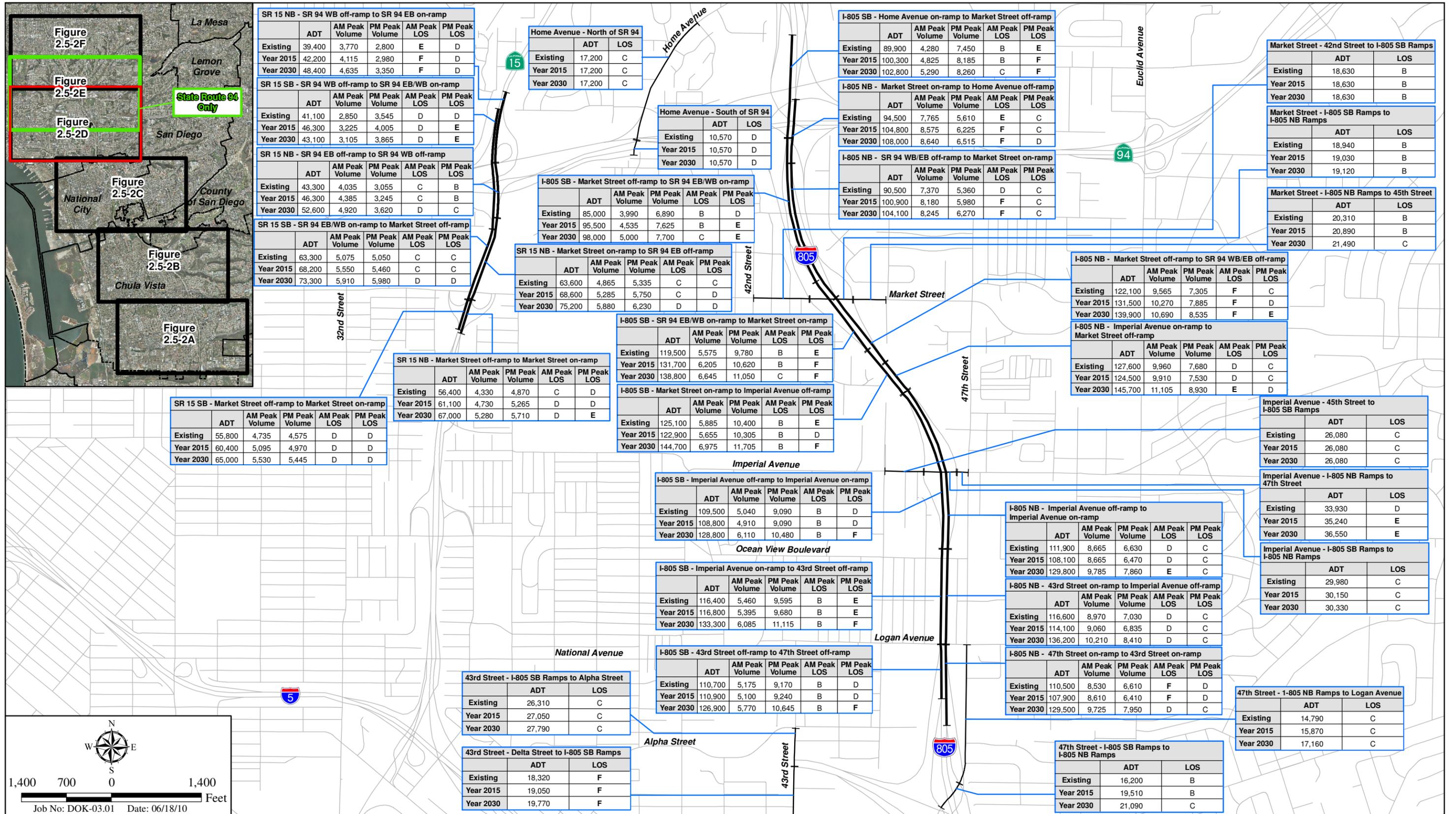
Traffic Volumes for Existing, 2015, and 2030 Build Conditions

I-805 MANAGED LANES SOUTH PROJECT

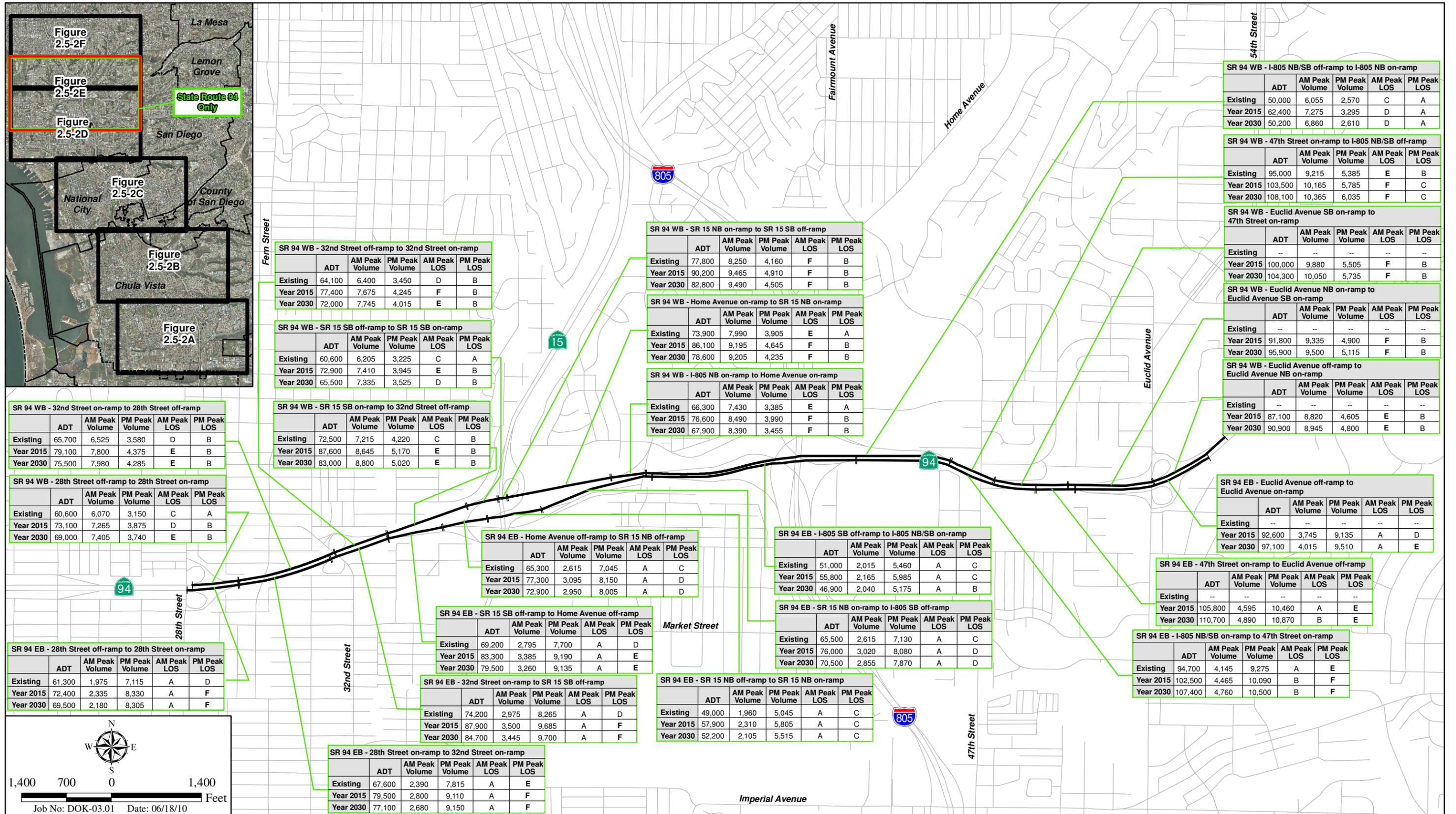
Figure 2.5-2B



Traffic Volumes for Existing, 2015, and 2030 Build Conditions



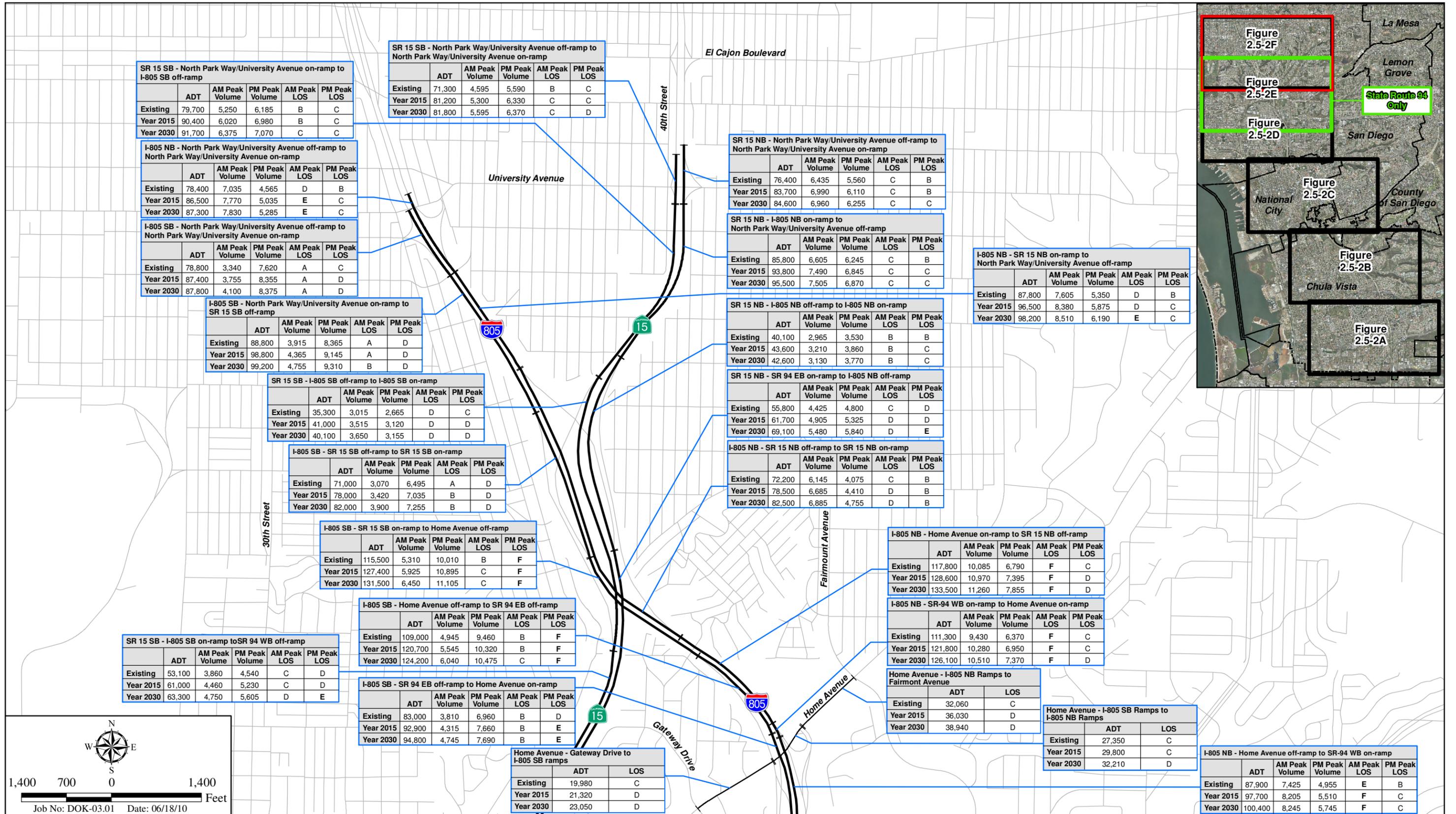
Traffic Volumes for Existing, 2015, and 2030 Build Conditions



Traffic Volumes for Existing, 2015, and 2030 Build Conditions

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.5-2E



Traffic Volumes for Existing, 2015, and 2030 Build Conditions

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.5-2F

2.6 VISUAL/AESTHETICS

2.6.1 Regulatory Setting

NEPA establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 USC 4331(b)(2)). To further emphasize this point, the FHWA in its implementation of NEPA (23 USC 109(h)) directs that final decisions regarding projects are to be made in the best overall public interest, taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

Likewise, CEQA establishes that it is the policy of the state to take all actions necessary to provide the people of the state with “enjoyment of aesthetic, natural, scenic, and historical environmental qualities” (California Public Resources Code [PRC] Section 21001(b)).

2.6.2 Affected Environment

A Visual Impact Assessment (VIA) was prepared to assess the visual impacts of the proposed Project (*Visual Impact Assessment Interstate 805 Managed Lanes South*, February 2010). The VIA evaluated potential visual effects associated with implementation of the Project.

Visual Setting

Visual Environment of Interstate 805

The Project build alternatives are located along the I-805 south corridor generally between Landis Street in the City of San Diego and East Palomar Street in the City of Chula Vista. This 11.4-mile-long stretch of I-805 is characterized by urban development within San Diego, National City, Chula Vista, and unincorporated areas of San Diego County. The Project area is developed with various land uses (i.e., residential, commercial, industrial), as well as numerous roadways, overcrossings, undercrossings, freeway interchanges. Natural features include the Sweetwater River valley and other drainages, hillsides, and areas of native vegetation.

North of SR 54, I-805 is characterized by lush ornamental landscaping on cut slopes facing the freeway. As I-805 traverses the Sweetwater River Valley, distant open views to the east appear to SB travelers, and NB viewers have panoramic views that include San Diego’s downtown skyline to the west and San Miguel Mountain to the east. The southern portion of the Project is located in the Hilltop area of Chula Vista and is highlighted by an elevated section of freeway in which distant views to the west feature the horizon line and Pacific Ocean.

Linear roadside landscapes are punctuated by interchanges where the landscaping becomes secondary to the larger open visual experience. In these areas, the contained view of the parkway landscape opens to distant views. Major open areas occur at the SR 54 interchange, Palm Avenue, East H Street, and Telegraph Canyon Road.

The native landscape component of the visual environment is generally limited to the Sweetwater River valley, where it flows from Sweetwater Regional Park in Bonita to the ocean. The segment of the river corridor between the freeway and the Plaza Bonita shopping center is a dominant landscape feature within the Project area. Although Chollas Creek is a significant watershed within I-805 south, it has limited value as a visual resource from the freeway.

Visual Environment of Adjacent Communities

The built environment includes a variety of land uses and densities within the Project area. Residential is the primary use for much of its length with major commercial activity nodes at both East H Street and near the SR 54 interchange. There is some institutional use and limited recreational use associated with the Sweetwater River floodplain. Residential building types within the Project area range from a few single-family homes on large lots to dense multi-family residences. Many of the homes in the area are part of older established neighborhoods. Commercial buildings within the Project area consist of various sizes of shopping center complexes, freestanding retail, motels, and light industrial buildings.

Project Viewshed

A viewshed is comprised of all the surface areas visible from an observer's viewpoint. The limits of a project viewshed are defined as the visual limits of the views from the project site. A project viewshed also includes the locations of viewers likely to be affected by visual changes brought about by project features.

The Project viewshed was defined through site reconnaissance along with reviewing aerial photographs and topographic maps. The Project viewshed is typically defined by the landscaped manufactured slopes of the roadside, surrounding hilltops, and more distant views depending on the location of the viewer within the Project site. There is a hierarchy of spatial experiences that differ in response to a variety of landscape and built environmental (topography, vegetation, and development) patterns and conditions. Some may obscure views at any given point, while others may be open. There may be different aspects of the visual experience depending upon the location of the viewer within the Project site. The Project viewshed generally is linear in nature and provides continuity to the observers' experiences. In some locations, the roadside landscape and manufactured slopes limit viewshed to the immediate foreground. In other locations, the viewshed may extend for some distance to the mountains and/or the ocean.

Landscape Units

A landscape unit (LU) is a subset of the Project viewshed. As a portion of the regional landscape, it can be thought of as an outdoor room that exhibits a distinct visual character. A LU often corresponds to a place or district that is commonly known among local viewers. The Project site lies within six LUs, which are shown in Figure 2.6-1 and described below.

Roadside Parkway Landscape Unit

The Roadside Parkway LU occurs in the northern portion of the Project site. It is the largest of the Project's LUs (refer to Figure 2.6-1) and extends from the Landis Street overcrossing to approximately Logan Avenue. It is characterized by roadside landscaping, which gives it a parkway-like quality, making it distinct from the rest of the Project site.

This LU is comprised of three subunits, each with different, but related, visual characteristics. The Northern Parkway Subunit is located at the northern end of the LU from Landis Street to the SR 94 interchange and is composed of heavily landscaped, irrigated ornamental plant material. Much of this subunit consists of a depressed, linear landscape that tends to constrain the visual experience with few views beyond the immediate roadside except where it is interrupted by

overpasses from adjoining local streets. The result is a somewhat contained, almost internal viewshed until it opens spatially at the SR 15 and SR 94 interchanges.

The Northern Interchange Subunit is also heavily landscaped, but is more expansive and covers a broader area than the Northern Parkway Subunit. Its less-contained character provides visual relief from both adjoining subunits to the north and south. Freeway ramps and intersecting highways are visible, as well as the surrounding adjacent built environment.

The third subunit is the Transitional Parkway Landscape Subunit North. It serves as the visual link between the Northern Interchange Subunit to the north and the Palm Avenue (47th Street) Open Space LU to the south. Although similar to the Northern Parkway Subunit, it is noticeably more open and less depressed topographically. There are occasional views of the adjacent land development patterns, but views are generally contained within the freeway and no distant views are provided.

Palm Avenue (47th Street) Open Space Landscape Unit

The Palm Avenue (47th Street) Open Space LU is characterized by an open space area with two flyover structures that connect 47th Street with NB I-805. This LU generally extends from Logan Avenue on the north to East 8th Street on the south. The combination of the park-like landscape and the built elements combine to create a major visual focus to the corridor. Although the smallest of the LUs associated with the Project, it is perhaps the most memorable because of the dramatic spatial relationship created by the juxtaposition of these two dominant features.

Transitional Parkway Landscape Unit South

The Transitional Parkway LU South serves as the visual connection between the Palm Avenue (47th Street) Open Space LU and the Sweetwater LU. This LU generally extends between East 8th Street and Sweetwater Road. Although similar to the Roadside Parkway LU, it has less dense landscape that allows for foreground views of a variety of adjacent land use development. No distant views are provided within this LU. The major visual element within this LU includes the East Plaza Boulevard interchange with its access to commercial uses in National City.

Sweetwater Landscape Unit

The Sweetwater LU is defined spatially by the surrounding hills and pronounced landforms and valley floor of the Sweetwater River basin and generally encompasses the portion of the Project site between Sweetwater Road and Bonita Road. The large, open valley of the Sweetwater River basin is characterized by a mix of natural and built environments. Land uses range from the SR 54 interchange and a major commercial activity hub to the larger open space system that links Sweetwater Regional Park to the ocean. Scattered residential development in some areas appears almost rural, while other areas include multi-family developments adjacent to smaller-scale commercial. Light industrial and larger commercial uses are adjacent to SR 54 as it extends to the west.

The riparian vegetation of the Sweetwater River is a major landscape feature clearly visible from I-805, as well as surrounding areas. East of I-805, the river's vegetation provides an effective visual buffer to the Plaza Bonita shopping center. In this section of I-805, the visual experience is somewhat contained because of the vegetation to the east and manufactured slope of the

roadway to the west. For most of the freeway within this LU, however, there are expansive views in most directions, with distant mountain views to the east.

H Street Landscape Unit

The H Street LU is an open valley defined spatially by hills and landforms in the middle ground and generally extends between Bonita Road and East J Street. Views are generally limited to foreground and middle-ground elements. The exception is a panoramic view of the City of San Diego skyline looking northwest from near East J Street. Spatial definition is particularly visible from the East H Street overcrossing overlooking the valley, but tightens visually as it transitions to the Sweetwater LU on the north and the Otay Valley LU on the south.

Otay Valley Transitional Landscape Unit

The Otay Valley Transitional LU is located at the southern end of the Project site between just north of Orange Avenue and East J Street. This LU is defined spatially as a hilltop and linearly by ornamentally planted freeway slopes and serves as the transitional link to the large Otay Valley that is highly visible looking south from the East Palomar Street overcrossing, but not from I-805 itself until approximately Orange Avenue. The major visual element within this LU includes the Telegraph Canyon Road interchange. Telegraph Canyon Road mainly serves residential areas near this section of I-805. Single-family homes line both sides of I-805 within this LU. There are distant ocean views from some of the residences and looking west at East Naples Street from I-805.

Visual Character and Quality

Visual Character

Visual character is descriptive and non-evaluative, which means it is based on defined attributes that are neither good nor bad.. A change in visual character cannot be described as having good or bad attributes until it is compared with the viewer response to that change (i.e., if there is public preference for existing visual character and resistance to changes contrasting with that character, then those changes in the visual character may be evaluated as negative).

The existing visual character of the Project site mainly reflects a combination of suburban residential and commercial uses linked by I-805 with varying degrees of open to fairly dense roadside landscape. The open areas along I-805 yield to foreground views of hillsides and adjacent development while others have distant mountain and ocean views, as well a view of the downtown City of San Diego skyline. The confined areas tend to be defined by manufactured slopes with landscape treatments ranging from roadside parkway on the northern section of the Project site to sparse landscape elsewhere.

The visual character is defined by the built environment of I-805 with its interchanges, adjacent shopping centers, and numerous homes, as well as the more limited natural environment of the Sweetwater River basin and the distant views of mountains and the ocean.

Existing Visual Quality

Visual quality is evaluated by identifying the vividness, intactness, and unity present in the viewshed, which can be defined as follows:

- Vividness is the visual power or memorability of landscape components, as they combine in distinctive visual patterns.
- Intactness is the visual integrity of the natural and man-built landscape and its freedom from encroaching elements. It can be present in well kept urban and rural landscapes, as well as natural settings.
- Unity is the visual coherence and compositional harmony of the landscape considered as a whole.

The vividness, intactness, and unity of the Project site as a whole are discussed below.

Vividness

The Project setting is memorable in those locations where there are sweeping distant mountain and ocean views or in the Sweetwater River basin. For much of the Project site, however, landscape open space components and built elements combine into a varied less-than-uniform scenic visual experience. These areas are less memorable and typical of much of the Project. Vividness of the Project site is, therefore, considered moderate.

Intactness

The integrity of the Project site is strong only at the northern end, where fully developed roadside landscaping is prevalent. For the remainder of the Project site, the continuity of intactness is interrupted by a disjointed range of urban elements, such as commercial development, bridges, and other roadway structures. The overall intactness of the Project site is moderately low.

Unity

The lack of coherent topographic, vegetation, and land use patterns, coupled with I-805 and its interchanges, bridges, and roadway elements, contribute to a low to moderate level of visual coherence. Unity is further diminished by the presence of a wide variety of building types and architectural styles, grading associated with highway and commercial development, and inconsistent landscaping. The overall unity of the Project site is considered moderate to low.

The overall existing visual quality of the Project site is moderate primarily due to the high concentration of the built environment and the generally limited natural, open character. Quality ranges from quite high in some areas, where there are dramatic distant views and natural features with mature roadside landscaping, to areas that are relatively low, where there is an abundance of visible adjacent development with limited roadside amenity.

Viewer Response

Viewer response is composed of two elements: viewer exposure and viewer sensitivity. These elements combine to form a method of predicting how the public might react to visual changes brought about by a highway project. Viewer exposure is typically assessed by measuring the number of viewers exposed to the resource change, type of viewer activity, duration of their view, speed at which the viewer moves, and position of the viewer. Viewer sensitivity is defined both as the viewers' concern for scenic quality and the viewers' response to change in the visual resources that make up the view.

Motorists on Interstate 805

Motorists on I-805 comprise a large viewer group (over 200,000 per day) and include a variety of viewers such as residents in the Project area, daily commuters who work near the Project site, commuters who pass through the area, and patrons of local businesses. Freeway viewers have 13- to 18-minute average view durations of the Project site (depending on the time of travel), as they travel along this stretch of I-805. Given the number of viewers in this group and long view duration, viewer exposure would be high.

At freeway speeds, a motorist's attention is focused forward on more distant views rather than on peripheral or middle-ground views. A driver's concentration also is required to navigate traffic, while passengers have a greater awareness of a wider variety of views. Generally, motorists' attention to views and awareness would be moderate. Freeway travelers include a wide variety of viewers, and as such would have mixed or moderate expectations for local values and goals. Additionally, I-805 is not a part of the California Scenic Highway System, nor is it identified as a scenic corridor by the cities through which it traverses. Overall, sensitivity is anticipated to be moderate.

Motorists, Bicyclists, and Pedestrians on Local Streets

Community residents and commuters who use local streets within the Project site and surrounding area on a daily basis number in the tens of thousands. These viewers consist of a variety of people that include (but are not limited to) students walking or biking to a school or park, transit users, commercial patrons, employees of local businesses, and commuters. Their views of the Project would be short to moderate in duration. Viewer exposure for this group would therefore be moderate.

Users of the local streets have a high awareness of the local roadways and the visual environment surrounding them, and therefore would be sensitive to changes in the visual character of the area. Motorists on local streets generally travel at slower speeds than on the freeway, and while they are navigating through traffic to local residences, businesses or schools, or parking on local streets, their attention is focused on the surrounding area, and their awareness of the configuration of these streets is relatively high. Similarly, as patrons and residents of the area, the motorists on local streets are likely to know the area well (better than motorists passing the area on the freeway, for example), and would have relatively high expectations due to their knowledge of local values and goals. Overall, motorists on local streets would have moderately high sensitivity.

Bicyclists and pedestrians on local streets would be highly attentive to the visual environment of the area. Their focus would be on their destination, which is likely to be nearby. Bicyclists and pedestrians would have a high awareness of the visual elements that make up the visual environment surrounding the Project site, and any potential changes to the visual environment. They are likely to be local residents and patrons, and as such, would have relatively high expectations due to their knowledge of local values and goals. Overall, bicyclists and pedestrians on local streets would have high sensitivity.

Residents

Thousands of viewers from nearby residences have long view durations of the Project site due to their stationary viewing angle from their homes. Their viewer exposure would therefore be high.

A resident's sensitivity would vary based upon proximity and corresponding availability of views to the Project site. In general, residents' activities and attention would not be focused on views of the Project site; those in direct proximity of the Project site do not have views that invite high contemplation, as their views are likely composed of streets and surrounding development. Residents' awareness generally would be high, as they would be familiar with available views and aware of any changes to them. Their expectations would be high as well, due to their knowledge of the local area and the values and goals regarding the visual environment. Overall, residents would have moderately high sensitivity.

Visual Impact Assessment

The visual impacts of project alternatives are determined by assessing the visual resource change caused by the project and predicting viewer response to that change.

Visual resource change is the sum of the change in visual character and change in visual quality. The first step in determining visual resource change is to assess the compatibility of the proposed project with the visual character of the existing viewshed. The second step is to compare the visual quality of the existing resources with projected visual quality after the project is constructed.

The viewer response to project changes is the sum of viewer exposure and viewer sensitivity to the project as determined in the preceding section. The resulting level of visual impact is determined by combining the severity of resource change with the degree to which people are likely to be affected by the change.

Definition of Visual Impact Levels

None – Negligible change to the existing visual resource.

Low – Minor adverse change to the existing visual resource, with low viewer response to change in the visual environment.

Moderate – Moderate adverse change to the visual resource with moderate viewer response.

Moderately High – Moderate adverse visual resource change with high viewer response or high adverse visual resource change with moderate viewer response.

High – A high level of adverse change to the resource or a high level of viewer response to visual change.

2.6.3 Environmental Consequences

Because the build alternatives would occur in the same locations with similar Project footprints, the Project viewshed would be the same for either build alternative. Therefore, the following analysis of visual/aesthetics impacts applies to both Build Alternative 1 and 2.

Analysis of Key Views

Because it is not feasible to analyze all the views in which the proposed Project would be seen, it is necessary to select a number of key viewpoints that would most clearly display the visual effects of the Project. These key views (KV) also represent the primary viewer groups that would potentially be affected by the Project. Each KV is depicted in its existing condition and in its future condition with the incorporation of proposed Project features. Existing and proposed conditions and viewer response are assessed, changes to visual character and quality are predicted, and resulting visual impact levels are determined.

Key View Locations

Seven KVs have been selected to depict typical visual effects of the Project as viewed by primary viewer groups. They are ordered from south to north:

- **KV 1** – Otay Valley Transitional LU: I-805 looking south to East Palomar Street overcrossing
- **KV 2** – Otay Valley Transitional LU: Looking northeast from Nacion Avenue near Theresa Way
- **KV 3** – Transitional Parkway LU: Looking west on East Plaza Boulevard near the NB off-ramp
- **KV 4** – Transitional Parkway LU: I-805 looking north to East 4th Street overcrossing
- **KV 5** – Palm Avenue Open Space LU: I-805 looking east near 47th Street
- **KV 6** – Roadside Parkway LU: I-805 looking south to Logan Avenue overcrossing
- **KV 7** – Roadside Parkway LU: I-805 looking north adjacent to the Home Avenue NB on-ramp

Key View 1

Orientation: SB I-805 looking south to East Palomar Street overcrossing

Landscape Unit: Otay Valley Transitional

Existing Visual Quality/Character: This location is characterized by distant, open views to the western horizon for both NB and SB freeway travelers. On clear days, the Pacific Ocean also is visible. Freeway slopes on each side of the freeway contain mature ornamental landscaping with tall trees that reduce the apparent scale of the freeway and buffer the freeway from adjacent residences. Views to the west result in moderately high vividness. Freeway landscaping unifies the viewshed and screens encroaching visual elements. Unity and intactness are moderate. Visual quality is *moderate*. The landscaping, open views, and small-scale built forms of the freeway and adjacent community contribute to a suburban parkway type of visual character.

Proposed Project Features: A DAR to a widened East Palomar Street overcrossing is proposed in the median. The paved width of the freeway would increase from 160 feet to 220 feet. A retaining wall 20 feet high would be placed at the SB edge of shoulder and extend from East

Palomar Street to East Naples Street. A noise wall 5,500 feet (approximately one mile) long and up to 14 feet high would be placed at the top of the retaining wall and continue north of East Naples Street. Another noise wall 5,000 feet long and up to 16 feet high also would be located on the NB side. The current design places each noise wall directly on top of a concrete safety barrier at the edge of shoulder in freeway fill sections. Most existing freeway landscaping would be removed and permanently displaced by paving.

Change to Visual Quality/Character: Proposed noise walls would block existing distant views to the west that characterize the viewshed. The proposed freeway widening, elevated DAR structure, retaining walls, and noise walls would introduce large scale visual elements commonly associated with large inner city areas and would strongly contrast with existing suburban parkway character of the roadway. Change to visual character would be high. Tall walls at each edge of the roadway would constrict travelers' sense of space and confine their views to a substantially increased volume of paved surfaces and moving traffic. Loss of most non-paved areas for landscaping would severely limit the ability to replace landscaping and provide viewers with visual relief within the proposed facility. Loss of views would reduce vividness to a low level. Unity and intactness would become low. Change to visual resources would be *high*.

Viewer Response: Hundreds of thousands of motorists, transit users, residents and local street users would view the proposed Project each day. Duration of views in this location would range from a few seconds to several hours. There would likely be a high awareness of Project features by most viewers, such as those deprived of existing open views from the freeway. Although freeway improvements are not unexpected, the proposed visual changes, particularly with respect to the DAR and noise walls, would likely be considered negative. Viewer response is *high*.

Resulting Visual Impact: *High*

Key View 2

Orientation: Looking northeast to 1-805 freeway from Nacion Avenue

Landscape Unit: Otay Valley Transitional

Existing Visual Quality/Character: This view is typical of a suburban neighborhood of primarily one story single-family detached residences on smaller lots fronting local surface streets. The relative density of the homes is balanced by their small size to create a suburban character. Although the houses on the east side of Nacion Avenue back onto the freeway, the existing freeway slope behind their rear yards provides a landscaped buffer whose primary visual component consists of tall mature trees that provide screening, spatial variation, shade, and a natural visual backdrop. Houses to the west generally have their views of the freeway blocked both by this buffer and the houses adjacent to the highway. However, larger trucks and vehicles are still visible from some locations. Visual character is small scale suburban. Visual intactness and unity are moderate. Vividness is low. Visual quality is *moderate*.

Proposed Project Features: A 20-foot-high freeway retaining wall 2,400 feet long would be placed 15 feet from the rear property line of each home. A 14 foot high noise wall would be placed on the retaining wall. The two walls would have a total height of 34 feet and would fully displace the existing landscaped slope. The level space at the base of the walls would consist of an open concrete drainage ditch and maintenance access road. A six-foot-high chain link fence would be placed six inches from the residents' rear yard property line.

Change to Visual Quality/Character: The proposed retaining/noise wall would exceed twice the height of the existing residences, and its extensive length would present an unarticulated solid vertical mass that would severely contrast with the small scale suburban character of the detached homes in the neighborhood. The spatial relationship of the wall to the residences also would create an undesirable visual condition. The minimum desirable ratio between the height of a wall and its distance from a residence is 4:1. In this case it would be less than 1.5:1. The features proposed for the space between the walls and residential rear yards would preclude the use of replacement planting, be utilitarian in character, and provide an additional contrast with the landscaped ground planes that exist in the neighborhood. Change to visual character would be high. Change to visual quality would be moderate. Visual resource change would be *moderately high*.

Viewer Response: Local residents in the adjacent houses as well as those in the neighborhood using Nacion Avenue are the primary viewer groups. Duration of views would range from several hours for residents in the immediate viewshed to a few minutes for those in the community using Nacion and the adjoining streets. Viewers would be highly aware of the proposed changes. Viewer response is *high*.

Resulting Visual Impact: *High*

Key View 3

Orientation: Looking west on East Plaza Boulevard toward I-805 undercrossing from near the NB off-ramp

Landscape Unit: Transitional Parkway

Existing Visual Quality/Character: The foreground of this view is typical of a landscaped suburban freeway interchange at the local street level. Although it is an automobile oriented commercial use arterial street, there is above average pedestrian activity through the interchange. Mature ornamental freeway landscaping and street trees, median planting, and substantial landscaping on adjacent commercial properties provide a softening and unifying natural visual element to a diverse built environment. It also minimizes the visual impact of the freeway on the local street. The area possesses a suburban commercial character typical of southern California. Visual intactness and unity are moderate, and vividness is low. Visual quality is *moderate*.

Proposed Project Features: The undercrossing structure would be widened 60 feet on each side to accommodate BRT platforms in the median, and widened freeway. The BRT station would be composed of two buses-only lanes with in-line platforms 300 feet in length and 15 feet wide. The back of each platform would abut the inside edge of HOV shoulder. A solid wall would protect transit users from freeway traffic. Stairs and elevators would connect the platforms with street level sidewalks. East Plaza Boulevard would be widened 50 feet, resulting in a new cross section of 136 feet. Five-foot-wide sidewalks at the back of curb on each side of the street would provide access to the BRT facility. Existing landscaped slopes at the bridge abutments would be replaced by retaining walls with small, narrow slopes at their bases. Existing free right turns at ramp termini would be replaced with a signalized turns.

Change to Visual Quality/Character: The removal of freeway and street landscaping would lower visual unity. Intactness also would be lowered as large-scale elements such as the freeway undercrossing and the roadway become even larger and lose a great deal of their visual buffering. Street widening would increase emphasis on the automobile and decrease the

relative importance of the pedestrian realm (sidewalks and streetscape). The combined effect of these changes would create an urban character that would contrast substantially with the suburban character that now exists. Change to visual resources would be *moderately high*.

Viewer Response: The proposed Project would create a new viewer group consisting of transit users who would access the BRT station on foot. The visual experience for this group of pedestrians would be moderate in duration as they walk to the station, ascend to the BRT platform and wait in the freeway median for a bus. They would be highly aware of proposed Project features. Other pedestrians and bicyclists would have slightly lower levels of duration and awareness. Automobile users would have short duration views and moderate awareness of visual changes. Due to the transit uses proposed, viewer response would be *high*.

Resulting Visual Impact: *High*

Key View 4

Orientation: Near East Plaza Boulevard looking north to East 4th Street overcrossing.

Landscape Unit: Transitional Parkway

Existing Visual Quality/Character: The view of the roadside is characterized by a heavily landscaped freeway slope. It appears to be an almost natural landform because of the grading that is an extension of the existing adjacent topography, its curve that reflects the gentle curve of the highway and the planting. Much of the nearby housing is screened by mature plant material. Beyond the roadside, open views to the distance provide an additional type of visual relief from the freeway environment. The variety of views and the softening natural element of mature landscape planting give this portion of the freeway a suburban character. Mature trees both on and off the freeway form a unifying visual element. Small-scale residential buildings also present a consistent, coherent visual presence. Visual unity and intactness is moderately high. Vividness is low. Existing visual quality is *moderate*.

Proposed Project Features: The freeway would be widened 38 feet to the outside and consequently much of the existing mature landscaping would be removed in the grading operation as a retaining wall of up to 18 feet in height is installed. A noise wall 2,300 feet long and up to 10 feet high is proposed to be located on a concrete safety barrier at the edge of shoulder at freeway fill and cut sections. This wall is typical of many noise barriers proposed for this Project. A second 8 foot high noise wall would be located at the top of slope.

Change to Visual Quality/Character: Proposed widening, retaining wall, and noise wall would bring a decidedly urban character to the viewshed. Freestanding solid walls over 8 feet in height are rarely if at all present in a suburban setting. This large wall located directly on barrier also would contrast with existing freeway character as well. Most noise walls in the region are located at a distance from the edge of shoulder and are not located on top of concrete barriers in order to include a visual buffer in front of the wall. The exception to this is when the wall is located on a bridge structure. Visual quality would be reduced as substantially more paving is added, a retaining wall is introduced and mature vegetation removed. The natural appearing landform would be reduced to a much smaller and more obvious manufactured slope. The area would become more urban in character. Visual resource change would be *moderately high*.

Viewer Response: Motorists are the affected viewer group and number 200,000 per day. Viewer awareness is generally higher than with typical landscaped roadside areas because the curve of the freeway makes this location highly visible. Viewer sensitivity also would be

moderately high as the visual experience becomes more urban and the adjacent development currently screened by planting becomes more visible. Viewer response is *moderately high*.

Resulting Visual Impact: *Moderately high*

Key View 5

Orientation: Looking easterly toward 47th Street
Landscape Unit: Palm Avenue (47th Street) Open Space

Existing Visual Quality/Character: This view is characterized by large open space green area with a two flyover structures that connect 43rd Street with NB I-805. The larger, more prominent structure is depicted in the Key View. The combination of the landscaped open space and this prominent visual element combine to create a major visual focus to the area. Typical of this LU, it is perhaps the most memorable because of the dramatic spatial relationship created by the juxtaposition of these structural and landscape features.

Proposed Project Features: Two freeway widening options are proposed in this area. Both would have reconfigured ramps and surface streets. With one option, the flyover ramps to NB I-805 would be replaced. The second option would remove the structures and revise the 47th Street/Palm Avenue interchange to provide access to the freeway from 43rd Street.

Change to Visual Quality/Character: Removal of the flyovers would dramatically change both the quality and character of the area. It would make an already open area, more open spatially by eliminating the structure that currently severs the continuity of the distant viewshed. Even with the additional pavement and road improvements, removing the dominant ramp structure would improve overall visual quality.

Viewer Response: Motorists on the freeway as well as on the adjoining surface streets would be the primary viewer group. Because of the scale and location within a large open area of the ramp being removed, local residents and those frequenting businesses in the area also would be affected. Sensitivity to removing such a dominant visual element would likely be high, but response would likely be positive.

Resulting Visual Impact: *Low* if flyover remains; positive visual change if flyover is removed.

Key View 6

Orientation: Looking south from near Logan Avenue overcrossing towards Ocean View Avenue
Landscape Unit: Roadside Parkway

Existing Visual Quality/Character: This section of the freeway is characterized by heavily landscaped 2:1 slopes that give it a linear park-like character and provide strong spatial definition. Large tree masses and other mature vegetation on the slopes combined with the depressed elevation of the roadway create a visual experience in which the natural forms of the landscape become the primary visual elements. This intensity of landscaping is unusual in this particular urban area and produces a moderate level of vividness. The Logan Avenue overcrossing tends to further limit the foreground view to the south. This tends to isolate the motorist visually from the chiefly residential land uses bordering the roadway creating moderately high visual unity and intactness. Visual quality is *moderately high*.

Proposed Project Features: The freeway would be widened to the outside. The existing 2:1 landscaped slopes would be graded to accommodate the widening and replaced with mid-slope retaining walls as much as 18 feet high. Existing mature freeway landscaping would be removed. Noise walls ranging from 8 feet to 14 feet in height would be located near the R/W lines at the top of the existing slopes. Bioswales would be located at the edge of shoulder.

Change to Visual Quality/Character: Existing mature trees would not be replaced at the base of proposed retaining walls due to the presence of bioswales and the planting constraints related to their proper functioning. Native grasses in bioswales, with compatible drought tolerant shrubs and ground cover on adjacent slopes, would replace existing ornamental landscaping. The remainder of roadside views would consist primarily of vertical concrete walls. This change would cause a severe contrast to existing visual character, and the viewshed would become decidedly more urban. Visual unity, intactness would become moderately low, and vividness would become low. The resulting visual resource change would be *high*.

Viewer Response: Motorists are the primary viewer group, and number over 200,000 per day. Some pedestrians also view the freeway landscape from the bridges at Ocean View and Logan Avenues. Citizen groups in the past have been sensitive to the image the freeway project on to their community. While freeway widening is not an unexpected occurrence, viewer sensitivity to the proposed changes would likely be high. Viewer response is *high*.

Resulting Visual Impact: *High*

Key View 7

Orientation: Looking north from near the NB I-805 on-ramp from SR-94/Home Avenue

Landscape Unit: Roadside Parkway

Existing Visual Quality/Character: A manufactured slope heavily landscaped primarily with mature eucalyptus trees characterizes this view of the roadside. It resembles a natural landform because slope grading is compatible with adjacent topography to the south, its curvilinear form reflects the gentle curve of the highway, and the large trees form a natural balance to the roadway. These elements give the viewshed a natural parkway character. They also provide visual unity and control views off the roadway that might reduce intactness. Levels for both these visual quality components are moderately high. Such a quantity of large trees is unusual in this community, resulting in a moderate level of vividness. Most of the nearby housing is screened by mature plant material. Existing visual quality is *moderately high*.

Proposed Project Features: The freeway would be widened to the outside, the slope would be graded to accommodate widening, existing landscaping at and near the toe of slope would be removed, and a soil-nail type retaining wall with a maximum height of 22 feet would be located near the toe of slope to preserve mature trees at the top of slope. The wall would be a terrain contour design as shown in the mitigation section of this assessment. A noise wall 8 feet in height would be placed at the top of slope near the R/W.

Change to Visual Quality/Character: The proposed Project would replace natural forms and surfaces with horizontal and vertical concrete surfaces, changing existing visual character to one more urban. These changes also would reduce visual unity and intactness to moderately low levels. Locating the wall to reduce grading, preserve existing trees, and be compatible with existing topography would avoid greater impacts than would be the case if a less sensitive

design were employed. Vividness would be reduced in proportion to the loss of mature trees. The resulting visual resource change would be *moderate*.

Viewer Response: Motorists are the primary viewer group and number 200,000 per day. Viewer awareness would generally be higher than with other landscaped roadside because the curve of the freeway makes this location highly visible for longer as the NB motorist is directly aligned with the view rather than to the side. Adjacent residents would be aware of changes involving the removal of mature trees or construction of noise walls, and their views would be of long duration. Viewer sensitivity is likely moderately high due to past community interest in the installation of existing freeway landscaping. Viewer response is *high*.

Resulting Visual Impact: *Moderately high*

Summary of Project Impacts

The visual effects of the proposed Project can be summarized by saying that the urbanized character of I-805 south would become noticeably more urbanized with the introduction of new dominant visual elements, and existing open views from the freeway would be severely diminished. Doubling the paved width of the freeway, adding nearly twelve miles of retaining walls and over 13 miles of noise walls, and removing the majority of existing freeway landscaping would be the primary causes of the impacts. The overall visual impacts caused by the proposed Project would be high.

Impacts to Viewers on the Freeway

Views from the freeway would be diminished in quantity and quality by the introduction of new walls, structures, and associated appurtenances. This would isolate the motorist from the open views that they now enjoy. Perhaps the most notable example would be the obstruction of existing ocean views near East Naples Street where noise walls would completely block views to the west. The loss of open views that currently provides variety, interest, and orientation would change the visual character of I-805 south.

Noise barriers located nearest the traveled way would have the greatest visual impact on the largest viewer group in the Project area - freeway viewers. Barriers such as these restrict surrounding views, prevent viewers from orienting themselves in their environment, and could produce a negative emotional response. The Project plans currently propose placing taller noise walls near the freeway shoulder to abate noise for residents located on elevations above the freeway rather than placing shorter walls at higher elevations near or on private property. This course of action would cause added impacts for freeway viewers.

Proposed walls have been designed to follow the R/W boundary following steep slope topography. The walls would climb or descend accordingly, necessitating large steps of up to eight feet in height. Freestanding walls of this size and shape would contrast with other similar freeways in the region and with existing visual character along the I-805 south corridor.

Roadside areas available for landscaping within the existing R/W envelope would be severely reduced in size. The addition of freeway paving and retaining walls would replace existing landscaped slopes. The required use of drought tolerant planting that naturalizes with limited irrigation would cause a substantial change to the visual character and quality of the area. Reduced areas for landscaping would shift the freeway's visual balance from landscaping to hard surfaces, and its current character from suburban to urban. The traditional San Diego

landscape image generally characterized by the subtropical plants now found along I-805 south would be replaced by a plant palette that would emphasize olive, gray, and brown tones.

The prominence of tall trees in the freeway landscape would be severely diminished or lost altogether due to space limitations caused by freeway widening.

Impacts to Viewers in Adjacent Communities

Views to the freeway would be adversely affected at R/W edges where the Project would bring the freeway in closer proximity to community viewers. Existing landscaped buffers would be substantially reduced in size or removed altogether and replaced with retaining walls and/or noise barriers. This condition would have a particularly noticeable effect for residents whose homes are located adjacent to the freeway at elevations near to or below the level of the road. From their rear yards they would have long-term foreground views of features such as concrete retaining walls, noise walls, and drainage ditches. Paved maintenance roads, bioswales, and chain link fencing also would be present in the foreground. These conditions would also be created adjacent to local streets such as Osage Avenue in Chula Vista.

In some cases, such as the ones shown in KV 2, large walls would be in close proximity to residents. Close proximity solid noise walls (closer than a 1:4 vertical to horizontal ratio) are considered to be undesirable by State and Federal guidelines. Barriers located near residents affected by freeway noise can provide an acoustic benefit to those viewers, but cause adverse effects such as a feeling of restricted space, and full or partial loss of desirable distant views, solar access, and air circulation. For these and other reasons the International Building Code (IBC) restricts rear and side yard solid fences and walls to a maximum of six feet in height. However, since most residential viewers perceive nearby tall noise barriers as a benefit, they often consider their adverse visual effects to be acceptable. Therefore, the use of noise barriers adjacent to residences generally result in lower visual impacts than those located near the edge the freeway.

Some real estate parcels required for freeway widening may remain as undeveloped lots. Parcels such as these often appear to be under-maintained and can adversely affect visual quality, especially in residential neighborhoods.

Community Entry Impacts

At freeway interchanges and overcrossing and undercrossing structures, some local streets would be enlarged and create an increased urban visual character. In particular, the visual experience of pedestrians and bicyclists would diminish as the balance of available circulation space shifts further from the pedestrian realm to the vehicular. This would impact pedestrians by a lack of proportional increases to the width of sidewalks, or the addition of street trees and other amenities conducive to pedestrian movement.

At some freeway interchanges, the Project may include new visual elements that would be incompatible with community goals and existing visual character. Existing ornamental freeway landscaping would be reduced or replaced by drought tolerant or native species. Storm water detention basins would be located at most interchange loop ramps. Their standard features such as maintenance vehicle roads, rock rip-rap slopes, concrete headwalls, standpipes, and chain link fencing would be a non-compatible visual element in most community entry points, and further reduce available landscape area.

Transit Center Impacts

Locating BRT platforms in the freeway median at East H Street in Chula Vista and East Plaza Boulevard in National City would affect the visual experience of transit riders on a daily basis. As discussed above, transit users would find themselves having to negotiate their way towards their destination while encountering the realm of the automobile in increasing intensity from parking lot, to busy street, to freeway median. Five-foot-wide sidewalks on busy arterials; lengthy, out-of-direction street crossings prompted by the priority of vehicular circulation; and the lack of pedestrian street amenities as currently proposed would combine to exacerbate the impacts.

The proposed East Palomar Street transit center and associated park-and-ride lots would cause a number of visual impacts to the adjacent community.

The proposed DAR with adjacent street widening would introduce a freeway interchange environment to a residential street. Adjacent residential front and side yards would be reduced in size. Small excess parcels required for street widening would likely remain vacant. Large existing open space lots would become parking lots. Views from adjacent residential properties would be impacted. The reduction of pedestrian space in proportion to vehicular uses and the addition of a freeway ramp crossing would result in visual impacts to pedestrians and transit users.

Construction-related Impacts

The Project would result in temporary visual impacts during construction. Visible indications of construction on the roadways would contrast with existing conditions, and may include newly cut or filled slopes; exposed soil; stockpiled dirt, rocks and debris from demolished structures; signs; construction fencing; partially constructed structures; scaffolding and concrete molds; trucks and equipment; and night lighting. Other visual disruptions may include detours and ramp closures, with signs, equipment and similar visual indicators. Additional erosion control and storm water management practices also may introduce visible elements, such as gravel bags and fiber rolls, silt fences, temporary drainage facilities, containment and settlement ponds, and hydroseeding.

The required equipment staging areas also may be visible. Locations of construction staging areas would vary depending on the phase under construction, but are expected to occur within interchange areas and medians. Access to the work sites would be from the freeway or from local streets, except where temporary construction easements for noise walls are needed. Batch plants could be placed in interchange areas close to the work done in the specific phase of the construction.

The visual construction elements and staging areas would highly contrast with the existing visual environment surrounding the Project site. The elements would be large in scale and high in diversity, but not continuous or harmonious. They also would reduce the visual quality of the area creating low vividness, intactness, and unity. While they would be major changes to the visual environment, the visual impacts caused by construction would be temporary in nature, as discussed above. Most construction-related visual disruptions (i.e., construction staging) would be removed upon completion of construction in the area.

No Build Alternative

Under the No Build Alternative, the proposed improvements would not be constructed in the Project area. This visual environment is illustrated in the existing condition for this analysis, both within the text and within the existing views depicted in each key view. As a result, no change from existing visual conditions would occur under this alternative.

2.6.4 Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

Caltrans and the FHWA mandate that a qualitative/aesthetic approach be taken to mitigate for the loss of visual quality in the project area. This approach fulfills the intent and the spirit of FHWA requirements because it addresses the actual cumulative loss of visual quality that would occur in the project viewshed when the project is implemented. It also constitutes mitigation that can more readily generate public acceptance of the project.

Caltrans also uses Context Sensitive Solutions as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance and performance goals. Context sensitive solutions meet transportation goals in harmony with community goals and natural environments.” This approach is consistent with the objectives of the General Plans of the affected cities of San Diego, National City, and Chula Vista that propose a variety of recommendations that apply directly to this Project.

Visual mitigation for adverse impacts would consist of adhering to the following design guidelines in consultation with the District 11 Landscape Architect (DLA). The guidelines are arranged by Project feature and include options in order of effectiveness. One or more of these options are to be implemented on applicable Project features wherever they occur.

During Project design and construction, it would be the responsibility of the DLA to analyze the visual effects of specific Project features, synthesize applicable mitigation from this document, apply those requirements to actual freeway feature designs in specific locations, and assist the design team in determining reasonable visual mitigation solutions. The DLA also would perform mitigation monitoring of all visual mitigation requirements.

To attain the visual goals, and reduce the visual impact, the mitigation design includes the following specific elements and recommendations:

Noise Barriers

- *Landscaped Noise Berms.* Noise barriers would consist of landscaped berms wherever possible.
- *Noise Berm/Retaining Wall Combinations.* In areas where the R/W is too narrow to accommodate a berm, a retaining wall would be used to avoid constructing a sound wall on top of the berm.
- *Noise Berm/Wall Combinations.* A combination of noise wall and berm is preferable in situations where a tall retaining wall at the toe of slope would create a visual impact to

an adjacent property. To be effective, the noise wall and berm combination would incorporate a berm with a 2:1 slope on the freeway side that is a minimum of 6 feet in height to allow enough space to provide screening shrubs in front of the wall.

- *Noise Wall Landscape Buffers.* In cases where berms are entirely infeasible, sound walls would incorporate planting on both sides. In some cases, retaining walls and/or a concrete barrier at the edge of shoulder may be needed to provide the required planting space.
- *Noise Wall Articulated Layout/Varied Profile.* Another option where berms are infeasible includes construction of a noise wall with an articulated layout and/or varied profile to reduce the monotonous visual effect of a single wall surface and help reduce its apparent scale.
- *Noise Wall Planting Pockets.* Where R/W is too narrow to employ the configurations listed above, a minimum three-foot-wide planting pocket would be provided between the back of the barrier and the face of wall.
- *Noise Wall/Barrier Setbacks.* In areas too narrow to place a planting pocket, noise walls would be recessed behind the face of the barrier at a sufficient distance to allow architectural features to be included on the face of the noise wall. Placing a noise wall directly on top of a concrete barrier would be avoided if at all possible. In areas where space for architectural detailing does not exist, vertical concrete safety barriers would be considered.
- *Vertical Concrete Safety Barriers.* In areas where space for architectural detailing does not exist, vertical concrete safety barriers would be considered. Vertical barriers add 12 inches of additional width in which architectural elements, such as pilasters and wall caps, would be included.
- *Transparent Noise Walls on or Near Private Property.* Where noise receptors are located above the elevation of the freeway, transparent noise walls located at the top of slope on the R/W line or on private property would be used if the benefited property owner agrees to maintain wall surfaces. Locating walls at higher elevations near the receptors substantially reduces the height of walls to achieve “line-of-sight” noise reductions.
- *Translucent Noise Wall Panels on Caltrans Property.* Translucent materials would be placed on top of noise walls to reduce their apparent height and create a greater sense of openness. Translucent materials would be placed above areas of potential vehicle impact, out of easy reach, and would consist of vandal-resistant materials.
- *Architectural Detailing.* Noise walls would be designed to be visually compatible with the surrounding community. Architectural detailing, such as pilasters, wall caps, interesting block patterns, and offset wall layouts, would be used to add visual interest and reduce the apparent height of the walls. Poured-in-place integrally colored concrete construction techniques would be encouraged where visual consistency with retaining walls is desired. Enhanced surface materials also would be used where appropriate to meet community design goals.

Retaining Walls

- *Terrain-contoured Retaining Walls in Cut Sections.* Retaining walls that follow the contours of the topography and maintain a constant (less than 5-percent slope) elevation at the top of wall would be used where appropriate. Wall layouts and profiles would be composed of long radius curves, with no tangents or points of intersection. Walls would be located at mid-slope.
- *Mid-slope Retaining walls in Cut Sections.* Retaining walls would be located at mid-slope wherever possible in cut sections to provide a buffer area for landscape screening between the wall and the freeway. Tie back and soil nail walls would be used where appropriate to preserve existing mature trees.
- *Top-of-slope Retaining Walls in Fill Sections.* Retaining walls would be located at the top of slope wherever possible in fill sections to provide a buffer area for landscape screening between the wall and the community.
- *Retaining Wall/Barrier Planting Pockets.* In areas where retaining walls must be placed close to the traveled way, space would be reserved between the wall and the safety barrier to include a three-foot wide planting pocket.
- *Retaining Wall/Barrier Setback.* In areas too narrow to place a planting pocket, the retaining wall would be recessed behind the face of the barrier at sufficient distance to allow architectural features to be included on the face of the retaining wall.
- *Vertical Concrete Safety Barriers.* In areas where space for architectural detailing does not exist, vertical concrete safety barriers would be considered. Vertical barriers add 12 inches of additional width in which architectural elements, such as mechanically stabilized earth wall panel relief, pilasters, and wall caps, would be included.
- *Architectural Surface Treatment.* Architectural features, textures, and integral concrete colors would be used to mitigate the appearance of retaining wall surfaces. Retaining walls would 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 would also be used where appropriate to be consistent with community design goals.
- *Mechanically Stabilized Earth (MSE) Walls.* MSE walls would have custom designed panels that include integral color, enhanced surface texture, and a minimum four-inch pattern reveal on each panel.

Freeway Overcrossings

- Abutments would be short-seat abutments placed at the top of slopes wherever possible. The visual mass of abutments would be minimized as much as possible. High-cantilever abutments would be used in locations where space does not exist for short-seat abutments at the top of a slope.
- At each overcrossing, bridge abutments would be of the same type to produce a symmetrical appearance. Where overcrossing structures are replaced, high-cantilever abutments would be used in lieu of secondary tie back walls. Temporary tie back walls

would be terrain-contoured walls, and receive architectural features consistent with permanent walls in the viewshed. Temporary tie-back walls would be removed when overcrossing structures are reconstructed.

- In locations where retaining walls must be incorporated into abutments, they would be designed as terrain contoured walls if possible, and be located away from the edge of shoulder to allow space for a planted buffer at their base.
- Slope paving would be enhanced with integral concrete color, texture, and deeply textured facing materials such as veneer block or natural rock.
- Bridge signage would be designed to visually integrate with bridge architecture. Concrete sign pedestals would be consistent in appearance with bridge design themes.
- Sidewalks would be provided on both sides of each reconstructed or modified overcrossing. They would have a minimum 8-foot width on a 2-lane structure with a curb-to-curb width of 32 feet or less. On wider streets, both sidewalks would be a minimum of 12 feet in width. Wider sidewalk widths would be selected based on SANDAG regional guidelines (*Planning and Designing for Pedestrians*; 2002) and local pedestrian design guidelines. All sidewalks would receive score patterns, surface texture, and in some cases, integral color.
- Low-profile barrier separations between pedestrian and vehicular traffic would 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 would be a minimum of 10 inches in width.
- Pedestrian lighting, enhanced fencing and railings, and other urban amenities would be provided on each overcrossing. Appropriate local agency streetscape design themes would be included within the freeway R/W at each overcrossing and interchange. Container trees located on structures also would be provided in locations where the responsible local agency has requested them and agreed to maintain them in perpetuity.

Pedestrian Overcrossings

- Pedestrian overcrossings would be a minimum of 15 feet in width. Pedestrian lighting, enhanced fencing, railings, architectural features, and other urban amenities would be provided on each pedestrian overcrossing and be consistent with local values and goals. Existing streetscape elements and design themes would be continued within the freeway R/W.

Bicycle Facilities on Overcrossings

- Bicycle shoulders, lanes, or paths would be provided on both sides of each overcrossing. The type of facility provided would be based on regional and local planning goals. A minimum shoulder width of four feet would be provided for Class III facilities.

Undercrossing Structures

- Bridge abutments and wing walls would be of the same type on all four quadrants to give widened undercrossings a symmetrical appearance.
- Bridge widening would be done using cast-in-place box girder construction wherever possible. Girders would be similar in appearance on both sides of the bridge to produce a symmetrical appearance.
- In locations where street widening occurs, tie-back walls would be terrain-contoured walls, and receive architectural features consistent with those required for retaining walls and with community values and goals.
- Slope paving at undercrossings would be enhanced with deeply textured facing materials, such as scored veneer block or natural rock, to add visual interest and deter graffiti.

Pedestrian Facilities on Undercrossing

- Minimum 10-foot-wide pedestrian sidewalks would be provided at undercrossings on both sides of the street wherever possible. In all cases, existing sidewalk configurations on local streets would be continued across the freeway R/W as a minimum project feature.
- Enhanced pedestrian lighting including bridge soffit lighting would be provided at each widened undercrossing.

Bicycle Facilities on Undercrossing

- Bicycle shoulders, lanes, or paths would be provided at each undercrossing. The type of facility provided would be based on regional and local planning goals. A minimum shoulder width of four feet would be provided for Class III facilities.

Direct Access Ramp

- DAR retaining walls would have a maximum 15-foot height allowing approximately 10 feet of minimum vertical clearance under the connecting ramp structure.
- Pedestrian and bicycle traffic on an existing overcrossing that is modified to a DAR overcrossing would be routed to a separate pedestrian overcrossing structure in the immediate vicinity, if possible.
- On DAR overcrossings where pedestrians are present, sidewalks would be 15 feet in width on each side. Bridge barriers, fences, and sidewalks would 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 would be provided if bridge rail enhancements are not allowed otherwise.
- Bicycle shoulders, lanes, or paths would be provided on both sides of the DAR overcrossing open to non-vehicular traffic. The type of facility provided would be based

on regional and local planning goals. A minimum shoulder width of four feet would be provided for Class III facilities.

- Pedestrian lighting, enhanced fencing and railings, and other urban amenities would be provided on the DAR local street overcrossing and be consistent with local values and goals. Applicable existing streetscape elements and design themes would be included within the freeway R/W at the DAR overcrossing, and local streetscape guidelines would be followed where possible. Container trees located on structures also would be provided in locations where the responsible local agency has requested them and agreed to maintain them in perpetuity.

Pedestrian Facilities at Freeway Interchanges

- Establishment of a continuous pedestrian realm on both sides of local streets as they pass through the interchange would 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 would conform to SANDAG Pedestrian Design Guidelines and any applicable local streetscape design standards and guidelines. Urban design features, such as benches, bollards, directional signage, and trash receptacles, also would be included as appropriate.

Bicycle Facilities at Freeway Interchanges

- Bicycle facilities would be preserved or upgraded to conform to the applicable local San Diego Regional Bike Plan standards and General Plan circulation element goals.

Interchange Landscaping

- Interchange landscaping would reflect the visual character and goals of its locality. Enhanced interchange landscaping would be considered in cases where the responsible local agency will provide maintenance in perpetuity. Entry features would be included as transitional visual elements into local communities where appropriate. Traditional decorative entry signage with text would not be used.

Street Appurtenances at Freeway Interchanges

- The use of Caltrans standard freeway appurtenances on local streets would be avoided or minimized wherever possible by the use of functional alternatives that are more consistent with community design standards. 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 would be considered. The use of access control fencing at interchanges would be minimized and it would be located in unobtrusive locations when its use is necessary. It would be of non-standard design and composed of enhanced materials where appropriate. Electrical control cabinets and other utility boxes would be located in unobtrusive locations away from sidewalks wherever possible. Raised medians would 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.

East Palomar Street Transit Center and Park-and-Ride

- Excess portions of real estate parcels required for street widening along East Palomar Street from Pecan Place to Oleander Avenue would be considered for improvement as a series of mini-parks tied together by a wide pedestrian promenade/bikeway and enhanced East Palomar Street streetscape.
- The promenade/bikeway would begin at Pecan Place, continue across the freeway overcrossing structure, bisect the proposed transit center parking lots, cross Oleander Avenue, and terminate at Greg Rogers Park. Sidewalk and streetscape improvements also would be included east of the transit center on East Palomar Street to Oleander Avenue and Rogers Park. The promenade would be a minimum of 12 feet wide and be offset from the street by a landscaped parkway wherever possible. Bike lanes would be included on the street where appropriate.
- Streetscape features would include enhanced sidewalk and crosswalk paving, large street trees, full landscaping, and raised medians with enhanced paved surfaces and tree planting wherever possible. These features would be included on the freeway overcrossing structure to provide continuity and connectivity.
- Site amenities for transit users would be provided such as covered bus shelters, pedestrian lighting, benches, litter receptacles, tree grates, bollards, and bicycle racks.
- Solid screen walls with landscaped planting buffers of at least six feet in width would be placed at the perimeter of parking lots to buffer adjacent residential properties. Screen walls would be a maximum of six feet in height (as measured from residential building pads) and include architectural features, textures, and colors that would be compatible with the residential character of the site. Landscaping in parking lots consistent with local standards for commercial development would be provided.

In-line Transit Stations

- Streetscape improvements would be provided to facilitate and encourage pedestrian movement between the transit center parking lots and the stations. Mitigation goals and design guidelines for freeway interchanges contained above would be implemented in these areas. Streetscape features would include enhanced sidewalks a minimum of eight feet in width, crosswalk and slope paving, large street trees, full landscaping, and raised medians with enhanced paved surfaces and tree planting wherever possible. Other site amenities for transit users would be provided such as covered bus shelters, pedestrian lighting, benches, litter receptacles, tree grates, bollards, and bicycle racks. Landscaping in parking lots consistent with local standards for commercial development would be provided.

Freeway Landscaping

- Freeway landscaping would be consistent with the character of adjacent community landscape. In communities that are characterized by ornamental landscaping, freeway landscaping that includes drought tolerant ornamental trees, shrubs, and groundcover would be installed. In less developed areas along the freeway, landscaping with drought tolerant ornamental and native trees and shrubs would be planted. Areas adjacent to native habitat would receive native landscaping. Native landscaping would be designed

in consultation with the District Biologist. All landscaped areas would receive fully automatic below-grade irrigation systems.

Freeway Planters

- Since the Project would result in the loss of a majority of existing landscaped roadside areas, extraordinary steps would be taken to create new areas for mitigation replacement planting within the freeway facility at the edge of shoulder or between barriers and walls wherever the available width allows. Minimum widths for planting are two feet between barrier and wall, and six feet between median or separator barriers. Safety barriers at the edge of shoulder would facilitate tree and shrub planting in roadside areas that are too narrow to allow standard clear recovery area planting setbacks to be used.

Local Frontage Roads

- In locations where freeway widening brings traffic into close proximity to parallel local streets, landscape buffers would be created between the freeway and street wherever possible. Buffers would 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. Installation of this mitigation measure is contingent on local agency approval and commitment to maintain the streetscape buffer in perpetuity.

Manufactured Slopes

- Slopes would be graded 2:1 or flatter to support planting and irrigation. Grading would utilize techniques such as slope rounding, slope sculpting, and variable gradients to approximate the appearance of natural topography.

Overhead Utility Relocation

- Existing overhead utilities that are located near the freeway and requiring relocation due to freeway widening would be considered for relocation underground if doing so would improve visual quality.

Lighting, Signage, and Miscellaneous Freeway Appurtenances

- Lighting and signage pedestals on structures would occur at pilasters or be incorporated in other architectural features. Concrete lighting and signage pedestals would be designed in such a way that vertical barrier transitions are not required. Electrical and signal equipment at ramp termini would be placed in visually unobtrusive locations.
- Signage with movable elements or self illuminated features, such as changeable message signs, would be excluded from viewsheds containing scenic resources if at all possible. The District Landscape Architect would assist in the placement of all such signage.

Access Control Fencing

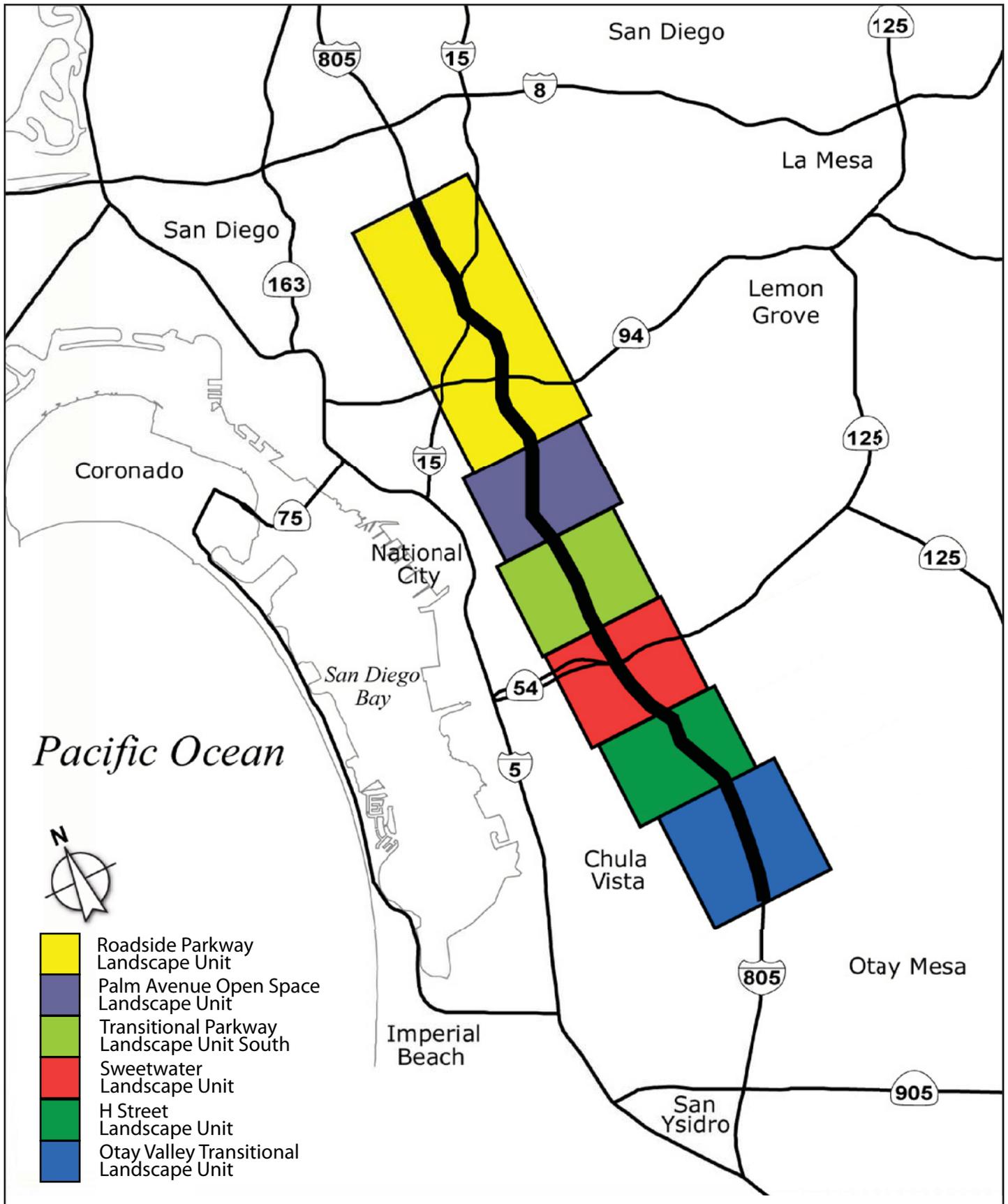
- Access control fencing would be placed in visually unobtrusive locations of interchanges and bridges. It would be of special design and consist of enhanced materials where appropriate and where the responsible local agency agrees to maintain it in perpetuity.
- Retaining walls and sound walls near R/W boundaries would be designed in such a way that access control fencing would not be needed. The “dead” spaces that occur between walls and fences would be avoided if at all possible.

Drainage and Water Quality Facilities

- Basins would be located at least 10 feet from free recovery areas wherever possible to allow landscape screening to be installed. Basins would appear to be natural landscape features such as dry streambeds or riparian pools. They would be shaped in an informal, curvilinear manner. Basin slope grading would incorporate slope rounding, variable gradients, and be similar to the surrounding topography to deemphasize a defined outer edge. Maintenance access drives would be located in unobtrusive areas away from local streets and would consist of inert materials or herbaceous groundcover that is visually compatible with the surrounding landscape. Chain-link perimeter fencing would not be used if at all possible. All visible concrete structures and surfaces would be of special design and adhere to the corridor design guidelines. Rock slope protection would consist of aesthetically pleasing whole material of various sizes. Standpipes and other vertical appurtenances would be placed in unobtrusive locations and be painted an unobtrusive color.
- Bioswales and linear drainage ditches would be designed to appear as natural features. They would be designed as dual use facilities such as recreational trails or maintenance access roads wherever possible.
- Concrete interceptor ditches would not be placed at the toe of slopes adjacent to residential property if at all possible, nor immediately adjacent to sidewalks or pedestrian use areas. Alternatives such as subterranean drainage placed below finish grade or a planted geo-reinforced drainage surface would be used.
- Linear drainage paths or bioswales would be designed for dual use as maintenance vehicle access facilities where appropriate.
- Concrete drainage devices located in non-landscaped areas would be colored to match the surrounding soil.
- Soft surface alternatives to concrete ditches and rock slope protection, such as plantable matrices, would be utilized wherever possible.
- The use of pervious concrete for storm water pollution prevention would be considered to avoid adverse visual impacts. Project features, such as interceptor ditches, inlet aprons, gutters, maintenance access roads, maintenance vehicle pullouts, and parking lots, may consist of pervious concrete and perhaps serve a dual purpose.

No Build Alternative

Because no impacts were identified for the No Build Alternative, no avoidance, minimization, or mitigation measures are required.



Landscape Units

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.6-1



Existing View



Proposed View

**Key View 1 - I-805 Looking South to the East
Palomar Street Overcrossing**

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.6-2



Existing View



Proposed View

**Key View 2 - Looking Northeast from
Nacion Avenue Near Theresa Way**

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.6-3



Existing View



Proposed View

**Key View 3 - Looking West on East Plaza Boulevard
Near the Northbound I-805 Off-ramp**

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.6-4



Existing View



Proposed View

**Key View 4 - I-805 Looking North to the East
4th Street Overcrossing**

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.6-5



Existing View



Proposed View

**Key View 5 - I-805 Looking East
Near 47th Street**

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.6-6



Existing View



Proposed View

**Key View 6 - I-805 Looking South
to the Logan Avenue Overcrossing**

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.6-7



Existing View



Proposed View

Key View 7 - I-805 Looking North Adjacent to the Home Avenue Northbound On-ramp

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.6-8

2.7 CULTURAL RESOURCES

2.7.1 Regulatory Setting

“Cultural resources” as used in this document refers to all historical and archaeological resources, regardless of significance. Laws and regulations dealing with cultural resources include both federal and state laws and ordinances.

The National Historic Preservation Act of 1966, as amended, (NHPA) sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places (NRHP). Criteria for evaluation for inclusion in the NRHP encompass the property’s quality of significance in American history, architecture, archaeology, engineering, and culture that possess integrity of location, design, setting, materials, workmanship, feeling, and association and (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or (b) that are associated with the lives of persons significant in our past; or (c) that embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or (d) that have yielded, or may be likely to yield, information important in prehistory or history.

Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation (Advisory Council) the opportunity to comment on those undertakings, following regulations issued by the Advisory Council (36 CFR 800). On January 1, 2004, a Section 106 Programmatic Agreement (PA) between the Advisory Council, FHWA, State Historic Preservation Officer (SHPO), and Caltrans went into effect for Caltrans projects, both state and local, with FHWA involvement. The PA implements the Advisory Council’s regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The FHWA’s responsibilities under the PA have been assigned to Caltrans as part of the Surface Transportation Project Delivery Pilot Program (23 CFR 773) (July 1, 2007).

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation (DOT) Act, which regulates the “use” of land from historic properties. See Appendix B for an evaluation of historic resources relative to the requirements of Section 4(f).

Historical resources are considered under CEQA, as well as PRC Section 5024.1, which established the California Register of Historical Resources (CRHR). PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its R/W. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the SHPO before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.

2.7.2 Affected Environment

The *Historic Property Survey Report* (HPSR) prepared for the Project in September 2009 summarizes a Historical Resources Evaluation Report (HRER; March 2008), Supplemental HRER (September 2009), Archaeological Survey Report (ASR; September 2009), and public coordination including Native American consultation. The HPSR is summarized below.

The Area of Potential Effects (APE) was established for the Project by Caltrans and includes a Built Environment APE and an Archaeological APE. The Built Environment APE generally extends one parcel beyond the I-805 R/W, with two exceptions: (1) the APE was limited to the R/W or Archaeological APE where there are frontage roads; and (2) only the first row of structures that front the R/W were included in the APE on larger parcels with a number of structures. The Archaeological APE was determined as the direct impact footprint within and adjacent to the existing R/W, and includes R/W takes and temporary construction easements.

Record Searches and Field Reconnaissance

Records searches were obtained from the South Coastal Information Center (SCIC) of the California Historical Resources Information System (CHRIS) at San Diego State University and from the San Diego Museum of Man (SDMM) in 2005, and updated in 2007. Additionally, quarterly digital CHRIS updates were examined throughout 2009. The records searches at SCIC and SDMM included an historical properties search, National Archaeological Data Base bibliographic search, historical files, and Historic Address Records. Other sources consulted include NRHP, CRHR, California Inventory of Historic Resources, California Historical Landmarks, California Points of Historical Interest, State Historic Resources Commission, Caltrans Historic Highway Bridge Inventory, ProQuest digital newspaper archives, Online Journal of San Diego History, and the HRER for the I-805/Orange Avenue Interchange Project. Local organizations in San Diego, National City and Bonita also were contacted; a full list is contained in the HPSR. The records searches indicated that three prehistoric archaeological sites (CA-SDI-5344, 13002, and 13003) and one historical feature (CA-SDI-17874) were previously identified within the Project APE.

The Native American Heritage Commission (NAHC) was contacted for a records search of their Sacred Lands Files. The results of the search indicated that no sacred lands were recorded within a one-half mile radius of the APE. Letters describing the Project and a map of the study area were mailed to local Native American representatives in August and September 2009, with follow-up calls and e-mails. A full listing of individuals contacted is provided in the HPSR.

The HPSR and accompanying technical studies were sent to the SHPO on October 2, 2009, to: (1) document Native American consultation efforts; (2) identify cultural resources within the Project APE; (3) seek its concurrence on NRHP/CRHR eligibility determinations; and (4) identify Project effects to eligible resources. SHPO answered Caltrans with a letter that concurred with the determinations and findings on November 25, 2009.

Additional surveys would be carried out after the Draft Environmental Document is completed and before the Final Environmental Document in areas of the APE where Permits to Enter were not obtained. A supplement to the HPSR would be submitted once the addendum survey report is completed.

Archaeological Resources

CA-SDI-5344 was originally documented in 1977 as two locations within existing freeway R/W that contained shell and exotic lithics. The eastern location of this site lies entirely under fill and a freeway ramp and was not tested; however, a shell and three possible volcanic flakes were observed on the surface in association with rodent activity. Given its location on top of imported fill, surface cultural materials at this location are not considered to be in situ (i.e., in their original area of deposition). A portion of the western location also lies beneath fill and a freeway ramp,

but some area may be located on natural surface. Three shovel test pits (STPs) were excavated in this area, with negative results. It is therefore assumed that site CA-SDI-5344 either no longer exists or is deeply buried beneath fill. This site is proposed as not eligible for the NRHP or the CRHR.

CA-SDI-13002 was initially recorded in 1975 as a very large shell midden, with handaxes, scrapers, choppers, cores, and hammerstones. The eastern portion of this site is located within the freeway R/W; however, very few areas within the R/W seemed undisturbed, as a sprinkler system had been installed. Four STPs were excavated; sprinkler lines were encountered at three of the four and no prehistoric cultural deposits were located. Portions of CA-SDI-13022 within the Project APE are proposed as not contributing to potential eligibility this site may have for listing on the NRHP or CRHR.

CA-SDI-13003 was initially recorded in 1977 as an extensive lithic scatter containing a scraper, flakes, cores, utilized cores, and grinding stones. The western portion of this site was mapped in the freeway R/W, which now largely consists of a steep cut slope. A sprinkler system and landscaping appear to have disturbed the flat areas of the site within the freeway R/W. The portion of the site adjacent to the R/W, where a sound wall is proposed, has been impacted by construction of an apartment complex. Four STPs were excavated within the R/W and three STPs and two one-by-one meter units were excavated in the vicinity of the proposed sound wall. No cultural materials were encountered. Portions of CA-SDI-13003 within the Project APE are proposed as not contributing to potential eligibility this site may have for listing on the NRHP or CRHR.

CA-SDI-17874 consists of a 20th century farmstead. Subsurface testing (five trenches carried out as part of an unrelated project) results were negative. The site was evaluated as not eligible for the City of San Diego register, and therefore is proposed as not eligible for listing on the NRHP or CRHR.

One newly recorded prehistoric site (CA-SDI-19463) was recorded adjacent to the APE during the inventory for this Project. This site occurs on an undeveloped parcel in the midst of a residential neighborhood, in the coastal plain east of San Diego Bay. It consists of a small surface scatter of flaked lithics and marine shell. This site is being considered eligible for listing on the NRHP for this undertaking only without testing or collection in accordance with Stipulation VIII.C.3 of the 106 PA. An Environmentally Sensitive Area (ESA) designation would be applied to this area to ensure that the site would be protected from any Project-related impacts.

Historical Structures

Excluding bridges, the Built Environment APE contains a total of 106 residential or community serving structures; 3 of which have been identified as eligible for listing in the NRHP.

The Granger Music Hall, located at 1615 E. 4th Street, is named after Ralph Granger, the miner who commissioned it. Mr. Granger acquired a large collection of stringed instruments and commissioned this music hall near his family home in National City. The music hall was designed in the Queen Anne style by famed architect Irving Gill and was listed in the NRHP in 1975. The boundaries are the assessor's parcel boundaries. This property would be avoided by the Project.

The house located at 4395 Beta Street, a 2½-story residence in the Queen Ann style, appears to be eligible for listing on the NRHP and the CRHR as an architectural property. This residence exhibits an unusually high degree of craftsmanship and detailing. It meets National and California Register Criterion C, at the local level of significance, as a distinctive example of its Queen Anne style during the 1908 period. The boundary of the National Register property coincides with the current parcel boundary. The Project would not impact this property.

The mausoleum at the Holy Cross Cemetery (and adjacent statues), located at 4471 Hilltop Drive, was constructed in 1939 and expanded in 1945 and 1956. It is the most noteworthy architectural feature of the Catholic cemetery, which was established in 1919. The structure was designed by famed San Diego architect Frank L. Hope in the Spanish Renaissance style. It was briefly designated as a fallout shelter, and the blue and gold dome of the building (added in 1956) is a landmark to commuters traveling on SR 94. The structure appears to be eligible for listing on the NRHP because it exhibits an unusually high degree of craftsmanship and detailing. It meets National and California Register Criterion C, at the local level of significance, as a distinctive example of its style and 1919-1969 period. The boundary of the National Register property coincides with the current structure's footprint and the adjacent statues that immediately surround it. There would be no Project-related impacts to this property.

The National City Armory located at 303 Palm Avenue, National City, was previously evaluated and determined not eligible for the NRHP.

All other buildings in the Built Environment APE were found ineligible for inclusion on the NRHP, CRHR, or local designation during Project survey evaluation. Bridge structures within the APE were previously (2006) determined not eligible for listing on the NRHP, and are not considered historical resources, pursuant to the Caltrans statewide historic bridge inventory. Bridges within the APE that were included in the evaluation are identified within the Project HPSR.

2.7.3 Environmental Consequences

Build Alternatives

Of the resources within the Project APE, only four constitute resources (or portions thereof) qualifying for protection under NEPA or CEQA (CA-SDI-19463, the Granger Music Hall, Beta Street House, and Holy Cross mausoleum). An ESA designation would be delineated at and around CA-SDI-19463 to ensure that the Project would avoid this archaeological resource. The Project would avoid the historic structures listed on, and/or identified as potentially eligible for, the NRHP and/or CRHR. As such, and assuming the standard condition of the ESA around CA-SDI-19463, Project implementation would not impact known historical resources and a Finding of No Adverse Effect is made [106 PA stipulations VIII.C.3 and X.B.2.a(ii)].

Caltrans requested SHPO to concur with the eligibility determinations and findings on October 2, 2009. SHPO concurred with the significance determinations and Finding of No Adverse Effect on November 25, 2009. The request and concurrence letters can be found in Chapter 4.

No Build Alternative

Under the No Build Alternative, no effects would occur to cultural resources because no improvements are proposed.

2.7.4 Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

No effects to known archaeological or historical resources would occur due to implementation of the Project. Nonetheless, it is FHWA and Caltrans policy to avoid cultural resources should any currently unknown cultural materials or human remains be discovered during Project construction. Accordingly, the following avoidance and minimization measures would be implemented:

- An ESA designation shall be applied to the area of site CA-SDI-19463.
- If currently unknown cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find.
- If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner will be contacted. Pursuant to Public Resources Code Section 5097.98, if remains are thought to be Native American, the coroner would notify the Native American Heritage Commission, which would then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains would contact the Caltrans District 11 Archaeologist so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

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PHYSICAL ENVIRONMENT

2.8 HYDROLOGY AND FLOODPLAIN

2.8.1 Regulatory Setting

Executive Order 11988

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The FHWA requirements for compliance are outlined in 23 CFR 650 Subpart A.

In order to comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments
- Risks of the action
- Impacts on natural and beneficial floodplain values
- Support of incompatible floodplain development
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values impacted by the project

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

2.8.2 Affected Environment

Three separate Preliminary Drainage Reports (PDRs) were prepared for the southern, central and northern segments of the Project alignment, with these segments designated as Units 2 through 4, respectively, in the corresponding studies (*Drainage Report, I-805 Managed Lanes South Project – Unit 2*, February 2009; *Preliminary Drainage Report, I-805 Managed Lanes South, Alignment Studies for Unit 3, Post Mile (PM) 9, 8+4 Alternative*, September 2008; and *Drainage Report, I-805 Managed Lanes South Project – Unit 4*, August 2009). Mapped floodplains are within or adjacent to Units 2 and 3. Two Location Hydraulic Studies (LHSs) were prepared for Unit 2 (*Location Hydraulic Study and Floodplain Evaluation Report, I-805 Managed Lanes South Project – Unit 2*, August 2009) and Unit 3 (*Location Hydraulic Study, I-805 Managed Lanes South, Alignment Studies for Unit 3, Post Mile [PM] 9*, September 2008), and a *Structure Preliminary Hydraulic Report* was prepared to assess potential scour effects at the Sweetwater River Bridge (March 2008). No LHS was prepared for Unit 4, as there are no issues associated with encroachment into mapped floodplains along that portion of the Project alignment. The results of the identified studies are summarized below along with other applicable data, with all of the listed reports included in Chapter 7.0, *References*. The following analysis is based on the approximately 21,000-acre study area for hydrology and floodplain issues (study area), which includes the two build alternatives and related design variations, as well as associated on- and off-site watershed areas. The following evaluation is based on the identified study area and/or related geographic references, with no further discussion of the Unit 2 through 4 designations.

Watershed and Drainage Characteristics

The study area extends within portions of the Otay, Sweetwater, and Pueblo San Diego Hydrologic Units (HUs), three of 11 major drainage areas identified in the San Diego Regional Water Quality Control Board (RWQCB) *Water Quality Control Plan for the San Diego Basin*. Summary descriptions of the three HUs and associated hydrologic designations and characteristics are provided below. Average annual precipitation in the localized study area vicinity (including applicable portions of the cities of Chula Vista, National City, and San Diego) is between approximately 10 and 11 inches per year, with most rainfall occurring during the period of November through March.

Otay Hydrologic Unit

The Otay HU is a generally linear area of approximately 102,000 acres that encompasses the Otay River watershed. The southern portion of the Project alignment, approximately between East Palomar Street and Telegraph Canyon, is within the Otay Valley Hydrologic Area (HA), a subdivision of the Otay HU. Drainage within the noted HU and HA is through the Otay River and related tributaries, with drainage from the described portion of the study area mainly through storm drain facilities and unnamed tributary creeks. All associated flows continue generally south to the Otay River and ultimately enter San Diego Bay to the west.

Sweetwater Hydrologic Unit

The Sweetwater HU is a linear area of approximately 147,000 acres that includes the Sweetwater River and Telegraph Canyon Creek watersheds. The central portion of the Project alignment, approximately between Telegraph Canyon and 18th Street in National City, is within the Lower Sweetwater HA, the Telegraph Hydrologic Subarea (HSA), and the La Nacion HSA (all subdivisions of the Sweetwater HU). Drainage within the noted designations is primarily through the Sweetwater River, Telegraph Canyon Creek, Rice Canyon Creek (which is tributary to the Sweetwater River), and related tributaries. Drainage from the described portion of the study area flows into the noted main drainages (both directly and via several tributaries), before continuing west and south to San Diego Bay.

Pueblo San Diego Hydrologic Unit

The Pueblo San Diego HU is a triangular-shaped area of approximately 38,000 acres located immediately north of the Sweetwater HU in the Project vicinity. The northern portion of the study area, beginning approximately north of 18th Street in National City, is within the National City HA (El Toyon and Paradise HSAs) and the San Diego Mesa HA (Chollas HSA), which are subdivisions of the Pueblo San Diego HU. Drainage from the noted portions of the study area flows into La Paleta, Chollas, South Chollas, and Paradise creeks (with Paradise Creek tributary to the Sweetwater River) along with associated tributaries, as well as a number of developed storm drain systems. All of this drainage ultimately enters San Diego Bay to the south and west.

Surface drainage within the study area occurs as both point (confined) flow in existing storm drains and natural drainage courses, and as non-point runoff (sheet flow) in areas such as vegetated slopes and streets. Flows within the study area (including off-site watersheds) are conveyed generally west and south through existing Caltrans and municipal storm drain facilities, as well as in natural drainages including the Otay River, Telegraph Canyon Creek, the

Sweetwater River, Rice Canyon Creek, Paradise Creek, La Paleta Creek (also known as Las Puleta Creek), Chollas Creek, South Chollas Creek, and several unnamed tributaries. All existing flows from the study area ultimately discharge into San Diego Bay through the Otay River, the Sweetwater River, Telegraph Canyon Creek, La Paleta Creek (via the Seventh Street Channel), and Chollas Creek (via the Chollas Creek Channel).

Much of the Project area encompasses existing development, including freeway facilities and urban uses such as residential and commercial properties. The Project area also includes landscaping associated with slopes and interchanges, while other portions encompass landscaping and undeveloped areas such as drainage courses and canyon slopes. The existing storm drain system associated with I-805 includes numerous facilities such as cross drains (i.e., culvert crossings that convey off-site flows beneath the freeway), variably sized storm drain pipelines, ditches, natural channels, concrete- and riprap-lined channels, box culverts, slotted drains, slope down-drains, and grate or pipe inlets. These facilities generally convey flows from within the existing I-805 R/W and/or from off-site areas along and across the freeway, and discharge to downstream drainage facilities or cross drains. Downstream drainage facilities include private and municipal storm drain systems related to existing development, cross drain outlets, and additional crossing structures at roadway/drainage intersections. As previously noted, all associated flows from these drainage facilities move generally west and south, and ultimately enter San Diego Bay. No capacity-related issues have been identified for any of the existing on- or off-site drainage facilities associated with the I-805 corridor, with additional information provided in the Project PDRs.

Floodplain

The study area and vicinity have been mapped for flood hazards by the Federal Emergency Management Agency (FEMA). As previously noted, two LHSs were prepared for the Project alignment, based on the related occurrence of potential Project encroachment into mapped floodplains associated with the Sweetwater River/Rice Canyon Creek, and Paradise and La Paleta creeks. All other portions of the Project alignment, including both build alternatives and associated design variations in these areas, do not encompass potential encroachment into mapped floodplain boundaries.

The existing FEMA floodplain mapping associated with the Sweetwater River and Rice Canyon Creek identifies 100-year floodplains associated with these two drainages in the vicinity of the I-805 Sweetwater River Bridge, portions of the proposed travel lane expansion approximately 3,000 linear feet north from Bonita Road, the proposed Bonita Road NB on-ramp, and the Bonita Road Undercrossing Bridge. As described in detail in the associated LHS for Unit 2, the referenced FEMA floodplain boundaries were modified through Hydrologic Engineering Center-River Analysis System (HEC-RAS) modeling to reflect conditions including current development within the watershed, updates from on-site and downstream channel modifications in the Sweetwater River, and the relationship between the Sweetwater River and Rice Canyon Creek floodplains. Based on this modeling, the LHS concludes that encroachment of the Project alignment into the identified existing floodplain boundaries occurs at the described travel lane and on-ramp locations, but not at the Sweetwater River Bridge or Bonita Road Undercrossing Bridge (with additional discussion provided below in Section 2.8.3). Existing beneficial values associated with the described portion of the floodplain along the Sweetwater River and Rice Canyon Creek are limited to minor wildlife habitat, infiltration/groundwater recharge, and water quality (i.e., from filtration/infiltration). These values are considered minimal, however, because of the small size of the affected floodplain and the heavily urbanized nature of surrounding areas.

Existing FEMA floodplains mapped in association with Paradise and La Paleta creeks include the following areas within the Project alignment: (1) portions of Paradise Creek located in the City of National City near East Plaza Boulevard; and (2) the Logan Avenue and La Paleta branches of La Paleta Creek located south of Logan Avenue in the City of San Diego, and near Division Street in the City of National City. The associated LHS for Unit 3 concludes that existing drainage structures along the described portions of Paradise and La Paleta creeks are adequate to contain 100-year storm flows, with associated floodplain boundaries contained within these structures and not extending into the existing I-805 corridor or the Project alignment.

Groundwater

Mapped regional groundwater basins in the study area and vicinity include the Lower Sweetwater Basin, the Otay Valley Basin, and the San Diego Formation Aquifer. The Sweetwater and Otay Valley basins generally extend along the Sweetwater and Otay rivers, respectively, while the San Diego Formation Aquifer is mapped within the study area approximately between SR 94 on the north and the Sweetwater River on the south. Permanent shallow groundwater was observed near the Sweetwater River during preparation of related Preliminary Foundation Reports prepared for the Project (*Preliminary Foundation Report, I-805 Managed Lanes South Project - Unit 2, Sweetwater River Bridge*, June 2008; and *Preliminary Foundation Report, I-805 Managed Lanes South Project - Unit 2, Sweetwater Road Undercrossing*, September 2008). Documented groundwater depths in these locations ranged between approximately 5 and 26 feet. Groundwater potentially associated with the San Diego Formation Aquifer was observed at approximate depths of 20 to 50 feet near Chollas Creek, in association with a Preliminary Foundation Report prepared for the Home Avenue overcrossing (*Preliminary Foundation Report, I-805 Managed Lanes South Project - Unit 4, Home Avenue Overcrossing*, July 2009). The Project Preliminary Geotechnical Reports also note that perched groundwater may occur locally and/or seasonally within the study area, especially near drainage features (*Preliminary Geotechnical Report, Interstate 805 Managed Lanes South Project – Unit 2, San Diego County, California, 11-SD-805, PM 5.07/9.48, E.A. 11-081610*, June 2009; *Preliminary Geotechnical Report, Interstate 805 Managed Lanes South Project, Unit 3, San Diego County, California, 11-SD-805, PM 9.0±/12.0±*, September 2008; and *Preliminary Geotechnical Report, Interstate 805 Managed Lanes South Project – Unit 4, San Diego County, California, 11-SD-805, PM 12.1/15.72, E.A. 11-081610*, June 2009). Perched groundwater generally consists of one or more shallow aquifers separated from the permanent water table by impermeable or semi-permeable strata. Other than the observed occurrences and the identified potential for perched aquifers, shallow groundwater is generally not expected to be present within the Project alignment.

2.8.3 Environmental Consequences

Build Alternatives

Watershed and Drainage

The proposed design for either build alternative would include constructing a number of new storm drain facilities and upgrading and/or extending existing structures, such that Project-related storm flows would be accommodated within the existing/proposed storm drain system and associated drainage patterns would not change. Specifically, all runoff within the study area (including on-site flows generated within the Project alignment and off-site flows

routed through the Project alignment via cross drains) would continue to drain generally west and south and ultimately enter San Diego Bay.

Implementation of build alternatives 1 and 2 would result in a net increase of impervious surface area by approximately 80 and 78.5 acres, respectively, with an associated reduction of on-site infiltration capacity and an increase in post-development runoff volumes and velocities within and from the site. The Project PDRs all conclude, however, that the noted increases in runoff volumes and velocities would be minor and would not substantially alter existing on- or off-site drainage conditions. These conclusions are based on the following considerations, as well as the avoidance and minimization measures identified below in Section 2.8.4:

- The additional impervious areas constructed under either build alternative would represent a very small percentage (less than one percent) of the total watershed area.
- No capacity-related issues have been identified for existing on- or off-site storm drain facilities associated with the I-805 corridor.
- The referenced PDRs note that Project-related increases in off-site flows entering cross drains and other downstream storm drain facilities would be minor under either build alternative, and would not substantially impact the ability of these facilities to accommodate 100-year storm flows (with these conditions to be verified during final drainage studies).

Floodplain

Encroachment of Project-related facilities into identified 100-year floodplain boundaries would occur under either build alternative at the proposed travel lane expansion located approximately 3,000 linear feet north from Bonita Road, and at the proposed Bonita Road NB on-ramp. These encroachments would be addressed or avoided based on the following consideration, as well as the avoidance and minimization measures outlined below in Section 2.8.4 (with additional information provided in the related LHS).

- The proposed alignment of the NB on-ramp at Bonita Road under either build alternative would result in the base of the associated retaining wall encroaching into the mapped 100-year floodplain for the Sweetwater River/Rice Canyon Creek. Due to the minor nature and extent of this encroachment, however, the LHS concludes that this encroachment does not cause an increase in the natural or floodway profiles and does not cause a flood elevation rise when comparing existing and proposed conditions.

As outlined above in Section 2.8.2, no Project-related encroachment into mapped 100-year floodplains would occur under either build alternative at the Sweetwater River Bridge, the Bonita Road Undercrossing Bridge, Paradise Creek at East Plaza Boulevard, or the Logan Avenue and La Paleta branches of La Paleta Creek. These conclusions are based on the following considerations and the avoidance and minimization measures identified below in Section 2.8.4, with additional discussion provided in the referenced LHSs:

- Calculated 100-year storm flows for applicable portions of Paradise and La Paleta creeks near the Project alignment are completely contained within the existing drainage facilities, and Project facilities or activities would not encroach into associated floodplain boundaries.

- The Bonita Road Undercrossing Bridge is elevated above the associated mapped 100-year floodplain. No encroachment impacts related to existing or proposed facilities would occur within I-805 south.

Pursuant to the above information and analysis, the referenced LHSs provide the following conclusions regarding evaluation criteria identified under EO 11988 in Section 2.8.1:

- There are no practicable alternatives to avoid the longitudinal encroachment associated with the Bonita Road on-ramp. Nonetheless, as stated in the LHS, the northbound Bonita Road on-ramp encroachment does not impact the modeled existing condition flood levels for the Sweetwater River.
- Risks associated with either build alternative are considered minimal, based on the fact that all facilities except the Bonita Road on-ramp would be located outside of mapped floodplains, and there would be no increase in related flood levels/extents or associated hazards over the existing condition from the proposed on-ramp structure.
- The potential impacts to natural and beneficial floodplain values would be limited to the described encroachment of the Bonita Road NB on-ramp. These impacts are considered minimal, as: (1) the aesthetics of the floodplain would not be affected; and (2) the “habitat” area that would be lost as a result of the described encroachment is in a highly urbanized area, is adjacent to the freeway, and is surrounded by urban development.
- None of the proposed activities within or adjacent to floodplains under either build alternative would support incompatible floodplain development, based on considerations including the fact that no additional direct access to the floodplain would be provided.
- Measures to avoid/minimize floodplain impacts from either build alternative have been incorporated in the form of retaining walls to reduce grading requirements and associated floodplain encroachment (refer to Section 2.8.4).

Groundwater

The Project would not involve the extraction of groundwater for purposes such as consumption or irrigation under either build alternative, and no associated impacts would occur. The Project would construct impervious surfaces that would slightly reduce local infiltration/recharge capacity. This reduction would be minor due to the relatively small area involved (i.e., less than one percent of the total watershed area, as previously noted). Shallow and/or perched groundwater requiring extraction and disposal to accommodate Project operations may be encountered during construction. Related dewatering operations would not result in adverse effects to groundwater reservoirs such as drawdown; however, due to their minor and short-term nature, as well as the fact that associated discharge would likely be within local recharge areas. Construction dewatering, if required, would be subject to applicable National Pollutant Discharge Elimination System (NPDES) and Caltrans requirements related to water quality concerns, with these requirements described in Subchapter 2.9, Water Quality and Storm Water Runoff.

No Build Alternative

Under the No Build Alternative, the described development actions for Build Alternatives 1 and 2 would not occur, and no Project-related hydrology and floodplain impacts would result.

2.8.4 Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

Based on the discussions provided above in Section 2.8.3, implementation of Build Alternatives 1 or 2 would potentially result in a number of impacts related to hydrology and floodplain. Associated avoidance and minimization measures related to hydrology and floodplain issues proposed for both build alternatives include the completion of detailed drainage reports based on final Project design, with specific recommendations from the preliminary analyses identified below for the issues of watershed/drainage and floodplain. Detailed drainage analyses would encompass appropriate design, sizing, and location of proposed storm drain facilities based on final design parameters; as well as continued consultation with applicable federal, state, and local agencies regarding issues including floodplain modeling, watershed development, and storm drain design/capacity. The use of such measures, including the recommended measures below, would avoid or effectively minimize all potential hydrology and floodplain impacts.

Watershed and Drainage

- All proposed on-site storm drain facilities will be designed to accommodate anticipated peak flows from a 25-year storm event, and modifications to off-site storm drain facilities (e.g., cross drains) will be designed to accommodate anticipated peak flows from a 100-year storm event, pursuant to applicable Caltrans requirements.
- All applicable Project storm drain outlets will include appropriately sized energy dissipation structures (e.g., riprap aprons) to reduce flow velocities prior to discharging into natural water courses. Specifically, this will include new dissipation structures at proposed outlets, as well as modifications to existing structures where applicable.

Floodplain

- Potential encroachment associated with travel lane extensions north of Bonita Road will be avoided by the proposed construction of a retaining wall along the top of the adjacent embankment slope, which will reduce the extent of Project grading and prevent the potential floodplain encroachment.
- The proposed new abutment structure at the Sweetwater River Bridge on the north side of the channel will be located outside of mapped floodplain boundaries.
- The proposed pier wall extensions at the Sweetwater River Bridge will be lined up with the existing pier walls and parallel to the flow direction, and will not affect the associated hydraulic opening (i.e., the area between the piers through which flows are conveyed beneath the bridge) or change the energy loss calculations for the existing pier walls.

- The proposed enlargement of the pile caps located beneath the pier walls at the Sweetwater River Bridge will be completely below grade, and thus will not affect the hydraulic opening.

No Build Alternative

Because no impacts were identified for the No Build Alternative, no associated avoidance, minimization, or mitigation measures are proposed.

2.9 WATER QUALITY AND STORM WATER RUNOFF

2.9.1 Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, the Federal Water Pollution Control Act was amended, making the discharge of pollutants to the waters of the U.S. from any point source unlawful, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The Federal Water Pollution Control Act was subsequently amended in 1977, and was renamed the Clean Water Act (CWA). The CWA, as amended in 1987, directed that storm water discharges are point source discharges. The 1987 CWA amendment established a framework for regulating municipal and industrial storm water discharges under the NPDES program. The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” The CWA is administered by the San Diego Regional Water Quality Control Board for this project. CWA sections that are pertinent to this Project are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal project that proposes an activity, which may result in a discharge to waters of the U.S. to obtain certification from the State that the discharge will comply with other provisions of the act.
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) into waters of the United States. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) establishes addresses storm water and non-storm water discharges.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (ACOE).

State Requirements: Porter-Cologne Water Quality Control Act (California Water Code)

California’s Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a “Report of Waste Discharge” for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives) required by the CWA, and regulating discharges to ensure that the objectives are met. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. States designate beneficial uses for all water body segments, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, each state identifies waters failing to meet standards for specific pollutants, which are state listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source controls, the CWA requires establishing Total Maximum Daily Loads (TMDLs). TMDLs establish allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board

The SWRCB administers water rights, water pollution control, and water quality functions throughout the state. The SWRCB delegates to the RWCQBs the responsibility for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility. The Project falls within the San Diego RWQCB's jurisdiction.

NPDES Program

The SWRCB adopted Caltrans Statewide NPDES Permit (Order No. 99-06-DWQ) on July 15, 1999. This permit covers all Department rights-of-way, properties, facilities, and activities in the State. NPDES permits establish a five-year permitting time frame. NPDES permit requirements remain active until a new permit has been adopted.

In compliance with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed Project would be programmed to follow the guidelines and procedures outlined in the 2003 SWMP to address storm water runoff or any subsequent SWMP version draft and approved.

Municipal Separate Storm Sewer System Program

The USEPA defines a Municipal Separate Storm Sewer System (MS4) as any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, country, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying storm water. As part of the NPDES program, USEPA initiated a program requiring that entities having MS4s apply to their local RWQCBs for storm water discharge permits. The program proceeded through two phases. Under Phase I, the program initiated permit requirements for designated municipalities with populations of 100,000 or greater. Phase II expanded the program to municipalities with populations less than 100,000.

Construction Activity Permitting

Section H.2, Construction Program Management of the Department's NPDES permit states: "The Construction Management Program shall be in compliance with requirement of the NPDES General Permit for Construction Activities (Construction General Permit)". Construction General Permit (Order No. 2009-009-DWQ, adopted on September 2, 2009), became effective on July 1, 2010. The permit will regulate storm water discharges from construction sites that result in a disturbed soil area (DSA) of one acre or greater, and/or are part of a common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least one acre must comply with the provisions of the Construction General Permit.

The newly adopted permit separates projects into Risk Levels 1, 2, or 3. Requirements apply according to the Risk Level determined. Risk levels are determined during the design phase

and are based on sediment risk (potential sediment transport to receiving waters) and on the receiving water risk (receiving water's quality and beneficial uses). Caltrans requires contractors to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP).

Caltrans Statewide NPDES Permit requires Caltrans to submit a Notice of Construction (NOC) to the RWQCB to obtain coverage under the Construction General Permit. Upon project completion, a Notice of Completion of Construction (NOCC) is required to suspend coverage. This process will continue to apply to Department projects until a new Caltrans Statewide NPDES Permit is adopted by the SWRCB. An NOC or equivalent form will be submitted to the RWQCB at least 30 days prior to construction if the associated DSA is one acre or more. In accordance with the Department's Standard Specifications, a Water Pollution Control Plan (WPCP) is used for projects with DSA less than one-acre.

During the construction phase, compliance with the permit, Caltrans' Standard Specifications, and the Project Special Provisions requires appropriate selection and deployment of both structural and non-structural BMPs. These BMPs must achieve performance standards of Best Available Technology economically achievable/Best Conventional Technology (BAT/BCT) to reduce or eliminate storm water pollution.

2.9.2 Affected Environment

A Water Quality Report (*Interstate 805 South Managed Lanes Project Water Quality Report*, August 2010) has been prepared for the Project. The results of this study are summarized below along with other applicable data, with the listed report included in Chapter 7.0, References. The following analysis is based on the identified study area for water quality and storm water runoff issues (study area), which is the same area as that described in Subchapter 2.8, Hydrology and Floodplain.

Drainage Characteristics

As described in Subchapter 2.8, the study area includes portions of the Otay, Sweetwater, and Pueblo San Diego HUs, along with a number of local HA and HSA designations. Surface drainage within the study area occurs as both concentrated (confined) flow in existing storm drains and natural drainage courses, and as non-confined runoff (sheet flow) in areas such as vegetated slopes and streets. Flows within the study area (including off-site watersheds) are conveyed generally west and south through existing Caltrans and municipal storm drain facilities, as well as a number of natural drainages. Specifically, the southern portion of the Project alignment (approximately between East Palomar Street and Telegraph Canyon) is within the Otay HU, and drains to the Otay River through existing storm drain facilities and a number of unnamed tributary creeks. The central portion of the alignment (approximately between Telegraph Canyon and 18th Street in National City) is within the Sweetwater HU, and drains primarily (both directly and via storm drains and unnamed tributaries) to the Sweetwater River and Rice Canyon Creek (which is a tributary to the Sweetwater River), as well as to Telegraph Canyon Creek. The northern portion of the Project alignment (approximately north of 18th Street in National City) drains both directly and via storm drain facilities to La Paleta Creek, Chollas Creek, South Chollas Creek, Paradise Creek (which is tributary to the Sweetwater River), and several unnamed tributaries. All existing flows from the study area ultimately discharge into San Diego Bay.

Beneficial Uses

The San Diego Basin Plan establishes beneficial uses and water quality objectives for surface and groundwater resources. Beneficial uses are defined in the Basin Plan as the uses of water necessary for the survival or well being of man, plus plants and wildlife. Existing and potential beneficial uses for applicable inland surface waters, groundwater basins, and downstream coastal waters (i.e., San Diego Bay) identified in the Project Water Quality Report and the Basin Plan include agricultural supply, non-contact recreation, warm freshwater habitat, wildlife habitat, rare, threatened and endangered species, industrial service supply, contact recreation, navigation, commercial and sport fishing, biological habitats of special significance, estuarine habitat, marine habitat, migration of aquatic organisms, spawning, reproduction, and/or early development, and shellfish harvesting (with definitions of individual beneficial uses provided in the previously referenced Water Quality Report).

Water quality objectives are identified in the Basin Plan as the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses or the prevention of nuisance within a specific area. The establishment of water quality objectives (or criteria) is required by states under Section 303 of the CWA, and Basin Plan objectives satisfy all applicable requirements of the CWA and the Porter-Cologne Water Quality Act. Water quality objectives may include both qualitative standards and quantitative objectives for identified constituents. Basin Plan beneficial uses and water quality objectives are used, along with other considerations, to identify Section 303(d) impaired waters and related contaminant restrictions as outlined below.

303(d) Impaired Water Bodies and Total Maximum Daily Loads

The RWQCBs produce bi-annual qualitative assessments of statewide water quality conditions. These assessments are focused on CWA Section 303(d) impaired water listings and scheduling for assignment of TMDL requirements. States are required to identify and document any and all polluted surface water bodies, with the resulting documentation referred to as the *Clean Water Act Section 303(d) List of Water Quality Limited Segments*, or more commonly the 303(d) list. This list of water bodies identifies the associated pollutants and TMDLs, along with pollutant sources and projected TMDL implementation schedules.

The 303(d) list is the primary vehicle for protecting water quality in impaired waters bodies and for protecting beneficial uses. The most current (2006) approved 303(d) list identifies local impaired waters including Chollas Creek and San Diego Bay, as summarized in Table 2.9-1. As part of its own runoff characterization studies, Caltrans identifies pollutants with loads or concentrations that commonly exceed allowable standards, but that are considered treatable with Caltrans-approved BMPs. These pollutants are referred to as Targeted Design Constituents (TDCs). Identified TDCs for Chollas Creek include copper, lead, and zinc. Additional discussion of Project-related BMPs associated with the noted TDCs is provided below in Section 2.9.4. TMDLs that have been established along Chollas Creek for pollutants that encompass Caltrans as a stakeholder include diazinon (a pesticide), and dissolved copper, lead, and zinc.

Table 2.9-1 RECEIVING WATER BODIES 303(d) LIST SUMMARY		
Water Body Name	Pollutant/Stressor ¹	Estimated Size Affected
Chollas Creek	Copper	3.5 miles
	Indicator Bacteria ²	3.5 miles
	Lead	3.5 miles
	Zinc	3.5 miles
San Diego Bay Shoreline, near Chollas Creek ³	Benthic Community Effects	15 acres
	Sediment Toxicity	15 acres
San Diego Bay Shoreline, near Seventh Street Channel ³	Benthic Community Effects	9 acres
	Sediment Toxicity	9 acres

¹ Identified potential sources for all listed waters include point/nonpoint sources.

² Bacteria TMDLs are being developed for 20 beaches and creeks in San Diego, including Tecolote Creek.

³ Additional portions of San Diego Bay are listed for pollutants including polychlorinated biphenyls (PCBs), copper, indicator bacteria, mercury, zinc, and polycyclic aromatic hydrocarbons (PAHs). TMDLs are currently being developed for the San Diego Bay Shoreline at the mouth of Chollas, Switzer and La Paleta creeks.

The most significant source of diazinon is urban runoff, with the associated TMDL adopted on August 14, 2002 pursuant to RWQCB Order R9-2002-0123. The use of diazinon is being phased out nationally per direction by the USEPA, with Caltrans no longer using products that contain diazinon per USEPA requirements issued in December 2004. The Numeric Targets for diazinon in Chollas Creek are set equal to the CDFG freshwater Water Quality Criteria for diazinon. Specifically, the acute Water Quality Criterion of 0.08 micrograms per liter (µg/L) protects aquatic life from short-term exposure to diazinon, while the chronic criterion of 0.05 µg/L protects aquatic life from long-term diazinon exposure.

The TMDLs for dissolved metals were adopted on June 13, 2007, per RWQCB Order R9-2007-0044. The two existing beneficial uses in Chollas Creek that are sensitive (and subject) to impairment by high concentrations of dissolved metals in the water column are warm freshwater habitat and wildlife habitat. These beneficial uses require water quality appropriate for the protection of aquatic life and aquatic dependent wildlife, which are susceptible to toxicity effects from dissolved metals at relatively low concentrations. Concentrations of dissolved metals in Chollas Creek exceed the water quality necessary to support the warm freshwater habitat and wildlife habitat beneficial uses of Chollas Creek.

There are many urban land uses and activities in the Chollas Creek watershed that contribute copper, lead, and zinc to the creek. According to the Basin Plan amendment for this TMDL, freeways and commercial/industrial land uses are major contributors, and automobiles are a significant source of all three metals. Water supply systems, pesticides, industrial metal recyclers and other industrial activities also contribute to levels of copper, lead, and zinc in excess of water quality criteria. Metals discharged to the environment by different land uses and activities are transported by urban runoff and storm flows, and conveyed to Chollas Creek through drainage systems.

Full implementation of the TMDLs for dissolved copper, lead, and zinc are required to be completed within 20 years of the effective date of the Basin Plan amendment (October 22, 2008). The compliance schedule for implementing the waste load reductions is structured in a

phased manner, with 80 percent of the reductions required in the first 10 years, and 100 percent of the reductions required at the end of the 20-year compliance schedule.

Caltrans has been actively involved in the TMDL compliance process for diazinon and dissolved metals through the implementation of a monitoring program with other named stakeholders, as well as through the implementation of structural and non-structural best management practices for dissolved metals.

Existing Surface Water Quality

Surface water within the study area consists predominantly of intermittent flows from storm events and landscape irrigation. Storm flows are subject to variations in water quality due to local conditions such as runoff rates/amounts and underlying land uses. Applicable water quality information for study area receiving waters includes quantitative data from the previously identified TMDL monitoring conducted in Chollas Creek, as outlined below.

TMDL compliance monitoring is conducted annually for diazinon and dissolved metals (copper, lead, and zinc) in the Chollas Creek watershed, pursuant to RWQCB Order Nos. R9-2002-0123 and R9-2007-0044. During the 2008-2009 season, monitoring was conducted at the following two locations: (1) the base of the north fork of Chollas Creek (site SD8[1]), approximately 1.2 miles west (downstream) of the Project study area; and (2) the base of the south fork of Chollas Creek (site DPR2), approximately 0.9 mile west of the Project study area. TMDL Monitoring was conducted during three storm events in 2008-2009, with test results for diazinon, metals and other contaminants summarized below.

- Diazinon was not detected at either test site, and no associated toxicity for acute or chronic survival was observed during the three monitored storm events. Chronic reproductive toxicity was observed in one sample at the SD8(1) site, although this sample also had the highest concentration of synthetic pyrethroids (as described below). Overall, a decreasing trend was observed for diazinon and related toxicity, with this condition likely attributable to the nationwide ban on retail diazinon sales implemented in 2005. As residual supplies of diazinon are exhausted, related concentrations and frequency of occurrence will likely continue to decline. As previously noted, Caltrans no longer uses products containing diazinon, and thus does not contribute to ongoing occurrences of this pollutant in Chollas Creek (or other watersheds).
- Dissolved copper and zinc concentrations exceeded the maximum (acute) thresholds for all three monitored storm events at the SD8(1) site, and for two of the three monitored storm events at the DPR2 site. Dissolved lead concentrations were below the maximum threshold at both monitoring sites for all three storm events.
- Dissolved copper concentrations exceeded the continuous (chronic) threshold at both monitoring sites for all three storm events. Dissolved lead concentrations exceeded the continuous threshold for two storm events, and dissolved zinc concentrations exceeded the continuous threshold for all three storm events at the SD8(1) site. Dissolved lead and zinc concentrations were below the continuous threshold for all three storms at the DPR2 site.
- In addition to the TMDL monitoring summarized above, the Chollas Creek 2008-2009 testing program involved a number of additional pollutants. Associated water quality objectives were exceeded for pollutants including fecal coliform bacteria, oil and grease

(SD8[1] site only), nitrogen, total suspended solids (TSS; SD8[1] site only), malathion (an organophosphorus pesticide), and two synthetic pyrethroids (bifenthrin and permethrin [SD8(1) site only]). In addition, acute toxicity to amphipod (shrimp-like crustacean) species was observed at both monitoring sites. The presence/increasing occurrence of synthetic pyrethroid pesticides and related toxicity are likely related to the use of these chemicals as replacements for diazinon.

As previously described, Caltrans is actively involved (along with other applicable stakeholders) in the Chollas Creek TMDL compliance process for diazinon and dissolved metals through the noted monitoring efforts and the implementation of structural and non-structural BMPs.

Groundwater

No known groundwater quality data are available for the study area or immediate vicinity. Based on regional data, groundwater quality in the Sweetwater/Otay Valley basins and San Diego Formation Aquifer is generally moderate to poor. Specifically, documented total dissolved solids (TDS) levels range between approximately 500 to 2,000 milligrams per liter (mg/l) for the Otay Valley Basin, 300 to 50,000 mg/l (with an average of 2,114 mg/l) for the Sweetwater Valley Basin, and 342 to 12,000 mg/l for the San Diego Formation Aquifer.

2.9.3 Environmental Consequences

Build Alternatives

Potential water quality impacts on receiving water bodies from either of the build alternatives are associated with both short-term construction activities and long-term operation and maintenance of the proposed facilities.

Short-term Construction Impacts

Potential water quality impacts related to Project construction under the build alternatives include erosion/sedimentation; the on-site use and storage of construction-related hazardous materials (e.g., fuels, etc.); proposed reuse of soil containing aerially deposited lead (ADL); the potential presence and removal/disposal of materials containing lead-based paint, asbestos or creosote; and disposal of extracted groundwater (if required), as described below.

Erosion and Sedimentation

Project implementation would entail approximately 378 acres of DSA from grading and construction under Build Alternative 1, and 375 acres under Build Alternative 2. If appropriate BMPs are not incorporated effectively, these activities would potentially result in related erosion and off-site sediment transport (sedimentation) from operations such as clearing and grubbing (which entails the removal of vegetation), excavation of existing compacted materials from cut or fill areas, hauling or transporting excavated (and/or imported) material as fill in proposed development sites, soil stockpiling, using temporary drainage channels on steeper slopes, and potential erosion from disposal of extracted groundwater (if required). Project-related erosion would potentially result in the influx of sediment into downstream receiving waters, with associated water quality effects such as turbidity and the transport of other contaminants that tend to adhere to sediment particles.

Construction-related erosion and sedimentation impacts would be addressed through conformance with the Caltrans Statewide Permit and the Construction General Permit. This would include implementing a SWPPP to assess (among other issues) erosion and sedimentation concerns. A number of proposed short-term erosion and sediment control measures from the Project Water Quality Report and Caltrans guidelines are identified in Section 2.9.4. Erosion and sediment control BMPs would be further refined during preparation of the Project-specific SWPPP, based on Project special staging methods and site-specific characteristics such as soils and slopes.

Construction-related Hazardous Materials

Project construction under either build alternative would involve the on-site use and/or storage of hazardous materials such as fuels, lubricants, solvents, concrete, paint, and portable septic system wastes. Without adequate controls, the accidental discharge of such materials during Project construction would potentially result in water quality impacts if they reach downstream receiving waters. Potential impacts from construction-related hazardous materials are of particular concern for materials such as petroleum compounds that can be toxic to aquatic species in low concentrations. Implementation of a SWPPP would be required under Caltrans and SWRCB NPDES guidelines as previously described, and would include detailed measures to address potential impacts related to the use and potential discharge of construction-related hazardous materials. A number of proposed hazardous material control BMPs from Caltrans guidelines or industry standards are summarized in Section 2.9.4. Construction-related hazardous material BMPs would be further refined during preparation of the Project SWPPP based on site-specific conditions.

Aerially Deposited Lead, Lead-based Paint, Asbestos, and Creosote

Because existing freeway facilities within the Project alignment were constructed in the 1960s and 1970s, lead may be present in exposed soil along the medians and shoulders as a result of emissions from vehicular exhaust prior to the elimination of lead from fuels in the mid-1980s. An *Aerially Deposited Lead Summary Report* (March 2009) was prepared to evaluate previous ADL sampling within the I-805 corridor conducted between 1995 and 2001. This analysis concludes that ADL-impacted soil is present in areas within the Project alignment that were previously sampled, and recommends the implementation of associated health and safety and soil management plans to address potential handling, reuse, and disposal requirements. The referenced ADL Summary Report also recommends that areas within the Project alignment that were not previously investigated should be sampled and subject to health and safety/soil management plans if applicable. Based on the described conditions, the potential discharge of contaminants from ADL-impacted soil would potentially affect downstream receiving waters, including segments of Chollas Creek which have an adopted TMDL for lead.

An Initial Site Assessment (ISA; *Initial Site Assessment I-805 Managed Lanes – South*, September 2008) was prepared for the Project to identify potential occurrences and related issues regarding hazardous materials within the Project alignment (refer to Subchapter 2.12, Hazardous Waste/Materials, for additional details). This analysis concludes that commonly encountered conditions including lead-based paint, asbestos-containing materials and creosote may be present in association with existing freeway structures. If present, these contaminants would potentially affect downstream receiving waters as a result of Project-related grading and demolition activities.

Implementation of either build alternative would include conformance with recommendations from the Project ADL Summary and ISA, as well as applicable regulatory/technical standards. Specifically, this would entail appropriate field investigation, sampling and, if applicable, remediation, with additional information provided in Subchapter 2.12 of this EIR/EA.

Disposal of Extracted Groundwater

Construction operations such as excavation for bridge footings or drainage facilities under either build alternative would potentially require the extraction and disposal of groundwater. If the appropriate dewatering methods are not incorporated, disposal of groundwater extracted during construction activities into local drainages and/or storm drain facilities would potentially result in water quality impacts through erosion/sedimentation (e.g., if discharged onto graded areas or slopes), or the possible occurrence of contaminants in local groundwater aquifers. If groundwater extraction/disposal is conducted during Project construction, it would require conformance with the NPDES General Permit *General Waste Discharge Requirements for Discharge from Temporary Groundwater Extraction and Similar Waste Discharge to San Diego Bay, Tributaries Thereto Under Tidal Influence, and Storm Drains or other Conveyance Systems Tributary Thereto* (NPDES No. CAG919001, RWQCB Order No. R9-2007-0034).

Long-term Operation and Maintenance Impacts

After completion of construction, erosion and sedimentation effects would be minimal, based on the fact that DSAs would be stabilized through installation of pavement, hard surfaces (for safety, maintenance or slope stabilization), permanent erosion control and landscaping. In addition, either build alternative would incorporate treatment BMPs such as vegetated swales to treat runoff before discharging to waterways.

Potential long-term water quality impacts would occur, however, from proposed facility operation and maintenance under either build alternative. Specifically, this would include: (1) sediment (TSS and TDS) from natural erosion; (2) nutrients (nitrogen/phosphorous) from sources including landscaping, fertilizers, atmospheric deposition, and automobile exhaust; (3) metals from combustion of fossil fuels, wear of brake pads, and corrosion of metal structures; and (4) trash and debris. The discharge of these contaminants would potentially affect downstream receiving waters, including impaired segments of Chollas Creek and San Diego Bay as previously described. A number of BMPs to address Caltrans conformance requirements during Project operation and maintenance are summarized in Section 2.9.4.

No Build Alternative

Under the No Build Alternative, the described development actions for Build Alternatives 1 and 2 would not occur, and no Project-related impacts related to water quality and storm water runoff would result.

2.9.4 Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

Based on the discussions in Section 2.9.3, implementation of Build Alternatives 1 or 2 would potentially result in a number of impacts related to water quality and storm water runoff. Associated avoidance and minimization measures are identified below that would apply to both build alternatives, and would prevent or minimize associated potential short- and long-term

water quality impacts. Specifically, these measures are intended to ensure Project conformance with applicable regulatory requirements, and include the use of short-term BMPs to prevent or minimize the potential impacts from construction operations, as well as design pollution prevention, treatment, and maintenance BMPs for potential long-term impacts. With implementation of the following avoidance and minimization measures, all identified potential impacts would be effectively addressed and additional mitigation measures would not be required.

Avoidance, minimization, and/or mitigation measures related to potential impacts from ADL, lead-based paint, asbestos-containing materials and creosote are described in Subchapter 2.12. These measures generally include abatement of the noted hazardous materials in conformance with associated regulatory requirements. Implementation of the measures described in Subchapter 2.12 would effectively avoid or minimize all associated potential water quality effects.

Potential Short-term Impacts

Six construction BMP categories are identified by Caltrans in the *Construction Site Best Management Practices Manual* to address potential short-term water quality impacts, including temporary soil stabilization, temporary sediment control, wind erosion control, tracking control, non-storm water management, and waste management and materials pollution control. Construction BMPs from the Project Water Quality Report and Caltrans guidelines that are applicable to the Project are summarized below.

Temporary Soil Stabilization BMPs

- Implement appropriate construction scheduling and sequencing to: (1) reduce the amount and duration of soil exposed to erosion and vehicle tracking; (2) minimize operations during the rainy season as feasible; and (3) incorporate applicable erosion and sediment controls during the rainy and non-rainy seasons in accordance with the new Construction General Permit.
- Avoid or minimize work and associated construction-related impacts in live streams and ESAs.
- Permanently preserve existing vegetation to the maximum extent feasible, and preserve vegetation for as long as possible in areas to be graded/excavated.
- Stabilize disturbed slopes during construction with temporary erosion control in areas where no operations have occurred for 14 days, or before the onset of rain.
- Use erosion control/stabilizing measures, such as temporary mulch, hydroseeding, soil binders, geotextiles, swales, outlet protection, slope drains, streambank stabilization, and/or slope roughening in applicable areas to reduce erosion.

Temporary Sediment Control BMPs

- Use sediment controls to prevent off-site sediment transport and protect the construction site perimeter, soil stockpiles and slopes not under construction for an extended time period. Specific sediment control measures may include temporary silt fences, check

dams, sediment/desilting basins, sediment traps, fiber rolls, gravel bags, street sweeping/vacuuming, sand bags, straw bales, slope drains, and inlet protection.

Wind Erosion BMPs

- Implement regular watering and/or application of other dust palliatives as necessary to prevent or alleviate dust generation.
- Comply with local dust control requirements.

Tracking Control BMPs

- Implement applicable tracking control efforts for construction vehicles and equipment, potentially including stabilized construction entrances/exits, stabilized construction roadways, entrance/outlet tire washing, and street sweeping.

Non-storm Water BMPs

- Implement appropriate water conservation practices such as leak inspection/repair, and use of “dry washing” methods wherever feasible.
- Implement appropriate controls (e.g., testing, filtering and/or treatment) of extracted groundwater prior to discharge, if required, in conformance with applicable NPDES and Caltrans requirements.
- Employ appropriate pollutant-control measures during paving, grinding, pile driving and other construction operations (especially in areas within or adjacent to water courses), including catchment/containment devices for equipment and debris, protecting drainage inlets (e.g., with filter fabric), proper application/control of curing/finishing compounds, regular waste collection/removal, sweeping/vacuuming, preventing wash/rinse water and slurries from entering storm drains or water courses, and stockpiling spill kits and clean up materials.
- Use temporary stream crossings at appropriate locations to avoid or minimize impacts from construction equipment/vehicles.
- Use clear water diversions (e.g., sheet piles or cofferdams) in work areas within water courses to avoid or minimize related water quality effects.
- Implement appropriate planning, identification and reporting measures to avoid, document and report illicit connections and illegal material discharges.
- Use appropriate practices and procedures to avoid and manage pollutants associated with discharges from potable water and irrigation sources, including regular inspection/repair to ensure proper working order, diverting discharges away from pollutant sources, reuse of water discharges (e.g., for irrigation), and minimizing discharge rates and amounts.
- Implement appropriate controls in vehicle/equipment washing, maintenance and fueling areas to avoid or minimize pollutant discharge into storm drains or water courses.

Specific measures may include the use of covers, impermeable liners and containment structures, as well as stockpiling of absorbent clean up materials.

Waste Management and Materials Pollution Control BMPs

- Use properly located, spaced, labeled, sealed and designed containers; raised (e.g., on pallets), covered, and/or enclosed facilities; and appropriate containment structures for all hazardous materials storage (including temporary storage).
- Avoid storing incompatible materials (e.g., chlorine and ammonia) in the same location.
- Maintain accurate and up-to-date written inventories and labels for all hazardous material storage and delivery activities/facilities.
- Designate specific hazardous material use, processing, storage/stockpile, clean up and disposal areas; use berms, ditches, covers, and/or impervious liners (or other applicable methods) to provide appropriate protection and containment; implement proper handling/disposal procedures and locations; and post proper storage and handling instructions in an appropriate location.
- Avoid storing hazardous materials near drains or surface water features, and place warning signs in areas of hazardous material use/storage and along drainages and storm drains (or other appropriate locations) to avoid inadvertent hazardous material disposal.
- Properly maintain all construction equipment and vehicles.
- Implement appropriate solid waste management efforts. Specifically, this may include proper location, containment and disposal of construction debris and wastes (e.g., locating dumpsters at least 50 feet from storm drains and water courses, use of sealed containers and watertight dumpsters, and regular trash collection/removal), stockpile management/containment, and regular inspection/clean up.
- Use appropriate waste control measures for operations located over or adjacent to water courses, such as bridge modification/construction and pile driving. Specifically, this may include efforts such as proper equipment maintenance, and control/containment of materials including vehicle fuels/fluids and demolition debris.
- Stockpile appropriate types and quantities of clean up materials, and post regulatory agency telephone numbers and a summary guide of clean-up procedures, in readily accessible and conspicuous locations on the job site.
- Regularly (at least weekly) monitor and maintain hazardous material use/storage facilities and operations to ensure proper working order; and contain/clean up spills immediately upon discovery.
- Implement concrete waste management procedures such as the use of properly contained concrete washout facilities.
- Properly identify, manage and dispose of contaminated soil.

- Properly locate, contain and maintain portable wastewater facilities.
- Properly manage, collect, contain and dispose of liquid wastes such as drilling fluids and dredging wastes.

Disposal of Extracted Groundwater

Specific BMPs to address potential water quality concerns from disposal of extracted groundwater would be determined during the associated NPDES Permit process, based on site-specific conditions. Such requirements would likely include the use of erosion/sediment control measures similar to those described above; as well as testing, filtering and/or treatment of extracted groundwater prior to discharge, if required. In addition, the noted *Construction Site Best Management Practices Manual* and *Field Guide to Construction Dewatering*, provide direction to implement dewatering operations in conformance with NPDES standards. Specifically, these guidelines include similar measures as noted above, along with efforts such as the use of portable settling tanks and treatment filters, and conveyance of dewatering wastes to municipal wastewater treatment facilities when feasible.

Potential Long-term Operation and Maintenance Impacts

Implementation of the Project build alternatives would include the use of applicable design pollution prevention, permanent treatment, and maintenance BMPs to address potential long-term water quality impacts, as outlined below.

Design Pollution Prevention BMPs

Design pollution prevention BMPs consist of permanent measures that are incorporated into the design of a project and intended to reduce post-construction pollutant generation and discharge to the maximum extent practicable. Specifically, this involves measures to mimic the natural hydrologic regime, as well as efforts to avoid or minimize the introduction of contaminants into storm drains and natural drainages. Specific design pollution prevention BMPs identified for Build Alternatives 1 and 2 include the following:

- Use methods such as appropriate grades, retaining walls, benches, terraces, slope-rounding, brow ditches, berms/dikes, swales, adequately sized slope drains, landscaping, and hardscape (e.g., paving or riprap) to reduce grading requirements and avoid concentrated flows on slopes.
- Use methods including adequately sized drainage facilities, unlined (vegetated) channels, flared drainage outlets, and energy dissipators to avoid concentrated flows and reduce long-term erosion potential in applicable locations.
- Preserve existing vegetation, and minimize disturbance and new impervious surfaces to the maximum extent feasible.
- Design transitions from channels to culverts to encompass smooth surfaces and reduce turbulence and scour.

- Maintain existing runoff patterns and directions by conforming with applicable Caltrans design guidelines related to the nature, location, and capacity of proposed storm drain facilities.
- Avoid or minimize effects related to increased runoff volumes and velocities through efforts including increasing the time of concentration (generally defined as the time required for water to travel from the hydraulically most distant point in a watershed to the outlet) for proposed storm drain facilities (i.e., by facility construction/upgrade), and the use of vegetated swales and other unlined drainage facilities which generally slow runoff and provide some infiltration capacity (see the following discussion of Permanent Treatment BMPs for additional information on proposed swales).

Permanent Treatment BMPs

Treatment BMPs consist of volume- or flow-based devices that remove pollutants from post-construction runoff prior to discharge into drainage facilities and/or surface waters. Preliminary assessment of potential treatment BMP types, locations and feasibility has been completed, based on considerations including climate, water volume, soil conditions, physical limitations, TMDLs, and environmental constraints. As a result of this preliminary review, multiple new vegetated swales (bioswales) are proposed for Build Alternatives 1 and 2. These facilities would be used to treat flows from approximately 100 acres of paved areas (existing and new), with this area equivalent to approximately 125 percent of the proposed new impervious surface area under Build Alternative 1 (80 acres), and 127 percent of the new impervious surface area under Build Alternative 2 (78.5 acres). Seven existing treatment BMPs are also located within existing I-805 south in the Project area, including five bioswales, one biostrip, and one detention basin. The detention basin, biostrip, and two of the bioswales would be unaffected by the build alternatives, while two of the existing bioswales would be replaced by new bioswale facilities, and one existing bioswale would be modified to provide treatment for an additional 0.7 acre of impervious surface. The noted treatment areas and relative percentages of proposed impervious surfaces described above for the proposed bioswales do not include the existing treatment BMPs within I-805 south that would not be impacted.

Bioswales are flow-based facilities that provide filtration and infiltration as flows pass through and (to a lesser extent) percolate into the vegetated channel. They typically include design criteria such as shallow depths and grades to avoid erosion/scour, a high length-to-width ratio to increase treatment efficiency, and use of appropriate plant species such as non-invasive grasses that are tolerant of local climate/hydrologic conditions. The proposed bioswales would be designed to treat the “first flush” (i.e., initial) discharge, with this runoff typically containing the majority of the associated urban pollutants. Bioswales are effective at removing TSS, particulate metals, dissolved metals, and litter. The proposed use of bioswales would be particularly effective for the portions of the Project area that drain to Chollas Creek in the Pueblo San Diego HU. Chollas Creek is a 303(d)-listed water, with adopted TMDLs for dissolved copper, lead, and zinc (refer to Table 2.9-1).

When the Project proceeds to the design phase, the design and location of proposed treatment BMPs would be further evaluated to determine feasibility in relation to R/W limitations, environmental constraints, and/or hydraulic capacity. Additionally, if areas are identified where treatment BMPs cannot be incorporated due to above mentioned reasons, vegetation would be maximized and every effort would be made to ensure the successful establishment of landscaping and erosion control throughout the Project limits. The Project also would consider

any future treatment BMPs that may be approved by Caltrans from ongoing research and monitoring programs.

The proposed swales would be subject to applicable maintenance requirements, pursuant to Section C.23 of the Caltrans Storm Water Quality Handbook Maintenance Staff Guide. Specifically, maintenance activities for vegetated swales typically involve biannual inspections for vegetation management (e.g., removal of woody or excess vegetation), trash and debris removal, erosion/sedimentation remediation, removal of excess sediment, and removal of ponded water or other vector-related problems.

Maintenance BMPs

Maintenance BMPs are water quality controls used to reduce pollutant discharges during highway maintenance and activities conducted at maintenance facilities. Specific proposed maintenance BMPs include the use of storm drain inlet stenciling in pedestrian accessible areas to assist in educating the public about storm water runoff pollution. Additional maintenance BMPs that may be applicable to the Project include vegetation/irrigation management (e.g., weed control, plant replacement, runoff prevention, and inspection/maintenance), slope stabilization inspection and repair (e.g., drainage facility repair), regular inspection/maintenance of drainage facilities (e.g., sediment removal), and street sweeping.

No Build Alternative

Because no Project-related impacts were identified for the No Build Alternative, no associated avoidance, minimization or mitigation measures are proposed.

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2.10 GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY

2.10.1 Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under CEQA.

This subchapter also discusses geology, soils, and seismic concerns as they relate to public safety and Project design. Earthquakes are prime considerations in the design and retrofit of structures. The Caltrans Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects. The current policy is to use the anticipated Maximum Credible Earthquake (MCE) from young faults in and near California. The MCE is defined as the largest earthquake that can be expected to occur on a fault over a particular period of time.

2.10.2 Affected Environment

Three separate Preliminary Geotechnical Reports (PGRs) were prepared for the southern, central, and northern segments of the Project alignment, with these segments designated as Units 2 through 4, respectively, in the corresponding studies (*Preliminary Geotechnical Report, Interstate 805 Managed Lanes South Project – Unit 2, San Diego County, California, 11-SD-805, PM 5.07/9.48, E.A. 11-081610, June 2009*; *Preliminary Geotechnical Report, Interstate 805 Managed Lanes South Project, Unit 3, San Diego County, California, 11-SD-805, PM 9.0±/12.0±, September 2008*; and *Preliminary Geotechnical Report, Interstate 805 Managed Lanes South Project – Unit 4, San Diego County, California, 11-SD-805, PM 12.1/15.72, E.A. 11-081610, June 2009*). The three Project PGRs also reference a number of Preliminary Foundation Reports (PFRs) associated with individual freeway over- and undercrossing (or other) Project structures. The results of the noted PGRs and PFRs are summarized below along with other applicable data, with all 39 of the individual PFRs (and the three geotechnical reports) listed in Chapter 7.0, References. The following analysis is based on the approximately 1,783-acre study area for geologic, soils, seismic, and topographic issues (study area), which incorporates the two build alternatives and adjacent areas that may potentially affect or be affected by Project implementation. The discussions of geologic and related conditions, as well as associated potential Project impacts and avoidance and minimization measures, are based on the study area boundaries or related geographic references. Accordingly, no further discussion of the Unit 2 through 4 designations is provided herein.

Geologic/Topographic Setting

The study area is within the western (coastal) portion of the Peninsular Ranges Geomorphic Province (Province), a region characterized by northwest-trending structural blocks and intervening fault zones. The Province extends approximately 920 miles from the Los Angeles Basin to the southern tip of Baja California, and varies in width from approximately 30 to 100 miles. Bedrock units in the Province include Jurassic (approximately 144 to 206 million years old) metavolcanic and metasedimentary rocks, and Cretaceous (approximately 65 to 144 million years old) igneous rocks of the Southern California Batholith (a large igneous intrusive body). The coastal portion of the Province in San Diego County typically includes a sequence of marine-cut terraces and shallow near-shore deposits comprised of upper Cretaceous, Tertiary (approximately 2 million to 65 million years old), and Quaternary (less than approximately 2 million years old) marine and non-marine sedimentary strata.

Topographically, the Province is composed of generally parallel ranges of steep-sloping hills and mountains separated by alluvial valleys, with adjacent coastal plain/terrace deposits to the west. The boundary between the Quaternary- and Tertiary-age sedimentary strata of the coastal plain/terraces and the older crystalline bedrock is located east of the study area, with the older bedrock units not mapped within or expected to underlie the study area at shallow depths (i.e., depths at which they could potentially be encountered during Project implementation). Geologically recent uplift and erosion has produced the characteristic canyon and mesa topography present today in western San Diego County, as well as the deposition of surficial materials including Quaternary alluvium, colluvium, and topsoil. The study area is characterized by a locally raised or excavated freeway corridor (relative to the surrounding areas), with moderate to steep slopes typically present along both sides of the existing freeway alignment. Topographic features in other portions of the study include local segments of Telegraph Canyon, Sweetwater Valley, Chollas Valley, and Rice Canyon. Elevations within the Project study area range between approximately 70 and 320 feet above mean sea level (MSL).

Stratigraphy

Geologic units mapped within and adjacent (and potentially underlying) the study area include the Tertiary-age San Diego formation; the Quaternary-age Lindavista Formation, Bay Point Formation, and alluvial/slopewash deposits; and recent fill and topsoil materials. Summary descriptions of these deposits are provided below in order of increasing age.

Recent Fill (Qaf)

Fill deposits occur within the study area as freeway embankments and structural backfill for facilities such as bridge abutments and retaining walls. Fill within the existing freeway R/W is assumed to be “documented” (i.e., properly processed, placed and compacted) in the PGRs. Undocumented fill may be present in the additional R/W areas proposed to accommodate Project facilities.

Topsoil

Mapped topsoils within the study area consist primarily of moderately to well-drained loamy to sandy deposits, with local gravel, clay and cobble units. These soils are derived mainly from alluvium and sandy marine sediments. Much of the study area has been previously developed for freeway facilities, local surface streets, and urban structures. Accordingly, most of these mapped soils have likely been removed or altered (e.g., mixed with fill) during construction of freeway (or other) improvements.

Alluvium/Slopewash Deposits (Qal + Qsw)

Local alluvium consists primarily of poorly consolidated stream deposits with variable amounts of silt, sand, and cobble-size grains. Slopewash (or colluvium) deposits typically consist of loose, unconsolidated materials deposited by gravity, and are generally more angular and more poorly sorted (i.e., encompassing different size grains) than alluvium. These materials are not differentiated in local mapping, and occur along larger drainage courses within the northern and southern portions of the study area.

Bay Point Formation (Qbp +Qn)

The Bay Point Formation is comprised predominantly of poorly consolidated, fine- to-medium grained marine and non-marine sandstone. An additional unnamed sandstone unit is mapped with the Bay Point Formation locally (Qn), and consists of fine-grained, well- to poorly sorted, nearshore marine sandstone. These two units are similar in composition and appearance and are not differentiated on local mapping. The Bay Point Formation is mapped extensively in the central portion of the study area, approximately between the Sweetwater River on the south and Imperial Avenue on the north.

Lindavista Formation (Ql)

The Lindavista Formation consists of well-consolidated, nearshore marine and non-marine sandstone and conglomerate interbeds, with a characteristic reddish-brown color from iron content. This formation was deposited on a marine-cut terrace and is mapped relatively extensively in the northern and southern portions of the study area.

San Diego Formation (Tsdss/Tsdcg)

Within the study area, the San Diego Formation generally consists of poorly consolidated, fine- to medium-grained marine sandstones. These strata are typically associated with level or rolling terrain, and are highly erodible when exposed at the surface. The San Diego Formation is mapped in portions of the northern and southern study area, with an overlying (younger) and more resistant conglomeritic unit of this formation mapped further to the east.

Structure and Seismicity

The Project study area, similar to most of southern California, is located within a seismically active region that encompasses several major active faults. No known active faults or State of California Alquist-Priolo Earthquake Fault Zones are located within or adjacent to the study area. The closest active fault structures and related Earthquake Fault Zones to the study area are associated with the Newport-Inglewood/Rose Canyon East Fault Zone (NIE). The NIE is mapped approximately three miles west of the study area at its closest point, and is assigned an estimated MCE of 7.0 by most authors. Additional active faults in the study area region are associated with the Coronado Bank (approximately 15 miles west) and Elsinore (approximately 40 miles to the northeast) fault zones. Several smaller segments of the potentially active La Nacion Fault Zone are mapped within or adjacent to the study area. As described in the PGRs, this fault is assigned a long recurrence interval for earthquake activity and is considered a relatively minor geologic hazard.

Groundwater

Permanent shallow groundwater within the study area has been observed in several locations near the Sweetwater River and one location along Chollas Creek. Documented groundwater depths in these areas are between approximately 5 and 26 feet at the Sweetwater River sites, and 20 to 50 feet at Chollas Creek location (refer to Subchapter 2.8, Hydrology and Floodplain, and Appendix H). The PGRs also note that perched groundwater may occur locally and/or seasonally within the study area, especially near drainage features, and conclude that it's not uncommon for groundwater or seepage conditions to develop where none previously existed. Perched groundwater generally consists of one or more shallow aquifers separated from the permanent water table by impermeable or semi-permeable strata.

National Natural Landmark Status

Based on the noted geologic and topographic information, the study area is not anticipated to contain any rare, high quality, or scientifically significant geologic or topographic resources, and does not encompass any areas designated as National Natural Landmarks (refer also to Subchapter 2.6, Visual/Aesthetics).

2.10.3 Environmental Consequences

The PGRs and PFRs do not identify any conditions that would preclude Project development, although a number of potential geologic issues are noted and several recommendations are provided to address these conditions. Specifically, these include conducting comprehensive geotechnical evaluations, including subsurface exploration and laboratory testing, prior to Project design and construction. These investigations would be intended to further evaluate geologic conditions and provide information regarding the engineering characteristics of earth materials present within the study area. From these data, detailed Geotechnical Design Reports (GDRs) and Foundation Reports (FRs) would be prepared to provide specific geotechnical recommendations for design and construction of the Project facilities. In addition to these detailed investigations, the PGRs and PFRs identify a number of recommendations related to individual seismic and non-seismic geotechnical hazards within the study area, as summarized below. Potential Project impacts related to erosion/sedimentation and shallow groundwater are addressed in Subchapter 2.9, Water Quality and Storm Water Runoff.

Build Alternatives

Seismic Hazards

Fault Rupture

Implementation of either build alternative would not generally be subject to seismic ground rupture hazards and/or related effects such as lurching (i.e., the rolling motion of surface materials associated with passing seismic waves), based on the fact that no known active faults are located within or adjacent to the study area. While the potential for ground rupture and lurching cannot be totally discounted (e.g., such effects may occur locally as a result of off-site seismic events), the potential for these types of effects is identified as low in the PGRs and PFRs.

Ground Acceleration

The estimated peak ground acceleration level for the study area and vicinity of 0.5g (where “g” is the acceleration due to gravity) is representative of similar areas in southern California, and would potentially result in seismic ground acceleration impacts to proposed facilities, such as structures, foundations, and/or utilities. In addition, the Project PGRs and PFRs note that ground acceleration levels may vary locally based on site-specific criteria such as soil profile types and acceleration response spectrum attenuation factors. Based on these conditions, additional investigation is recommended in the Project PGRs and PFRs to verify and/or modify the identified seismic design parameters and related assumptions, as applicable. Implementation of either build alternative would incorporate appropriate design and construction measures to accommodate projected seismic loading, pursuant to recommendations in the Project PGRs and PFRs, as well as the identified subsequent detailed geotechnical analyses

(i.e., the GDRs and FRs). This would include peak ground acceleration levels, as well as applicable seismic parameters from sources such as Caltrans standards, the IBC, and the related California Building Code (CBC).

Liquefaction and Seismic Settlement

Liquefaction is the phenomenon whereby soils exhibit fluid-like flow behavior. Loose, granular materials with low relative densities are most susceptible to these effects, with liquefaction potential greatest in saturated soils at relatively shallow depths. Liquefaction most typically results from seismic ground acceleration, with the resulting loss of support and/or related effects such as seismic settlement potentially generating impacts to surface and subsurface facilities including pavement, foundations, and utilities. The majority of the study area is underlain by compacted fill and/or dense rock units with a relatively deep groundwater table, and would not be subject to substantial liquefaction and settlement impacts. Portions of the southern study area in the vicinity of the Sweetwater River, however, are identified as exhibiting moderate to high potentials for liquefaction and settlement, due to the presence of low relative density coarse-grained soils and high groundwater levels. These areas, as well as a number of additional locations with proposed crossing structure modifications/replacements, are recommended for additional liquefaction/settlement analysis in the Project GDRs and FRs (refer to Appendix H). Implementation of either build alternative would include completion of these analyses and conformance with associated recommendations and applicable Caltrans and other appropriate regulatory/ technical standards (e.g., the IBC and CBC).

Non-seismic Hazards

Landslides and Slope Instability

The occurrence of landslides and other types of slope failures (e.g., rock falls) is influenced by a number of factors, including slope grade, geologic and soil characteristics, moisture levels, and vegetation cover. Landslides can be triggered by one or more specific or combined events, such as gravity, fires, precipitation, and seismic activity. Landslide hazards within the study area are identified as generally low in the Project PGRs, based on topographic profiles, the lack of identified on-site or adjacent landslide deposits, and the fact that on-site formational materials are typically not landslide prone. The study area does include a number of manufactured slopes and embankments, with associated potential instability impacts evaluated in the Project PGRs and PFRs. These studies conclude that properly designed manufactured slopes within the study area would conform with appropriate safety factors at maximum horizontal to vertical grades of between 1.5 and 3:1. Implementation of either build alternative would include conformance with associated recommendations in the PGRs and PFRs, as well as applicable regulatory/technical standards (e.g., the IBC and CBC).

The Project PGRs identify potential issues associated with the stability of slopes generated during temporary (construction-related) excavations. A number of related recommendations are provided involving conformance with applicable Caltrans, Occupational Safety and Health Act (OSHA) and California Division of Occupational Safety and Health (Cal/OSHA) standards to ensure excavation stability. Implementation of either build alternative would include conformance with these recommendations and associated regulatory/technical standards.

Additional potential concerns related to slope instability include short-term (construction) surficial effects such as erosion and sedimentation, particularly on manufactured slopes. These

potential issues are discussed in Subchapter 2.9, and would be addressed for either build alternative through the implementation of appropriate construction BMPs.

Retaining Walls

The Project design for either build alternative includes a number of retaining walls along both sides of the alignment. The Project PGRs identify related potential concerns associated with retaining wall instability, as well as recommendations for preliminary design parameters and additional investigation in the GDRs. Implementation of either build alternative would include conformance with these recommendations and associated regulatory/technical standards.

Expansive, Collapsible or Compressible Soils

Expansive (or shrink-swell) behavior is attributable to the water-holding capacity of certain clay minerals, and can affect the integrity of facilities, such as pavement or structure foundations. The Project PGRs note that expansive soils may occur within the study area, and identify recommendations such as appropriate grading practices to address related effects. Implementation of either build alternative would include conformance with recommendations from the PGRs and GDRs, as well as applicable regulatory/technical standards including the IBC and CBC.

Collapsible soils are generally defined as materials that compact and collapse after they become saturated. That is, individual soil particles that are loosely packed slip past each other after moisture is introduced, with this sudden compaction resulting in a "collapse." The Project PGRs note that collapsible soils are generally absent from the study area, with associated impacts therefore not expected for either build alternative.

While potential hazards related to compressible soils generally are not identified in the Project PGRs or PFRs, potential settlement issues are identified for areas where embankments (or other manufactured slopes) are constructed over native materials. This is particularly applicable in areas of fine-grained alluvial or fluvial deposits consisting of soft organic clay that are too thick for removal and replacement (e.g., near the Sweetwater River). The reports go on to recommend that settlement periods may be needed locally to ensure that post-construction settlement is minimized. Implementation of either build alternative would include conformance with associated recommendations in the Project PGRs and PFRs, as well as applicable regulatory/technical standards such as the IBC and CBC).

Corrosive Soils

Sampling and testing for the potential corrosive properties of study area soils was not conducted as part of the Project PGRs or PFRs. All of these studies, however, recommend site-specific soil corrosion testing as part of the detailed evaluations to be completed during the Project GDRs and FRs. Implementation of either build alternative would include implementation of these analyses and conformance with associated recommendations and Caltrans and/or applicable regulatory/technical standards (e.g., the IBC and CBC).

Excavation/Generation of Oversize Materials

The PGRs note that Project excavation within the Lindavista Formation and the conglomerate unit of the San Diego Formation (if encountered) would be likely to produce large quantities of gravel and cobble size grains. While such conditions would not, in and of themselves, represent

geotechnical constraints, the removal of excessive gravel and cobble materials would be required to reuse the excavated materials as Project fill. Implementation of either build alternative would include conformance with these recommendations and associated regulatory/technical standards (e.g., IBC/CBC).

Scour

Potential scour-related effects are evaluated for all proposed crossing structures in the Project PFRs. Potential adverse impacts related to scour identified in these analyses are limited to proposed widening/replacement activities at the Sweetwater River Bridge. The associated PFR (June 2008) identifies an estimated maximum calculated scour level of 8.2 feet below the channel bottom, with measures to address these potential impacts provided in a related hydraulic report (*Structure Preliminary Hydraulic Report, I-805 Managed Lanes South Project*, March 2008). Implementation of either build alternative would include conformance with these recommendations and associated regulatory/technical standards.

National Natural Landmarks

As previously noted, the study area does not encompass any rare, high quality or scientifically significant geologic or topographic resources, and is not within any areas designated as National Natural Landmarks. Accordingly, no associated impacts would occur from implementation of either build alternative.

No Build Alternative

Under the No Build Alternative, the described development actions for Build Alternatives 1 and 2 would not occur, and no associated impacts related to geologic, soil, seismic, or topographic conditions would result.

2.10.4 Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

Based on the discussions provided in Section 2.10.3, no substantial impacts related to geology, soils, seismicity, and topography would occur under Build Alternatives 1 or 2 due to incorporation of appropriate design considerations and no associated mitigation measures are required. The Project PGRs and PFRs, however, recommend that additional detailed subsurface exploration and laboratory testing be conducted as part of the Project GDRs and FRs. These evaluations, which are standard Caltrans requirements, would assess subsurface conditions in proposed development areas and provide related information/recommendations regarding engineering characteristics of associated earth materials. From these data, specific recommendations would be generated for applicable geotechnical issues to ensure conformance with associated regulatory and design requirements. Specific facilities recommended in the PGRs and PFRs for detailed analysis include crossing structure foundations, abutments, bents, retaining and sound walls, large embankments (as applicable), and other appropriate facilities such as culverts and overhead signs. While these investigations generally would be conducted for the study area as a whole during the GDRs and FRs, the PGRs and PFRs also identify individual areas recommended for detailed evaluation, including locations near the Sweetwater River), Las Chollas Creek, and South Las Chollas Creek.

The following types of standard design and construction measures may be considered in the noted GDRs and/or FRs for either build alternative, based on recommendations in the Project PGRs and PFRs, as well as applicable regulatory/industry standards (e.g., the IBC and CBC). Implementation of these or other appropriate measures identified during detailed investigations would avoid or minimize any potential impacts related to geology, soils, seismicity, or topography for either build alternative.

- Potential impacts related to seismic ground acceleration would be addressed/avoided through efforts such as: (1) conformance with applicable seismic parameters from sources, including Caltrans standards and the IBC/CBC; (2) use of properly engineered fill; (3) appropriate foundation and pavement design; (4) use of properly reinforced concrete and masonry; and (5) appropriate structure and utility design.
- Potential liquefaction and seismic settlement effects would be addressed/avoided through efforts such as: (1) conformance with applicable seismic parameters from sources, including Caltrans standards and the IBC/CBC; (2) removal and recompaction or replacement of materials susceptible to liquefaction or seismic settlement with engineered fill; (3) in-place soil and/or structural modifications such as compaction grouting, soil mixing, dynamic compaction, or driving piles below liquefiable layers; and (4) use of subdrains in appropriate areas.
- Potential impacts related to manufactured slope/excavation instability hazards would be addressed/avoided through efforts such as: (1) limitation of individual manufactured slope grades per geotechnical recommendations; (2) use of proper BMPs related to landscaping, erosion/sedimentation and drainage control as identified in Subchapters 2.8 and 2.9; and (3) conformance with applicable Caltrans, OSHA and Cal/OSHA standards (e.g., limiting slope grades and incorporating appropriate shoring).
- Potential impacts related to the instability of retaining walls would be addressed/avoided through efforts such as: (1) use of appropriate footing and foundation design per geotechnical recommendations; (2) use of appropriate stabilizing techniques such as soil nail, tieback and/or MSE walls; (3) conformance with appropriate recommendations and regulatory/industry standards regarding wall design and loading; and (4) provision of appropriate drainage.
- Expansive or compressive characteristics in surficial materials would be addressed/avoided through efforts such as: (1) removal and recompaction or replacement of unsuitable soils with engineered fill; (2) selective placement and/or capping of expansive soils; (3) use of subdrains and moisture conditioning in areas of expansive soils; (4) soil mixing and use of specially designed foundations or slabs in areas of expansive deposits; (5) use of in-place soil modifications in areas of compressible soils (as described above for liquefaction/seismic settlement); (6) surcharging of compressible materials left in place to accelerate consolidation rates; and (7) implementation of settlement monitoring periods/monuments in areas of compressible soils.
- Potential impacts associated with corrosive soils would be addressed/avoided through efforts such as: (1) removal of unsuitable deposits and replacement with non-corrosive fill, (2) use of corrosion-resistant construction materials and (3) installation of cathodic protection devices.

- Potential impacts related to oversize materials would be addressed/avoided through efforts such as screening and removal (e.g., off-site disposal) of materials unsuitable for use in on-site fills, selective burial of oversize materials in deeper fills, or crushing to appropriate size for use in on-site fill.
- Potential impacts related to scour at the Sweetwater River Bridge would be addressed/avoided through conformance with associated geotechnical recommendations, including efforts such as the use of: (1) riprap revetments at bents 2, 3 and 4; and (2) grouted riprap along reconstructed portions of the channel banks.

No Build Alternative

Because no Project-related impacts were identified for the No Build Alternative, no associated avoidance, minimization or mitigation measures are required.

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2.11 PALEONTOLOGY

The following analysis describes existing paleontological resource conditions within the Project study area, identifies associated regulatory requirements, and evaluates potential impacts and avoidance, minimization, and/or mitigation measures related to implementation of the Project.

2.11.1 Regulatory Setting

Paleontology is the study of life in past geologic time based on fossil plants and animals. A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized or funded projects (e.g., the Antiquities Act of 1906 [16 USC 431-433], Federal-Aid Highway Act of 1935 [20 USC 78]). Under California law, paleontological resources are protected by CEQA; the California Code, Title 14, Division 3, Chapter 1, Sections 4307 and 4309; and PRC Section 5097.5.

2.11.2 Affected Environment

A Paleontological Resource Assessment (PRA) was conducted for the Project alignment (*Paleontological Resource Assessment, I-805 Managed Lanes South Project, Caltrans District 11, San Diego County*, January 2009), which contains a Paleontological Identification Report (PIR), Paleontological Evaluation Report (PER), and Paleontological Mitigation Plan (PMP). The paleontological study area incorporates the two build alternatives, as well as applicable adjacent areas that may potentially be affected by Project implementation (refer to Figures 1-1 and 1-2).

Paleontological resources (i.e., fossils) are the remains and/or traces of prehistoric plant and animal life exclusive of humans. Fossil remains such as bones, teeth, shells, leaves, and wood are found in the geologic deposits (formations) within which they were originally buried. Paleontological resources can be thought of as including not only the actual fossil remains but also the collecting localities and the geologic formations containing those localities.

Existing Conditions

Based on the present geologic research provided, the geologic rock units observed or expected to occur within the study area include the Quaternary-age Lindavista and Bay Point Formations, the Tertiary-age San Diego Formation, and the Oligocene-age Otay Formation. The Lindavista, Bay Point, San Diego, and Otay formations are all assigned a high potential rating for paleontological resources. A high potential rating applies to rock units which, based on previous studies, contain or are likely to contain significant vertebrate, invertebrate, or plant fossils.

Surficial materials within the study area include recent fill deposits and topsoils, as well as Quaternary-age alluvium/slopewash. Paleontological resource potential for alluvium/slopewash is typically identified as low in most locations, based on the associated high-energy and destructive (relative to paleontological resources) mode of formation and depositional environment. Artificial fill and topsoil deposits are generally assigned no potential for paleontological resources, due to their recent age and similar formation/deposition conditions as described for alluvium.

2.11.3 Environmental Consequences

Direct impacts to paleontological resources occur when earthwork activities, such as mass grading and/or trenching operations, cut into the geological deposits (formations) within which fossils are buried. These direct impacts are in the form of physical destruction of fossil remains. Since fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable.

Build Alternative 1

Grading and excavation activities associated with Build Alternative 1 would potentially affect previously undisturbed portions of the high sensitivity Lindavista, Bay Point, and San Diego formations, which would result in the destruction of unique or significant paleontological resources.

No impacts would be associated with potential disturbance of fill, topsoils or alluvial/slopewash deposits, due to their described low level (or lack) of paleontological resource potential.

Build Alternative 2

Potential impacts to paleontological resources for this alternative would be the same as those described above for the Build Alternative 1.

No Build Alternative

Under the No Build Alternative, the described development actions for Build Alternatives 1 and 2 would not occur, and no project-related impacts to paleontological resources would result.

2.11.4 Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

Avoidance, minimization, and mitigation recommendations for implementation of both described build alternatives would involve preparation and implementation of an approved Paleontological Mitigation Program (PMP). The PMP would likely include the following measures, based on recommendations in the Project PRA.

- A qualified paleontologist would attend the pre-construction meeting to consult with the grading and excavation contractors concerning excavation schedules, paleontological field techniques, and safety issues. A qualified paleontologist is defined as an individual with an M.S. or Ph.D. in paleontology or geology, who is familiar with paleontological procedures and techniques, who is knowledgeable in the geology and paleontology of San Diego County, and who has worked as a paleontological mitigation project supervisor in the County for at least one year.
- Grading plans would be provided to the Project paleontologist at least one week prior to the initiation of earth-moving activities.
- A paleontological monitor would be on site on a full-time basis during the original cutting of previously undisturbed deposits with high or moderate paleontological resource potential (i.e., the Bay Point, Lindavista, and San Diego formations) to inspect exposures

for contained fossils. A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials. The paleontological monitor would work under the direction of the qualified paleontologist. As grading progresses, the qualified paleontologist and paleontological monitor would have the authority to reduce the scope of the monitoring program to an appropriate level if it is determined that the potential for impacts to paleontological resources is lower than anticipated.

- If fossils are discovered, the paleontologist (or paleontological monitor) would recover them. In most cases, this fossil salvage can be completed in a short period of time, although if necessary the paleontologist (or paleontological monitor) would be allowed to briefly redirect, divert, or halt grading. Certain fossil specimens, however (e.g., a complete large mammal skeleton), may require an extended salvage period. In these instances, the paleontologist (or paleontological monitor) would be allowed to redirect, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for recovery of small fossil remains, such as shark and teleost (fish) teeth, it may be necessary to set up an on-site screen-washing operation.
- During the monitoring and recovery phases of the PMP, the paleontologist and/or paleontological monitor would also routinely collect stratigraphic data to provide an adequate stratigraphic context for any recovered fossils. Specific data to be collected would include the lithology, vertical and lateral extent, nature of upper and lower contacts, and taphonomic character (i.e., the manner in which organisms become fossilized) of exposed strata.
- Fossil remains collected during monitoring and salvage would be cleaned (removal of extraneous enclosing sedimentary rock material), repaired (consolidation of fragile fossils and gluing together of broken pieces), sorted (separating fossils of different species), and cataloged (scientific identification of species, assignment of inventory tracking numbers, and recording of these numbers in a computerized collection database) as part of the mitigation program.
- Prepared fossils, along with copies of all pertinent field notes, photos and maps, would be deposited (as a donation) in an accredited scientific institution with permanent paleontological collections, such as the San Diego Natural History Museum. Donation of the fossils would be accompanied by financial support for preparation, curation, and initial specimen storage, if this work has not already been completed.
- A final summary report would be completed that outlines the results of the mitigation program. This report would include discussion of the methods used, stratigraphic section(s) exposed and documented, fossils collected, and significance of recovered fossils.

No Build Alternative

Because no impacts were identified for the No Build Alternative, no associated avoidance, minimization, or mitigation measures are required.

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2.12 HAZARDOUS WASTE/MATERIALS

2.12.1 Regulatory Setting

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for “cradle to grave” regulation of hazardous wastes. Other federal laws include:

- Community Environmental Response Facilitation Act of 1992
- CWA
- Clean Air Act (CAA)
- Safe Drinking Water Act
- OSHA
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, EO 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

Hazardous waste in California is regulated primarily under the authority of the federal RCRA, and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction.

2.12.2 Affected Environment

An ISA (September 2008), a Site Investigation Report (*Site Investigation Report, DAR/Park and Ride Lots/805 South HOV Lanes*, June 2010), and an Aerially Deposited Lead Study (*Aerially Deposited Lead Summary Report, I-805 Managed Lanes South Project, San Diego, California*, March 2009) were prepared for the Project to evaluate potential hazardous waste concerns within the Project area including I-805 between Orange Avenue in Chula Vista and the Landis Street overcrossing in San Diego, as well as approximately 250 feet east and west of the freeway R/W. These reports are summarized within this subchapter.

Records Review

Public records sources were reviewed to identify documented hazardous waste impacts located on or adjacent to the Project site. Records reviewed included federal, state, local, and regional environmental regulatory agency public records databases, as well as online regulatory databases, historic reports, and other reference materials. The results of the records review are described below.

Relevant information listed in the regulatory agencies' public records databases is summarized in Table 2.12-1 below followed by information regarding other areas of concern.

Table 2.12-1 FACILITIES OF POTENTIAL ENVIRONMENTAL CONCERN	
Facility Name and Address	Summary of Release/Cleanup Information/Case Status
Holy Cross Cemetery and Mausoleum 4470 Hilltop Drive San Diego, California	The northern and western portions of the cemetery are located within the Project limits. Contaminated soil was detected near a gasoline above ground storage tank (AST) and pump (locations not documented).
Tony's Auto Body and Paint Shop 107 South 47 th Street San Diego, California	Auto repair facility located on the southeastern corner of Imperial Avenue and 47 th Street with contaminants detected in on-site monitoring wells. Impacts to groundwater from total petroleum hydrocarbons (TPH) include gasoline (TPH-g), benzene, and tert-butyl alcohol (TBA).
Sanesco 235 South 47 th Street San Diego, California	Gas station on the northeast corner of Franklin Avenue and South 47 th Street associated with one closed unauthorized release case affecting groundwater; approximately 1,500 and 20 cubic yards (cy) of gasoline- and waste oil-impacted soil, respectively, remains at the site.
Gaylord Green Estate 840 South 47 th Street San Diego, California	Currently a taco shop located on the northwest corner of 47 th Street and Logan Avenue associated with one closed, unauthorized release case from the removal of gasoline and waste oil USTs; approximately 116 cy of soil contaminated with TPH and benzene remains at the site.
California Army National Guard/ Verizon Wireless 303 Palm Avenue National City, California	Facility located on the northeast corner of Palm Avenue and East 4 th Street with no documented unauthorized releases; however, sign indicating excavation of petroleum-impacted soil, waste oil AST, and concrete wash rack present on site. Other waste streams generated at the facility include used oil, hydrocarbon solvents, oil filters, batteries, oily sludge, etc. Verizon Wireless station holds a Department of Environmental Health (DEH) hazardous materials permit for storage of sulfuric battery acid.
Chevron Station 95 Bonita Road Chula Vista, California	Gas station located on the north side of Bonita Road, west of I-805 with an unauthorized release case associated with an older UST system that was removed and replaced.
Circle K/76 Gas Station 98 Bonita Road Chula Vista, California	Gas station located on the southwest corner of Bonita Road and Bonita Glen Drive associated with one closed, unauthorized release case; TPH-g and methyl tertiary butyl ether (MTBE) detected in groundwater.
Shell Gas Station/Car Wash 100 Bonita Road Chula Vista, California	Gas station located on the southeast corner of Bonita Road and Bonita Glen Drive associated with one closed, unauthorized release case; MTBE and TBA detected in groundwater and approximately 21 cy of soil with TPH concentrations greater than 100 mg/kg remain.
Unocal Service Station 1495 East Melrose Avenue Chula Vista, California	Gas station located on the northeast corner of Orange Avenue and East Melrose Avenue associated with one closed, unauthorized release case involving gasoline- and waste oil-impacted soil from USTs; approximately 5,000 and 10 cy of gasoline- and waste oil-impacted soil, respectively, remains at the site.
Telegraph Canyon Shell 501 Telegraph Canyon Road Chula Vista, California	Gas station located on the northeast corner of Halecrest Drive and Telegraph Canyon Road associated with one closed, unauthorized release case involving removal of a 500-gallon waste oil UST; 25 cy of petroleum hydrocarbon-impacted soil remain.

Table 2.12-1 (cont.) FACILITIES OF POTENTIAL ENVIRONMENTAL CONCERN	
Facility Name and Address	Summary of Release/Cleanup Information/Case Status
Arco Oil Refining Corp. 495 Telegraph Canyon Road Chula Vista, California	Former gas station property located on the northwest corner of Halecrest Drive and Telegraph Canyon Road currently occupied by an auto repair business associated with two closed, unauthorized release cases: gasoline-impacted soil from former USTs on site and TPH-impacted soil beneath dispensers, approximately 20 cy of which remain.
Canyon Mobile 404 Telegraph Canyon Road Chula Vista, California	Gas station located on the southeast corner of Telegraph Canyon Road and Nacion Avenue associated with one closed, unauthorized release case involving petroleum hydrocarbon-impacted soil present beneath the former USTs and dispenser islands.
Arco Gas Station 401 Telegraph Canyon Road Chula Vista, California	Gas station located on the northern corner of Telegraph Canyon Road and Nacion Avenue associated with two closed, unauthorized release cases; approximately 188 cy of petroleum hydrocarbon-impacted soil from UST system releases remain.

Emergency Response Notification System Cases

There are five facilities within the study area listed in the Emergency Response Notification System database as being potentially associated with a release. The Alley behind 3645 Nile Street adjacent to the freeway R/W is associated with an abandoned container of Freon and/or waste oil. In 1993, a small amount of residue was released from an overturned nitrogen tanker on I-805 at East Plaza Boulevard. In November 1990, approximately 100 gallons of diesel fuel were spilled at May Cooking Company, located on the corner of 47th Street and Logan Avenue in National City. In 1992 and 1999, approximately 150 and 120 gallons of diesel oil were spilled in undocumented locations on NB I-805 south of Telegraph Canyon Road and at SR 54, respectively. All releases were contained and cleaned.

Department of Toxic Substances State Sites Cases

Two school facilities adjacent to the Project site were listed on the California Department of Toxic Substances Control (DTSC) State Sites database, including Chollas Elementary School, located at the southeast quadrant of the 45th Street/Market Street intersection, and “Kennedy Knox School Site No. 3” (which was developed as Kennedy Child Development Center and Walter Porter Elementary School), located at 445 South 47th Street. Concerns associated with the school sites included lead and asbestos. A “No Further Action” status was granted to both of these sites.

Historical Refuse Dumps and Burn Sites

According to a “Report on Refuse Dumps” prepared by the City of San Diego Planning Commission, dated January 31, 1938, historical dump sites and burn sites were common around the Project site in the general vicinity of what are now Home Avenue, Federal Boulevard, Fairmount Avenue, SR 94, and Chollas Creek. Trash was frequently dumped and/or burned in major and minor canyons, creeks, tributaries, drainages, and associated slopes. Each of the former dump and burn sites located on and adjacent to the Project site have been remediated under the oversight of the USEPA and/or the DTSC.

Oil, Gas, and Geothermal Fields

In the California Department of Conservation (CDC) Digital Well Location Database, two wells within the Project vicinity were identified as “drilling-idle” wells. These wells are located more

than 500 feet east and west of the Project site in and around National City. No on-site wells were identified. In addition, the Project site is not located within a sedimentary basin region with oil, gas, or geothermal production.

Naturally Occurring Asbestos

Based on a review of the CDC reference material, ultramafic rocks with a higher likelihood of containing naturally occurring asbestos are generally not located in the vicinity of the Project site.

Site Reconnaissance

A site reconnaissance was conducted on the Project site and within 250 feet of the freeway R/W to obtain information to assess the potential for recognized environmental conditions (RECs). Potential environmental concerns documented during the site reconnaissance included hazardous materials and hazardous waste, storage, above ground storage tanks (ASTs), underground storage tanks (USTs), staining on soil or pavement, leaking or old containers, evidence of burn ash, and hydraulic lifts. Observations were evaluated as to whether they would be considered evidence of RECs (the presence or likely presence of hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of release into the ground, groundwater, or surface water).

Hazardous materials and waste storage areas were observed at multiple properties within the study area, including schools, restaurants, and commercial businesses. Motor oil containers, retail amounts of cleaners, drums of antifreeze and waste antifreeze, and electrical waste were observed during site reconnaissance, primarily associated with auto facilities, gas stations, and car washes. Other containers were observed that may contain used products that may be considered a hazardous waste. Clarifier systems and sumps/collection reservoirs were observed to be connected to car wash facilities. Soil, concrete, and asphalt staining was observed at multiple sites, often in the areas around ASTs. Additionally, miscellaneous solid waste and trash debris including kitchen appliances, car and truck tires, metal and wood debris, and municipal trash were observed on several of the parcels surveyed.

Five ASTs containing sodium hypochlorite (bleach), ammonia sulfate, diesel fuel, and water were present on a parcel located adjacent to the I-805 near the Division Street undercrossing and used by Sweetwater Authority as a potable water pump station. ASTs containing dry cleaning solvents, automotive fluids, waste oil, non-gasoline organics, etc. were observed at gas station sites and automotive facilities. Aboveground grease containers were observed at restaurant and church sites. USTs containing unleaded gasoline, super-unleaded gasoline, diesel fuel, and waste oil were observed during site reconnaissance, primarily associated with gas stations and auto repair facilities.

Sixteen hydraulic lifts with aboveground hydraulic fuel reservoirs were observed at a City of San Diego Police Department Vehicle Maintenance facility on Federal Boulevard during site reconnaissance. In addition, the property is equipped with a fuel dispensing island associated with one 20,000-gallon UST containing unleaded gasoline; four ASTs storing oil, transmission fluid, coolant, and diesel fuel; and two ASTs containing waste oil. A former vehicle maintenance facility operated by the California National Guard also contains USTs.

Commonly Encountered Conditions

Aerially Deposited Lead

Based on historical site use (freeway) and previous soil sample results, there is the potential that ADL may be present. The ADL would have been deposited in soils within the center median and adjacent to the existing freeway due to vehicular exhaust emissions prior to the elimination of lead from fuels in the mid-1980s.

An ADL summary report was prepared to summarize historical data collected along I-805, SR 15, and SR 94 within the study area (*Aerially Deposited Lead Summary Report, I-805 Managed Lanes South Project, San Diego, California, March 2009*). Previous investigations were performed in the area of the Project site from 1995 to 2001. These historical results provide information about what was present in soil samples collected at the site and what may be found in unpaved areas where no previous sampling or soil disturbance activities have occurred. This prior statistical analysis of soluble lead concentrations for samples collected within Caltrans R/W indicates the potential presence of lead-impacted soils within the Project area.

The ADL report indicates that the soil in the Project area would be subject to a variance issued by the DTSC. This variance specifies that ADL-impacted soil within a highway R/W may be used as fill material within the R/W during earth moving and road construction activities provided that the waste meets specific criteria met by the variance (*Lead Contaminated Soil Caused by Aerially Deposited Lead, June 2009*). Soil sampling would be conducted in the proposed area of improvements to evaluate how the excavated soil will be handled within the Project or where it can be disposed of, if necessary.

Hazardous Building Materials

Asbestos-containing materials (ACMs) may be present in bridge joint and piping materials within the Project site. Lead-containing surfaces (LCSs) also may be present on surfaces, such as roadway striping, metal guard rails, piping, and bridge components within the Project site. There is also potential for creosote-treated wood used as metal beam guardrail supports and in the telephone poles to be present within the Project site. Creosote is a wood preservative containing polycyclic aromatic hydrocarbons (PAHs).

In addition, structures within, or adjacent to, the Project site may contain ACMs, LCSs, and other hazardous building materials (e.g., thermostats/switches; light ballasts; fluorescent light tubes; exit signs; heating, ventilation, and air conditioning units; halogen light bulbs, fire extinguishers, refrigerators, etc.) given the relative age of their construction.

Railroad Components

A railroad R/W utilized by the trolley extends through the Project area and crosses over I-805 on an overcrossing structure between the Market Street and Imperial Avenue interchanges. The wooden railroad ties observed during site reconnaissance may have been treated with creosote. Equipment and materials often associated with older railroads, such as lead- and acid-containing batteries, ballast materials containing steel slag with potential regulated heavy metal concentrations, and railroad lubricators utilizing petroleum products, may have been used on site. In addition, historically, herbicides were often sprayed on railroad R/Ws to prevent growth of vegetation between railroad tracks. Soil may have been impacted by these materials.

Soil Sampling

Soil samples were collected in 2010 at the location of the proposed eastern park-and-ride lot near East Palomar Street (between Raven Avenue and Oleander Avenue in Chula Vista). A total of 25 samples were analyzed for contaminants.

Limitations

Access to several properties adjacent to the I-805 was not granted by the tenant or property owner and interviews with knowledgeable site representatives were not available for several properties. Appendix C in the ISA identifies these specific properties. Additionally, soil sampling was limited to one parcel of the proposed park-and-ride lot near East Palomar Street.

2.12.3 Environmental Consequences

Build Alternatives

The build alternatives would occur in the same locations with similar Project footprints. The study area for hazardous waste/materials is the same under both build alternatives. Therefore, potential impacts under both build alternatives would be the same.

Facilities of Potential Environmental Concern

The regulatory agency database records were reviewed to evaluate whether the listed properties posed a potential environmental concern to the Project site, based on their distance from the Project site, the assumed direction of groundwater flow, the type of database on which they are listed, the nature of facility or waste generated, and/or their case status. Listed facilities in the databases containing hazardous waste/materials generators/users (i.e., USEPA RCRA Large and Small Quantity Generators List [RCRA GEN], Department of Environmental Health [DEH] Hazardous Materials Establishments [PERMITS], and SWRCB UST/AST Registration Lists) within the Project area were determined to have a low likelihood of impacting the Project site (refer to Table 2.12-1 for a list of facilities).

Recognized Environmental Conditions

The study area RECs were identified through records searches and site reconnaissance. These RECs include some of the facilities of potential environmental concern contained in Table 2.12-1, the previously described historical refuse dumps and burn sites, properties identified during site reconnaissance as containing hazardous waste/materials storage, USTs/ASTs, and current and previous uses within the Project site. Contaminants of potential concern associated with the RECs include metals, copper, lead, total petroleum hydrocarbons (TPH), total recoverable petroleum hydrocarbons (TRPHs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and pesticides. These contaminants could be encountered during Project construction.

Soil samples collected at the location of the proposed park-and-ride lot did not contain concentrations of contaminants in excess of applicable screening levels.

No RECs are currently impacted by the proposed alignments. As design of the Project proceeds if any RECs are impacted, further testing would be completed.

Aerially Deposited Lead

As discussed above, previous assessments have indicated that soil impacted with California-hazardous levels of lead has been documented along portions of the Project site. Soil on other portions may have been impacted by ADL as a result of emissions from vehicular exhaust prior to the elimination of lead from fuels in the mid-1980s. Further sampling would be done prior to final design to determine levels of concentration and soil handling requirements.

Based on the guidance set forth by Caltrans for the applicability of the DTSC Variance soil in the Project area would qualify for reuse in Caltrans R/W under at least one foot of clean fill and five feet minimum above the groundwater table. Soil within the Project area would likely be classified and managed as California hazardous waste.

Hazardous Building Materials

LCSs on surfaces such as roadway striping, metal guard rails, and piping, as well as creosote-treated wood within metal beam guardrail supports, railroad ties, and telephone poles, may be present within the Project site. ACMs may be present on piping materials. Herbicides and contaminants associated with historically used railroad equipment and materials may be present within the railroad R/W that crosses the Project site. Additional testing would be required to determine the presence of these hazardous materials.

Based on the age of the structures in the Project area, it is assumed that ACMs are present. Testing would be conducted on affected structures to determine quantities and handling procedures. Testing would be done prior to final design.

No Build Alternative

The No Build Alternative would not result in grading or excavation of soils or the removal of structures and other infrastructure within the Project limits; thus there would be no potential to encounter hazardous materials.

2.12.4 Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

The following avoidance and minimization measures would effectively avoid or address potential impacts related to hazardous waste/materials from the Build Alternatives:

- Sampling would be conducted to characterize soil and/or groundwater in areas of concern prior to property acquisition by Caltrans and disturbance of soil if:
 - Staining, dumping, or other evidence of a release to the ground water surface was observed during site reconnaissance;
 - The current nature of the business on the site (e.g., gas station, auto repair, etc.), or the historical use of the property indicates on-site hazardous waste/materials generators/users; or
 - Previous agricultural usage of the site indicates the potential for residual pesticides, herbicides, insecticides, or agriculturally related hazardous waste/materials storage/ staging or application.

- Prior to commencement of excavation activities, shallow soil sampling would be conducted in the proposed area of improvements to evaluate whether lead is present in the soil, and, if so, the concentration and areal extent. As such, Caltrans' regulations regarding the removal and reuse of lead-impacted soil in R/W in California would be observed.
- Prior to commencement of excavation activities, wastes and potentially hazardous wastes on site, including municipal trash, discarded appliances, old tires, and equipment, would be removed and disposed of in accordance with applicable regulations.
- If treated wood is present on the Project site and would be removed during construction, it would be characterized, managed, and disposed of in accordance with applicable DTSC Treated Wood Waste regulations.
- Prior to commencement of excavation activities, a Site and Community Health and Safety Plan would be prepared to manage potential health and safety hazards to workers and the public.
- Prior to commencement of excavation activities, a Soil Management Plan would be prepared to address the notification, monitoring, sampling, testing, handling, storage, and disposal of contaminated media or substances that may be encountered during construction activities.
- If groundwater is anticipated to be encountered during subsurface activities, a Groundwater Management Plan would be prepared prior to commencement of excavation activities to address the notification, monitoring, sampling, testing, handling, storage, and disposal of potentially contaminated groundwater.
- Contract specifications would include references to the potential to encounter contaminated soil, groundwater, or other regulated wastes during Project construction.
- Further assessment would be performed at the Project site if soil suggestive of contamination or other potential environmental issues is encountered during Project construction.
- The City of San Diego Local Enforcement Agency would be contacted prior to disturbance of soil in areas suspected of being associated with historical burn sites or dumping.
- Prior to renovation or demolition of bridge components, surveys would be conducted of affected bridges to evaluate the presence, locations, and quantities of ACMs. Suspect materials, including bridge joints and piping material, would be sampled and analyzed, and if present, appropriate abatement actions would be implemented in accordance with applicable regulatory requirements.
- Prior to disturbance of any painted surfaces, sampling would be performed to assess the presence of lead. Suspect surfaces, including guardrails, piping, and pavement striping, would be sampled and analyzed, and if present, appropriate abatement actions shall be implemented in accordance with applicable regulatory requirements. A Lead Compliance Plan is required prior to any paint stripe removal.

- Soil subject to export would be characterized to assess the appropriate waste classification consistent with the requirements of the permitted disposal facility.

No Build Alternative

Because the No Build Alternative would not result in Project-related impacts, no avoidance, minimization, or mitigation measures would be required.

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2.13 AIR QUALITY

2.13.1 Regulatory Setting

Air Quality

The CAA as amended in 1990 is the federal law that governs air quality. Its counterpart in California is the California CAA of 1988. These laws set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS); at the state level, they are called California Ambient Air Quality Standards (CAAQS). Standards have been established for six criteria pollutants that have been linked to potential health concerns; the criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM), lead (Pb), and sulfur dioxide (SO₂).

Under the 1990 federal CAA Amendments, the U.S. Department of Transportation (DOT) cannot fund, authorize, or approve federal actions to support programs or projects that are not first found to conform to the State Implementation Plan (SIP) for achieving the goals of the CAA requirements. Conformity with the CAA takes place on two levels—first, at the regional level and second, at the project level. The proposed Project must conform at both levels to be approved.

Regional level conformity in California is concerned with how well the region is meeting the standards set for CO, NO₂, O₃, and PM. California is in attainment for the other criteria pollutants (Pb and SO₂). At the regional level, RTPs are developed that include all of the transportation projects planned for a region over a period of years, usually at least 20. Based on the projects included in the RTP, an air quality model is run to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that attainment requirements of the CAA are met. If the conformity analysis is successful, the regional planning organization, such as SANDAG for San Diego County, and the appropriate federal agencies, such as the FHWA, make the determination that the RTP is in conformity with the SIP for achieving the goals of the CAA. Otherwise, the projects in the RTP must be modified until conformity is attained. If the design and scope of the proposed transportation project are the same as that described in the RTP, then the proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires “hot spot” analysis if an area is “nonattainment” or “maintenance” for CO and/or PM. A region is a “nonattainment” area if one or more monitoring stations in the region fail to attain the relevant standard. Areas that were previously designated as nonattainment areas, but have recently met the standard, are called “maintenance” areas. “Hot spot” analysis is essentially the same, for technical purposes, as CO or PM analysis performed for NEPA purposes. Conformity does include some specific standards for projects that require a “hot spot” analysis. In general, projects must not cause the CO standard to be violated, and in “nonattainment” areas, the project must not cause any increase in the number and severity of violations. If a known CO or PM violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

The CAAQS and NAAQS for each of the regulated pollutants are shown in Table 2.13-1.

Table 2.13-1 CALIFORNIA AND FEDERAL AMBIENT AIR QUALITY STANDARDS				
Pollutant	Averaging Time	California Standards ¹	Federal Standards ²	
		Concentration ³	Primary ^{3,4}	Secondary ^{3,5}
Ozone (O ₃)	1-Hour	0.09 ppm (180 µg/m ³)	-	Same as Primary Standard
	8-Hour	0.070 ppm (137 µg/m ³)	0.075 ppm (147 µg/m ³)	
Respirable Particulate Matter (PM ₁₀)	24-Hour	50 µg/m ³	150 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	(20 µg/m ³) ^g	-	
Fine Particulate Matter (PM _{2.5})	24-Hour	No Separate State Standard	35 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	None
	1-Hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	
Nitrogen Dioxide (NO ₂)	Annual Average	0.030 ppm (57 µg/m ³) ^j	0.053 ppm (100 µg/m ³)	None
	1-Hour	0.18 ppm (339 µg/m ³) ^y	0.100 ppm -	
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	-	0.030 ppm (80 µg/m ³)	-
	24-Hour	0.04 ppm (105 µg/m ³)	0.14 ppm (365 µg/m ³)	-
	3-Hour	-	-	0.5 ppm (1,300 µg/m ³)
	1-Hour	0.25 ppm (655 µg/m ³)	-	-
Lead (Pb) ⁶	30-Day Average	1.5 µg/m ³	-	-
	Calendar Quarter	-	1.5 µg/m ³	Same as Primary Standard
	Rolling 3-Month Average	-	0.15 µg/m ³	
Hydrogen Sulfide (H ₂ S)	1-Hour	0.03 ppm (42 µg/m ³)	No Federal Standards	
Sulfates (SO ₄)	24-Hour	25 µg/m ³		
Visibility Reducing Particles	8-Hour	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%.		
Vinyl Chloride ⁶	24-Hour	0.01 ppm (26 µg/m ³)		

Notes: µg/m³ = micrograms per cubic meter; ppm = parts per million

¹ California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter—PM₁₀, PM_{2.5}, and visibility-reducing particles—are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

² National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over 3-years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact USEPA for further clarification and current federal policies.

³ Concentration expressed first in units in which was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 Torricelli. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 Torricelli; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

⁴ National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

⁵ National Secondary Standards: The levels of air quality necessary to protect public welfare from any known or anticipated adverse effects of a pollutant.

⁶ California Air Resources Board (ARB) has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determines. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

2.13.2 Affected Environment

An Air Quality Analysis (*Final Air Quality Analysis – Interstate 805 Managed Lanes South Project*, September 2009) was prepared to evaluate the potential for air emissions associated with long-term operation of the Project alternatives. The air quality report is summarized in this subchapter.

Environmental Setting, Climate, and Meteorology

The Project site is located in the San Diego Air Basin (SDAB), which coincides with San Diego County. The climate of San Diego County is characterized by warm, dry summers and mild, wet winters. One of the main determinants of San Diego the climate is a semi-permanent, high-pressure area (the Pacific High) associated with the Pacific Ocean. This high-pressure cell maintains clear skies for much of the year. In the summer, this pressure is located well to the north, causing storm tracks to be directed north of California. When the Pacific High moves southward during the winter, this pattern changes, and low-pressure storms are brought into the region, causing widespread precipitation. Throughout the County as a whole, the months of heaviest precipitation are November through April, averaging about 9 to 14 inches annually. The mean temperature is 62.2 °F, and the mean maximum and mean minimum temperatures are 75.7°F and 48.5°F, respectively (Western Region Climatic Center 2006).

The Pacific High also influences the wind patterns of California. The predominant wind directions are westerly and west-southwesterly throughout the year, and the average annual wind speed is approximately six mph.

A common atmospheric condition known as a temperature inversion affects air quality in San Diego. During an inversion, air temperatures get warmer rather than cooler with increasing height. Subsidence inversions occur during the warmer months (May through October) as descending air associated with the Pacific High comes into contact with cooler marine air. The boundary between the layers of air traps pollutants below it. The inversion layer is approximately 2,000 feet above MSL during the months of May through October. During the remaining months (November through April), however, the temperature inversion is approximately 3,000 feet above MSL. Inversion layers are important elements of local air quality because they inhibit the dispersion of pollutants, thus resulting in a temporary degradation of air quality.

Regional and Local Air Quality

The SDAB currently meets the federal standards for all criteria air pollutants, except O₃, and state standards for all criteria air pollutants, except O₃, fine particulate matter with a diameter of 2.5 microns or less (PM_{2.5}), and respirable particulate matter with a diameter of 10 microns or less (PM₁₀). On April 15, 2004, the USEPA issued the initial designations for the eight-hour O₃ standard, and the SDAB is classified as a federal nonattainment area for the eight-hour O₃ standard under Subpart 1 – Basic nonattainment. “Basic” is the least severe of the six degrees of O₃ nonattainment. The Air Pollution Control District (APCD) submitted an air quality plan to the USEPA in 2007; the plan demonstrated how the eight-hour O₃ standard will be attained by 2009. The SDAB is a CO attainment-maintenance area, following a 1998 re-designation as a CO attainment area. The SDAB is currently classified as a state “serious” O₃ nonattainment area and a state nonattainment area for PM_{2.5}, and PM₁₀. Table 2.13-2 lists the federal and state attainment status for various pollutants in the SDAB.

Table 2.13-2 FEDERAL AND STATE CRITERIA POLLUTANT ATTAINMENT STATUS FOR THE SAN DIEGO AIR BASIN		
Pollutant	San Diego Air Basin Attainment Status	
	Federal	State
Ozone – 1 hour	Attainment	Nonattainment
Ozone – 8 hour	Nonattainment - Basic	Nonattainment
Carbon Monoxide	Maintenance	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
PM ₁₀	Attainment	Nonattainment
PM _{2.5}	Attainment	Nonattainment

Ambient air pollutant concentrations in the SDAB are measured at 10 air quality monitoring stations operated by the APCD. The Beardsley Street monitoring station, located approximately four miles northwest of the Project site, is the APCD air quality monitoring station that represents the Project area, climate, and topography in the SDAB. The station monitors CO, NO₂, O₃, PM₁₀, and PM_{2.5}. Table 2.13-3 summarizes the excesses of standards and the highest pollutant levels recorded at this station from 2006 to 2008.

Table 2.13-3 AMBIENT AIR QUALITY MONITORING DATA (Beardsley Street Monitoring Station, San Diego)			
Pollutant Standards	2006	2007	2008
Ozone (O₃)			
Maximum 1-hour concentration (ppm)	0.082	0.087	0.087
Maximum eight-hour concentration (ppm)	0.070	0.072	0.073
Number of Days Standard Exceeded			
CAAQS 1-hour (>0.09 ppm)	0	0	0
CAAQS 8-hour (>0.070 ppm)	1	1	1
NAAQS 8-hour (>0.075 ppm)	0	0	0
Carbon Monoxide (CO)			
Maximum 8-hour concentration (ppm)	3.27	3.01	2.60
Maximum 1-hour concentration (ppm)	5.3	4.4	*
Number of Days Standard Exceeded			
NAAQS 8-hour (≥9 ppm)	0	0	0
CAAQS 8-hour (≥9.0 ppm)	0	0	0
NAAQS 1-hour (≥35 ppm)	0	0	0
CAAQS 1-hour (≥20 ppm)	0	0	0
Nitrogen Dioxide (NO₂)			
Maximum 1-hour concentration (ppm)	0.094	0.098	0.091
Annual average concentration (ppm)	0.021	0.018	0.019
Number of Days Standard Exceeded			
CAAQS 1-hour (≥ 0.18 ppm)	0	0	0

Table 2.13-3 (cont.) AMBIENT AIR QUALITY MONITORING DATA (Beardsley Street Monitoring Station, San Diego)			
Pollutant Standards	2006	2007	2008
Particulate Matter (PM₁₀)^a			
National maximum 24-hour concentration (µg/m ³)	71.0	110.0	58.0
State maximum 24-hour concentration (µg/m ³)	74.0	111.0	59.0
State annual average concentration (µg/m ³)	34.4	31.3	29.3
Number of Days Above Standard			
NAAQS 24-hour (>150 µg/m ³)	0	0	0
CAAQS 24-hour (>50 µg/m ³)	11	4	4
Particulate Matter (PM_{2.5})^a			
National maximum 24-hour concentration (µg/m ³)	63.3	69.6	42.0
State maximum 24-hour concentration (µg/m ³)	63.3	71.4	42.0
National annual average concentration (µg/m ³)	13.1	12.7	13.7
State annual average concentration (µg/m ³)	13.1	11.7	10.7
Number of Days Above Standard			
NAAQS 24-hour (>65/>35 µg/m ³)	2	8	3

Notes: ppm = parts per million; µg/m³ = micrograms per cubic meter; > greater than; ≥ = greater than or equal to
* Insufficient data to determine the value

Some locations are considered more sensitive to adverse effects from air pollution than others. These locations are commonly termed “sensitive receptors” and they include hospitals, schools, daycare centers, nursing homes, and parks/playgrounds. Sensitive receptors in proximity to localized CO sources, toxic air contaminants, or odors are of particular concern. Sensitive receptors closest (within 0.5 mile) to the Project site are identified in Table 2.13-4.

Table 2.13-4 SENSITIVE RECEPTORS NEAR THE PROJECT SITE		
Sensitive Receptor	Location	Approximate Distance to Project Site
Parkview Elementary School	575 Juniper Street	1,700 feet
Palomar Elementary School	300 East Palomar Street	1,600 feet
Greg Rogers Park	1189 Oleander Avenue	1,300 feet
Sunbow Park	500 East Naples Street	1,900 feet
Palomar Park	1359 Park Drive	700 feet
Karl H Kellogg Elementary School	229 East Naples Street	2,200 feet
Bay View Christian Academy	210 East Jamul Avenue	2,200 feet
Rogers Elementary School	510 East Naples Street	1,300 feet
Covenant Christian School	505 East Naples Street	1,200 feet
Childrens Co	380 Telegraph Canyon Road	700 feet
Halecrest Elementary School	475 East J Street	1,000 feet
Montessori Explorer School	271 East J Street	1,300 feet
Hilltop High School	555 Claire Avenue	250 feet
Spectrum Church playground	4378 Lynndale Lane	200 feet
Bonita Road Christian School	73 East Bonita Road	600 feet
Rosebank Elementary School	80 East Flower Street	1,600 feet

Table 2.13-4 (cont.) SENSITIVE RECEPTORS NEAR THE PROJECT SITE		
Sensitive Receptor	Location	Approximate Distance to Project Site
Wee Care Preschool	73 North Second Avenue	2,400 feet
Sunrise at Bonita	3302 Bonita Road	2,000
Sweetwater County Park	4370 Sweetwater Road	800 feet
Las Palmas Park	1950 20th Street	100 feet
Las Palmas Elementary School	1900 East 18th Street	100 feet
Plaza Center Head Start	1805 East 17th Street	800 feet
Granger Junior High School	2101 Granger Avenue	2,400 feet
Lincoln Acres Elementary School	2200 South Lanoitan Avenue	1,100 feet
National City Head Start	2432 East 18th Street	1,300 feet
Little Treasures Family Childcare	318 Laurel Avenue	1,800 feet
Friendship Manor	902 Euclid Avenue	1,100 feet
Valley View Sanitarium and Rest Home	2300 East 7th Street	1,000 feet
Castle Manor Nursing and Rehab	541 South V Avenue	1,000
Paradise Valley Hospital	2400 East 4th Street	1,800 feet
El Toyon Park	2005 East 4th Street	100 feet
New Horizons School and Rancho La Nacion Elementary	1830 Division Street	500 feet
El Toyon Elementary	2000 Division Street	1,000 feet
Knox Elementary School	1098 South 49th Street	1,000 feet
Willie Henderson Sports Complex	1035 South 45th Street	100 feet
Logan Head Start	4890 Logan Avenue	1,400 feet
Kennedy Child Development Center	4715 T Street	400 feet
Walter Porter Elementary School	4800 T Street	500 feet
John F. Kennedy Park	4801 Ocean View Boulevard	1,000 feet
Mt. Erie Christian Academy	511 South 47th Street	400 feet
Porter North Elementary School	445 South 47th Street	300 feet
Lincoln Senior High School	4777 Imperial Avenue	500 feet
Holly Drive Leadership Academy	4999 Holly Drive	2,200 feet
First Step Head Start	804 San Pasqual Street	2,500 feet
San Diego Community College and ECC Head Start	4343 Ocean View Boulevard	1,900 feet
Concorde Career College	4393 Imperial Avenue	1,300 feet
Area Two Head Start	4680 Market Street	1,500 feet
Chollas-Mead Preschool	501 45th Street	400 feet
Chollas-Mead Elementary School	501 45th Street	400 feet
Promise Charter School	730 45th Street	900 feet
Little Lamb Land Preschool	4168 Market Street	1,000 feet
Azalea Community Park	2596 Violet Street	300 feet
McKinley Elementary School	3045 Felton Street	2,000 feet
Park de la Cruz	3901 Landis Street	1,700 feet
Cherokee Point Elementary School	3735 38th Street	2,000 feet
California Board and Care	3737 31st Street	1,700 feet
Edison Elementary School	4077 35th Street	1,500 feet
Wabash Park	Wabash Avenue	1,000 feet

2.13.3 Environmental Consequences

This section is based on analysis and emissions calculations in the 2009 air quality analysis and addresses emissions associated with the long-term operation as well as construction phases of the Project. Potential GHG impacts associated with the Project is provided in Chapter 3.0.

The Transportation Project-Level Carbon Monoxide Protocol (CO Protocol) was designed by the UC Davis Intelligence Transportation System to ensure that transportation projects conform to an approved or promulgated air quality implementation plan and to all applicable state and national ambient air quality standards. In addition, all projects, except those that are exempt from analysis, are subject to a local (project-level) CO impact review. This involves an evaluation of the potential for CO “hot spots” to result due to traffic congestion. CO hot spots are typically evaluated when: (1) the LOS of an intersection or roadway decreases to LOS D or worse; and (2) sensitive receptors, such as residences, commercial developments, schools, hospitals, etc., are located in the vicinity of the affected intersection or roadway segment.

Build Alternatives

The build alternatives would occur in the same locations with essentially the same Project footprint. Air quality conditions would be the same, and sensitive receptors would be at the same locations and distance from the proposed improvements. Therefore, construction and operational air quality impacts under both build alternatives would be the same.

Regional Air Quality Conformity

The proposed Project is fully funded and is in the 2030 RTP (pages A-5 [Table A.1, Major Capital Improvements – Revenue Constrained Plan], A-10 [Table A.2, Phased Highway Projects – Revenue Constrained Plan], and A-19 [Table A.6, Major Capital Improvements – Reasonably Expected Revenue Scenario] of Appendix A to the 2030 RTP), which was found to conform by the SANDAG Board of Directors on July 25, 2008. The FHWA and the Federal Transit Administration (FTA) adopted the air quality conformity finding on November 17, 2008. The Project is also included in the SANDAG financially constrained 2008 RTIP on page 38 (Table 1) and page 21 (Table 1) of 2008 RTIP Amendment 16, and is identified as CAL78C, RTIP #08-16, From Palomar Street to Landis Street –preliminary engineering for future construction of managed lanes including design of two HOV lanes in the median of I-805 for the South Bay BRT project including a DAR at Palomar Street. The 2030 RTP was found to conform by FHWA and FTA on November 17, 2008. The design concept and scope of the Project is consistent with the Project description in the 2030 RTP, the 2008 RTIP (as amended) and the assumptions in the MPO’s regional emissions analysis, as described below. The 2008 RTIP also has been amended 22 times. Amendment 16 was approved by the FHWA on February 19, 2010. The amendment changed the Project description, the capacity categorization from Not Capacity Increasing to Capacity Increasing, and funding allocations to ensure that the 2008 RTIP, regional conformity analysis, and the Project all have consistent descriptions.

The Project’s proposed transit stations and/or DAR are not specifically listed in the 2030 RTP or 2008 RTIP. The reader should note, however, that these features are not expected to generate vehicle trips. The DAR at East Palomar Street would improve traffic circulation from local streets to I-805, which would reduce unnecessary idling emissions. Consistent with this, the 2030 RTP includes an Integrating Transit and Roadways section that describes the need for Managed/HOV lanes, DARs, and transit priority treatments. The 2030 RTP plans to develop a robust Managed/HOV lanes network along I-805. The 2030 RTP also states the need for future transit stations, which are included in Table 6.4, Major Capital Improvements – Reasonably Expected Revenue Scenario, as an essential key to the success of the 2030 RTP. The in-line transit stations would provide a facility for carpooling and public transportation to replace

existing traffic on I-805, thereby reducing individual vehicle trips on regional roadways. Therefore, although the Project's proposed transit stations and/or DAR are not specifically listed in the 2030 RTP or 2008 RTIP, the infrastructural improvements associated with the Project have been planned for in the 2030 RTP.

Because the design concept and scope of the Project are consistent with the description included in the 2030 RTP, 2008 RTIP, and assumptions in SANDAG's regional emissions analysis, Build Alternative 1 would conform to the SIP, and no adverse regional air quality impact would occur as a result of the Build Alternative 1.

Local (Project-level) Air Quality Conformity

Carbon Monoxide Impacts

The CO Protocol provides guidance for determining whether a project would have the potential to cause or contribute to a violation of an air quality standard on a localized basis. The CO Protocol provides various levels for the local CO analysis to make the determination of the potential for air quality impacts.

The Project would affect multiple intersections along I-805. The AM and PM peak hour LOS at analyzed intersections during 2006 (existing), 2015 (build and no build), and 2030 (build and no build) conditions are discussed in Subchapter 2.5, Traffic and Transportation/Pedestrian and Bicycle Facilities. Caltrans identified the three signalized intersections in the area that would be most affected by the Project, including:

- East H Street/I-805 ramps
- Telegraph Canyon Road/NB I-805 on-ramp
- Telegraph Canyon Road/SB I-805 on- and off-ramps

These intersections, shown in Figure 2.13-1, were determined by Caltrans to operate with the highest delay times and at LOS E and F, resulting in the highest potential to cause a CO hot spot.

For the CO hotspot analysis, the procedure outlined in the CO Protocol was used to perform a microscale air quality modeling using EMFAC2007 and CALINE4. EMFAC2007 was used to calculate the CO emission factors required for modeling. CALINE4, included in the CL4 software package, was used to predict the maximum one-hour average CO concentrations at selected intersections in the proposed Project limits.

The composite CO emission factors were calculated for the years 2015 and 2030 for the SDAB. The EMFAC2007 SDAB default data were used for most variables including model years, vehicle classes, inspection and maintenance program schedule, control technology, vehicle population and odometer accrual rates, vehicle miles traveled (VMT) and vehicle trips, and profiles of Reid Vapor Pressure (RVP), temperature, humidity, speed fractions, and idle times.

The ambient temperature used in EMFAC modeling was the lowest mean minimum temperature over a representative period of at least three years, adjusted by plus five degrees Fahrenheit (°F) for both the AM and PM peak hours as recommended by the CO protocol. The temperature was determined to be 62.2°F.

The average free flow speeds for the selected links were obtained from the Project traffic study. These speeds were then used to determine the average cruise speed based on the arterial classifications. The links' average approach and departure speeds were also determined based on traffic volume, average cruise speed and percentage of red time.

The 8-hour maximum CO concentration was calculated by applying a persistence factor of 0.7 to the predicted maximum one-hour average CO concentrations obtained from each modeling run. The background concentrations were then added to the predicted concentrations to calculate the modeled maximum concentrations which were then compared to the CAAQS and NAAQS, in order to determine if the proposed Project would result in exceedances.

Based on these assumptions and the traffic volumes provided in the Project traffic studies (*Interstate 805 Managed Lanes South Project – Final Existing Conditions and Traffic Operations Analysis Report*, July 2009; and *Interstate 805 Managed Lanes South Project – East Palomar Direct Access Ramp and East Palomar, H Street and Plaza Boulevard Park-and-Rides Local Circulation System Traffic Study*, June 2009), CO concentrations were calculated at the studied intersections and compared to the federal and state one-hour and eight-hour standards. Tables 2.13-5 and 2.13-6 present a summary of the predicted CO concentrations for the evaluated intersections.

Table 2.13-5 PREDICTED CO CONCENTRATIONS BUILD ALTERNATIVES – YEAR 2015 CONDITIONS					
Intersection	Period	One-Hour CO Concentrations ¹ (ppm)		Eight-Hour CO Concentrations ² (ppm)	
		No Build	Build	No Build	Build
Telegraph Canyon Road/NB I-805 On-ramp	AM	6.3	6.2	4.4	4.3
	PM	6.4	6.3	4.5	4.4
Telegraph Canyon Road/SB I-805 On- and Off-ramps	AM	6.3	6.3	4.4	4.4
	PM	6.6	6.5	4.6	4.6
East H Street/SB I-805 On- and Off-ramps	AM	6.1	5.5	4.3	3.9
	PM	6.3	5.9	4.4	4.1

¹ The federal and state one-hour CO standards are 35 ppm and 20 ppm, respectively.

² The federal and state eight-hour CO standards are 9.0 ppm.

ppm = parts per million

Table 2.13-6 PREDICTED CO CONCENTRATIONS BUILD ALTERNATIVE 1 – YEAR 2030 CONDITIONS					
Intersection	Period	One-Hour CO Concentrations ¹ (ppm)		Eight-Hour CO Concentrations ² (ppm)	
		No Build	Build	No Build	Build
Telegraph Canyon Road/NB I-805 On-ramp	AM	5.3	5.3	3.7	3.7
	PM	5.4	5.3	3.8	3.7
Telegraph Canyon Road/SB I-805 On- and Off-ramps	AM	5.3	5.3	3.7	3.7
	PM	5.4	5.4	3.8	3.8
East H Street/SB I-805 On- and Off-ramps	AM	5.3	4.9	3.7	3.4
	PM	5.3	5.0	3.7	3.5

¹ The federal and state one-hour CO standards are 35 ppm and 20 ppm, respectively.

² The federal and state eight-hour CO standards are 9.0 ppm.

ppm = parts per million

As shown in Tables 2.13-5 and 2.13-6, the Project would not cause an exceedance of the state one-hour or eight-hour CO ambient air quality standards under Years 2015 and/or 2030 build conditions. In addition, several other factors (e.g., urban street canyons, large stationary sources of CO, high percentage of heavy-duty gas trucks in vehicle mix) were reviewed per the CO Protocol and there is no other reason to believe the Project would cause additional adverse air quality impacts. Therefore, Build Alternative 1 would not result in, or contribute to, any adverse local air quality impacts associated with CO hot spots.

Particulate Matter Impacts

On March 10, 2006, the USEPA published a final rule that establishes the transportation conformity criteria and procedures for determining which transportation projects must be analyzed for local air quality impacts in PM_{2.5} and PM₁₀ nonattainment and maintenance areas. Based on that rule, the USEPA and FHWA published the *Transportation Conformity Guidance for Qualitative Hot-spot Analysis in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas* (also known as the PM Guidance).

While the SDAB is not a federally designated PM_{2.5} and PM₁₀ nonattainment or maintenance area, it is designated as a state nonattainment area for both pollutants. Thus, to meet state requirements, the Project is assessed using the procedure outlined in the PM Guidance.

The 2006 PM Guidance for PM_{2.5} and PM₁₀ hot spot analysis requires two steps: (1) determining whether or not a project is a Project of Air Quality Concern and (2) if it is a Project of Air Quality Concern, preparation of a qualitative (emission analysis only) but more detailed analysis of the project.

The PM Guidance defines the following types of projects as Projects of Air Quality Concern:

- New or expanded highway project that have a significant number of or significant increase in diesel vehicles;
- Projects affecting intersections that are at LOS D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F, because of increased traffic volumes from a significant number of diesel vehicles related to the project;
- New or expanded bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location; and
- Projects in or affecting locations, areas, or categories of sites that are identified in the PM_{2.5} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

A significant volume for a new highway or expressway is defined as an annual average daily traffic (AADT) volume of 125,000 or more, and a significant number of diesel vehicles is defined as eight percent or more of that total AADT (or more than 10,000 truck AADT). A significant increase in diesel truck traffic is normally considered to be approximately 10 percent.

The nearest air quality monitoring site located in a downwind direction from the Project site that provides PM₁₀ and PM_{2.5} background information is the Beardsley Street monitoring station. The site indicates that the Project area meets the current federal PM₁₀ and PM_{2.5} standards of 150 µg/m³ (PM₁₀, 24 hours), 35 µg/m³ (PM_{2.5}, 24 hours), and 15 µg/m³ (PM_{2.5}, annual).

The proposed Project is located in an attainment area for federal PM₁₀ and PM_{2.5} standards, and in a nonattainment area of state PM₁₀ and PM_{2.5} standards. Based on screening using USEPA PM Guidance, the proposed Project is not a Project of Air Quality Concern because it does not meet the criteria due to relatively low truck AADT, truck percentage, and increase in truck volumes comparing the build and no build alternatives. The proposed Project would improve traffic operations by smoothing traffic flow and would contribute to lower PM emissions as compared to the No Build Alternative. Therefore, the Project would be in conformance for federal PM₁₀ and PM_{2.5} standards and is unlikely to increase the frequency or severity of any existing exceedances regarding the nonattainment of state PM₁₀ and PM_{2.5} standards.

In addition, PM₁₀ and PM_{2.5} concentrations in the SDAB show a general downward trend. Table 2.12-7 shows the PM₁₀ and PM_{2.5} concentrations observed at the Beardsley Street monitoring station from 2006 to 2008, in comparison with federal and state standards.

Pollutant	Averaging Time	Federal Primary Standards	California Air Quality Standards	Maximum Concentrations (µg/m ³)		
				2006	2007	2008
PM ₁₀	24 hours	150 µg/m ³	50 µg/m ³	71.0	110.0	58.0
	National Annual	Revoked	20 µg/m ³	*	*	*
	State Annual	Revoked	20 µg/m ³	34.4	31.3	29.3
PM _{2.5}	24 hours	35 µg/m ³	none	63.3	71.4	42.0
	National Annual	15 µg/m ³	12 µg/m ³	13.1	12.7	13.7
	State Annual	15 µg/m ³	12 µg/m ³	13.1	11.7	10.7

* There were insufficient (or no) data available to determine the value.

Mobile Source Air Toxics

Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the CAA. MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of MSATs. Research into the health impacts of MSATs is ongoing. For different emission types, there are a variety of studies that show that some either are statistically associated with adverse human or animal health issues based on exposure in occupational settings (humans) or trial large dosage studies (animals).

Exposure to toxics has been a focus of a number of the USEPA efforts. Most notably, the agency conducted the National Air Toxics Assessment (NATA) in 1996 to evaluate modeled estimates of human exposure applicable to the county level. While not intended for use as a measure of, or benchmark for, local exposure; the modeled estimates in the NATA database best illustrate the levels of various toxics when aggregated to a federal or state level.

The USEPA is in the process of assessing the risks of various kinds of exposures to these pollutants. The USEPA Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment. The following toxicity information was taken from the IRIS database *Weight of Evidence Characterization* summaries and represents the Agency's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures.

- Benzene and 1,3-butadiene are categorized as known carcinogens.
- Formaldehyde, acetaldehyde and diesel particulate matter exhaust are probable or likely carcinogens.
- Diesel exhaust also represents chronic respiratory effects, possibly the primary non-cancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.
- The potential carcinogenicity of acrolein cannot be determined because existing data are inadequate for an assessment of human carcinogenic potential.

There have been other studies that address MSAT health impacts in proximity to roadways. The Health Effects Institute, a non-profit organization funded by the USEPA, FHWA, and industry, has undertaken a major series of studies to research near-roadway MSAT hot spots, the health implications of the entire mix of mobile source pollutants, and other topics. The final summary of the series is not expected for several years.

Some recent studies have reported that proximity to roadways is related to adverse health outcomes—particularly respiratory problems (Multiple Air Toxic Exposure Study-II; Highway Health Hazards summarizing 24 Studies on the relationship between health and air quality; NEPA's Uncertainty in the Federal Legal Scheme Controlling Air Pollution from Motor Vehicles, 35 Environmental Law Reporter [ELR] 10273 with health studies cited therein).

Much of this research is not specific to MSATs, instead surveying the full spectrum of both criteria air and other pollutants. The FHWA cannot evaluate the validity of these studies, but more importantly, they do not provide information that would be useful to alleviate the uncertainties listed above and allow a more comprehensive evaluation of the health impacts specific to this Project.

Unavailable or Incomplete Information. While available tools do allow reasonable prediction relative to emissions changes between alternatives for larger projects, the amount of MSAT emissions from the Project and MSAT concentrations or exposures created by the Project emissions cannot be predicted with enough accuracy to be useful in estimating health impacts.

Nonetheless, this impact evaluation below provides a quantitative (pursuant to FHWA's *Interim Guidance on Air Toxic Analysis in NEPA Documents*) and qualitative assessment of MSAT emissions and acknowledges that the Project may result in increased exposure to MSAT emissions in certain locations. As noted above, however, the concentrations and duration of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated.

Project-specific MSAT Impact Analysis. Pursuant to the FHWA guidance, a “Level 3” MSAT analysis is recommended when a proposed project would create new or add significant capacity to urban highways where traffic volumes of AADT exceed 150,000 trips. The segments of I-805 where the Project would construct improvements were determined to contain AADTs that exceed 150,000 in 2008.

The I-805 south study area was separated into segments for purposes of analysis. While a larger study area was considered (i.e., segments north of Landis Street and Boundary Street), the Project air quality report identified segments 7 through 21 as being within the Project site. The major intersections of each analyzed segment include the following:

- Segment 7: Landis Street and Boundary Street
- Segment 8: Palm Street and Boundary Street
- Segment 9: Home Avenue and Fairmont Avenue
- Segment 10: Market Street and 47th Street
- Segment 11: Imperial Avenue and 47th Street
- Segment 12: National Avenue and 43rd Street
- Segment 13: East 4th Street and Highland Avenue
- Segment 14: East 18th Street and Euclid Avenue
- Segment 15: Bonita Mesa Road and Sweetwater Road
- Segment 16: East H Street and Hilltop Drive
- Segment 17: Telegraph Canyon Road and Hilltop Drive
- Segment 18: East Palomar Street and Monserate Avenue
- Segment 19: Sequoia Street and Brandywine Avenue
- Segment 20: Dennery Road and Palm Avenue
- Segment 21: Del Sol Boulevard and Picador Boulevard

Level 3 MSAT analyses disclose and analyze the different levels of the six priority MSATs (i.e., benzene, formaldehyde, acetaldehyde, diesel PM, acrolein, and 1,3-butadiene) associated with each alternative.

The air quality analysis predicts a substantial decrease from existing conditions (2006) MSAT emissions for the Project in 2015 and 2030. The decrease is consistent with the aforementioned FHWA study that projects a significant reduction in on-highway emissions of benzene, formaldehyde, acetaldehyde, and 1,3-butadiene between 2000 and 2020. Figures 2.13-2 through 2.13-7 show a graphical representation of the projected decreases in MSAT emissions with the Project by analyzed segment.

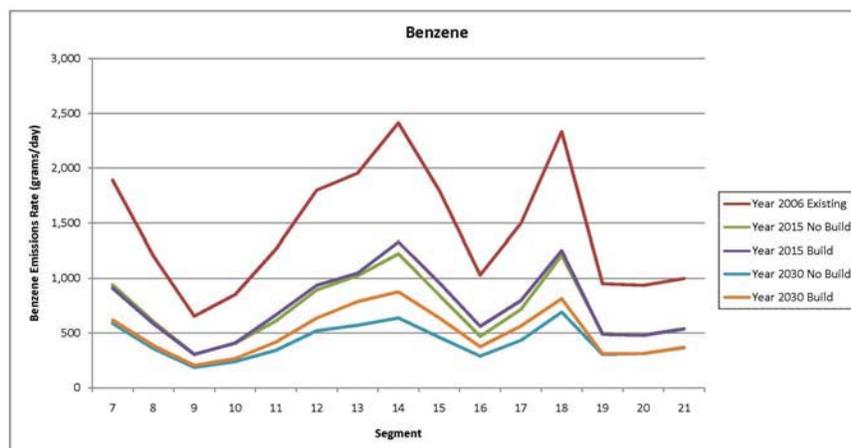
According to the results of the quantitative MSAT analysis, 2015 MSAT emission levels are expected to decrease from existing conditions (2006) emission levels by 45 to 54 percent for benzene, 47 to 57 percent for formaldehyde, 49 to 59 percent for acetaldehyde, 23 to 38 percent for diesel PM, 46 to 56 percent for acrolein, and 46 to 56 percent for 1,3-butadiene throughout the analyzed segments of I-805. These projected reductions would be achieved while the peak VMT on the analyzed segments of I-805 for the Project would increase from 5 to 21 percent.

Year 2030 MSAT emissions levels also are expected to decrease from existing conditions (2006) emission levels by 60 to 69 percent for benzene, 63 to 73 percent for formaldehyde, 67 to 76 percent for acetaldehyde, 39 to 55 percent for diesel PM, 60 to 71 percent for acrolein, and 61 to 71 percent for 1,3-butadiene throughout the analyzed segments of I-805. These

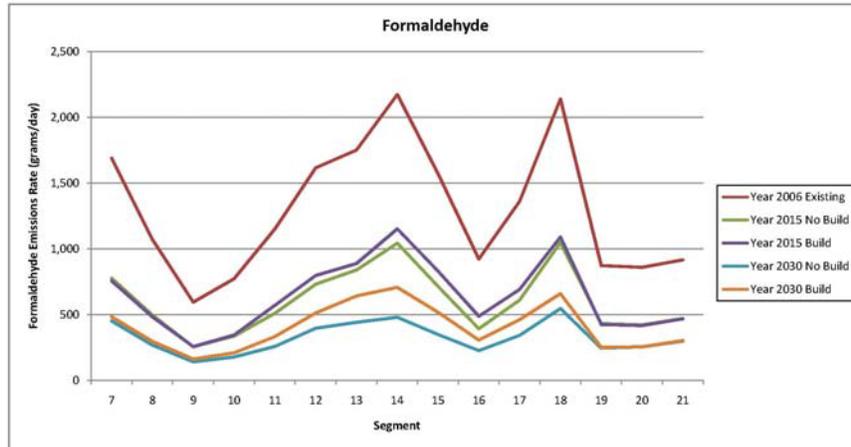
projected reductions would be achieved while the peak VMT on the analyzed segments of I-805 for the proposed Project would increase from 25 to 55 percent.

In addition, both the 2015 and 2030 build conditions would result in lower MSAT emissions than existing conditions (2006). It is also possible to qualitatively assess the levels of future MSAT emissions under the Project. This qualitative analysis cannot identify and measure health impacts from MSATs, but it can give a basis for identifying and comparing the potential differences among alternative-related MSAT emissions. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*.

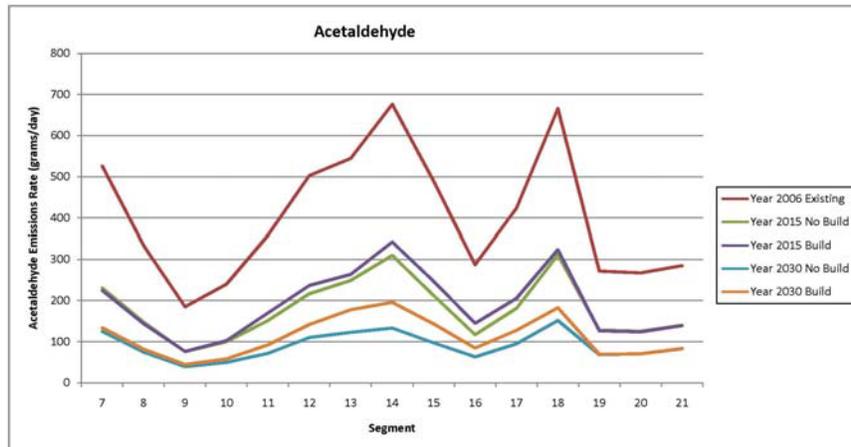
The amount of MSATs emitted would be proportional to the VMT assuming that other variables, such as fleet mix, are the same under the build and no build scenarios. The VMT estimated for the Project (Build Alternatives 1 and 2) is slightly higher than that for the No Build Alternative because the additional capacity increases the efficiency of the roadway and may attract re-routed trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions for I-805 within the Project area, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase would be offset by lower MSAT emission rates due to increased speeds. According to the MOBILE6 emissions model and the FHWA study cited above, emissions of all of the priority MSATs, except for diesel PM, decrease as speed increases. The extent to which these speed-related emissions decreases would offset VMT-related emissions increases cannot be reliably projected due to the inherent deficiencies of technical models. An increase in vehicle speed, however, would only reduce MSAT emissions up to a certain “ideal” speed (i.e., approximately 40 to 50 mph) when MSAT emissions are minimized. Once vehicle speeds exceed the “ideal” speed, MSAT emissions would begin to increase again. This is the case with the Project. The Project allows vehicles to travel longer distances at higher speeds such as 60, 65, and 70 mph, which exceed the “ideal” speed for minimizing MSAT emissions. Therefore, the increase in VMT, in conjunction with the increase in vehicle speeds exceeding the “ideal” vehicle speed, would cause MSAT emissions for the Project to exceed those of the No Build Alternative.



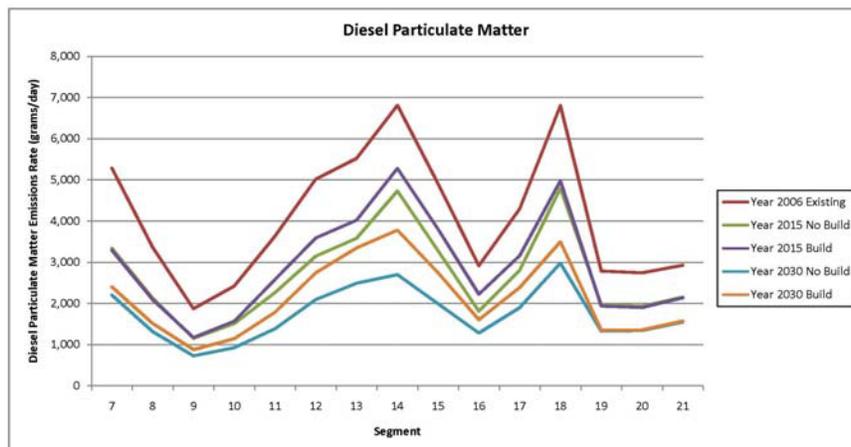
BENZENE EMISSIONS
Figure 2.13-2



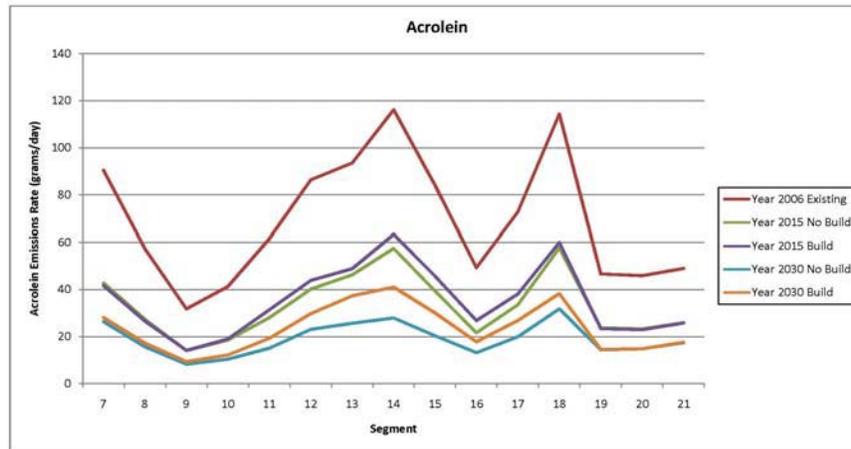
FORMALDEHYDE EMISSIONS
Figure 2.13-3



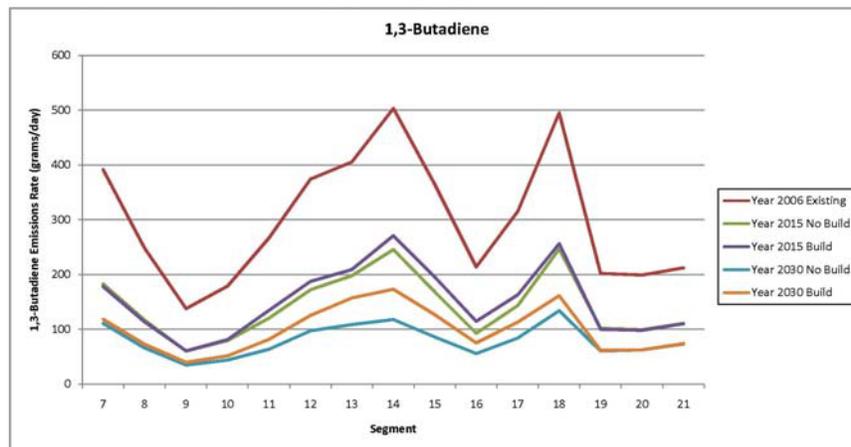
ACETALDEHYDE EMISSIONS
Figure 2.13-4



DIESEL PARTICULATE MATTER EMISSIONS
Figure 2.13-5



ACROLEIN EMISSIONS
Figure 2.13-6



1,3-BUTADIENE EMISSIONS
Figure 2.13-7

Regardless of whether or not the Project is built, emissions would likely be lower than present levels in the design year as a result of the USEPA’s national control programs that are projected to reduce MSAT emissions by 57 to 87 percent between 2000 and 2020. The 2015 and 2030 build scenario would result in substantial decreases in emissions of all six priority MSATs. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. The magnitude of the USEPA-projected reductions is so great (even after accounting for VMT growth), however, that MSAT emissions in the Project area are likely to be lower in the future in nearly all cases.

Relevance of Unavailable or Incomplete Information to Evaluating Reasonably Foreseeable Significant Adverse Impacts on the Environment, and Evaluation of Impacts Based on Theoretical Approaches or Research Methods Generally Accepted in the Scientific Community. Because of the uncertainties outlined above, a quantitative assessment of the effects of air toxic emissions impacts on human health cannot be made at the Project level. While available tools do allow us to reasonably predict relative emissions changes between alternatives for larger projects, the amount of MSAT emissions from each of the Project alternatives and MSAT concentrations or exposures created by each of the Project alternatives cannot be predicted

with enough accuracy to be useful in estimating health impacts. (As noted above, the current emissions model is not capable of serving as a meaningful emissions analysis tool for smaller projects.) Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether any of the alternatives would have “significant adverse impacts on the human environment.”

Caltrans has provided a quantitative analysis of MSAT relative to the various alternatives and has acknowledged that some alternatives may result in increased exposure to MSAT emissions in certain locations. The concentrations and duration of exposures are uncertain, however, and because of this uncertainty, the health effects from these emissions cannot be estimated.

Construction Impacts

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and various other activities related to construction. Emissions from construction equipment also are anticipated and would include CO, nitrogen oxides (NO_x), VOCs, PM₁₀, and PM_{2.5}, and toxic air contaminants, such as diesel exhaust PM. O₃ is a regional pollutant that is derived from NO_x and VOCs in the presence of sunlight and heat.

Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, removing or improving existing roadways, and paving roadway surfaces. Construction-related effects on air quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. If not properly controlled, these activities would temporarily generate PM₁₀ and PM_{2.5}, as well as small amounts of CO, SO₂, NO_x, and VOCs. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. PM₁₀ emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions, as well as soil moisture, silt content of soil, wind speed, and amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Construction activities for large development projects are estimated by the USEPA to add 1.2 tons of fugitive dust per acre of soil disturbed per month of activity. If water or other soil stabilizers are used to control dust, the emissions can be reduced by up to 50 percent. Caltrans Standard Specifications (Section 10) pertaining to dust minimization requirements requires use of water or dust palliative compounds and would reduce potential fugitive dust emissions during construction. These measures are identified in Section 2.13.4, Avoidance, Minimization, and/or Mitigation Measures, below.

In addition to dust-related PM₁₀ emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO₂, NO_x, VOCs, and some soot particulate (PM₁₀ and PM_{2.5}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

SO₂ is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Off-road diesel fuel meeting federal standards can contain up to 5,000 parts per

million (ppm) of sulfur, whereas on-road diesel is restricted to less than 15 ppm of sulfur. Under California law and ARB regulations, however, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel; therefore, SO₂-related issues due to diesel exhaust would be minimal. Some phases of construction, particularly asphalt paving, would result in short-term odors in the immediate area of each paving location. Such odors would be quickly dispersed below detectable thresholds as distance from the location increases.

Diesel PM emissions are pollutants of concern. Potential adverse impacts would be increased if construction equipment and truck staging areas were to be located near schools, active recreation areas, or areas of higher population density. Therefore, a measure to reduce this potential impact has been identified in Section 2.13.4, Avoidance, Minimization, and/or Mitigation Measures, below.

According to 40 CFR Section 93.123 (5), CO, PM₁₀, and PM_{2.5} hot spot analyses are not required for construction-related activities that create a temporary increase in air emissions. Temporary is defined as increases that only occur during a construction phase and last two years or less at any individual site. Construction of the proposed Project would occur over a period of approximately eight years, in different phases and locations, and would be considered temporary. Thus, no local hot spot analyses are anticipated for construction of the Project.

Naturally Occurring Asbestos

Exposure and disturbance of rock and soil that contain asbestos can result in the release of fibers to the air and consequent exposure to the public. Based on the map of naturally occurring asbestos locations contained in "A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos," major rock formations potentially containing asbestos are not found in San Diego County. Therefore, construction and grading would not occur in an area (with ultramafic rock) that could be a source of emissions of naturally occurring asbestos. Refer to Subchapter 2.12, Hazardous Waste/Materials, for a discussion on structural ACMs.

Climate Change

Climate change is analyzed in Chapter 3.0. Neither the USEPA nor FHWA has promulgated explicit guidance or methodology to conduct project-level GHG analysis. As stated on FHWA's climate change website, climate change considerations would be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

Because there have been more requirements set forth in California legislation and executive orders regarding climate change, the issue is addressed in the CEQA chapter of this ED and may be used to inform the NEPA decision. The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the state has undertaken and is undertaking to deal with transportation and climate change. Strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of VMT.

No Build Alternative

Under the No Build Alternative, the Project would not be constructed. The Project's contribution to maintaining or improving future traffic congestion would not occur. Since operational traffic impacts would not be reduced, associated air quality impacts also would not be reduced. Regardless, no impacts are assessed because no Project-related improvements are proposed.

2.13.4 Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

The Project build alternatives would not result in adverse operational impacts to air quality. Both build alternatives would be consistent with applicable air quality plans. Neither build alternative would cause or contribute to new localized exceedances of CO or MSAT ambient air quality standards (Table 2.13-1), nor would they increase the frequency or severity of any existing exceedances. Because no impacts would occur, no avoidance, minimization, or mitigation measures are required for operational air quality impacts.

Compliance with Caltrans Standard Specifications (Sections 7 and 10) and implementation of the following avoidance and minimization measures would avoid or minimize short-term air quality effects resulting from construction activities:

- The construction contractor would comply with Caltrans' Standard Specifications Section 7-1.01F and Section 10 of Caltrans' Standard Specifications (2006).
 - Section 7, "Legal Relations and Responsibility," addresses the contractor's responsibility on many items of concern, such as: air pollution; protection of lakes, streams, reservoirs, and other water bodies; use of pesticides; safety; sanitation; and convenience of the public; and damage or injury to any person or property as a result of any construction operation. Section 7-1.01F specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
 - Section 10 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are contained in Section 18.
- Water or dust palliative would be applied to exposed soil surfaces at the Project site as frequently as necessary to control fugitive dust emissions.
- Soil binder would be spread on any unpaved roads used for construction purposes, and all construction parking areas.
- Trucks would be washed off as they leave the Project site as necessary to control fugitive dust emissions.
- Construction equipment and vehicles would be properly tuned and maintained. Low sulfur fuel would be used in all construction equipment, as provided in California Code of Regulations Title 17, Section 93114.
- A dust control plan would be developed to document sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.

- Equipment and materials storage areas would be located as far away from residential, school, and park uses as practical.
- Extended idling of diesel equipment would be prohibited, to the extent that is feasible.
- Track-out reduction measures such as gravel pads would be used at access points to minimize dust and mud deposits on roads affected by construction traffic.
- Transported loads of soils and wet materials would be covered, or adequate freeboard (space from the top of the material to the top of the truck) would be provided to reduce PM₁₀ and deposition of particulate during transportation.
- Dust and mud that are deposited on paved, public roads due to construction activity and traffic would be removed to decrease particulate matter.
- To the extent feasible, construction traffic would be routed and scheduled to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.
- Mulch or plant vegetation would be installed as soon as practical after grading to reduce windblown particulates in the area.

No Build Alternative

The No Build Alternative would not result in Project-related air quality impacts; therefore, no avoidance, minimization, or mitigation measures are required.



I:\ArcGIS\DDOK-03.01 I805\Map\ENV\VEIR_EA\Fig2.13-1_IntersectionsAnalyzed.mxd -EV

Intersections Analyzed for CO Hot Spot Impacts

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.13-1

2.14 NOISE

2.14.1 Regulatory Setting

NEPA and CEQA provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless such measures are not feasible. The rest of this subchapter will focus on the NEPA-23 CFR 772 noise analysis.

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with FHWA (and Caltrans, as assigned) involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations contain noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 A-weighted decibels [dBA]) is lower than the NAC for commercial areas (72 dBA). Table 2.14-1 lists the NAC for use in the NEPA-23 CFR 772 analysis.

Table 2.14-1 NOISE ABATEMENT CRITERIA		
Activity Category	NAC, Hourly A-weighted Noise Level, dBA L_{eq}	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 Exterior	Developed lands, properties, or activities not included in Categories A or B above
D	--	Undeveloped lands
E	52 Interior	Residence, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

L_{eq} = equivalent sound level.

Table 2.14-2 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise-levels discussed in this subchapter with common activities.

Table 2.14-2 NOISE LEVELS OF COMMON ACTIVITIES		
Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)	110	Rock Band
Gas Lawn Mower at 1 m (3 ft)	100	
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)	90	Food Blender at 1 m (3 ft)
Noisy Urban Area, Daytime	80	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower, 30 m (100 ft)	70	Vacuum Cleaner at 3 m (10 ft)
Commercial Area		Normal Speech at 1 m (3 ft)
Heavy Traffic at 90 m (300 ft)	60	
Quiet Urban Daytime	50	Large Business Office Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime		Library
Quiet Rural Nighttime	30	Bedroom at Night, Concert Hall (Background)
	20	Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

In accordance with the Caltrans *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects*, August 2006, a noise impact occurs when the future noise level with a project results in a substantial increase in noise level (defined as a 12-dBA or more increase) or when the future noise level with a project approaches or exceeds the NAC. Approaching the NAC is defined coming within one dBA of the NAC.

If it is determined that a project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into project plans and specifications. This document discusses noise abatement measures likely to be incorporated in the Project.

The Caltrans *Traffic Noise Analysis Protocol* 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 five-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 is basically 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.

2.14.2 Affected Environment

The *Noise Study Report, Interstate 805 Managed Lanes South Project, 11-SD-805, PM 4.4/15.7, EA: 11-08161* (NSR; October 2009), was prepared to quantify existing traffic noise conditions in the Project area, identify noise sensitive receptors, predict future traffic noise levels, and to identify feasible noise abatement, as required. Supplemental analyses were also prepared to address revisions to designs of sound barriers (*Supplemental Traffic Noise Impact and Barrier Analysis for Interstate 805 Managed Lanes South Project*, October 2009; and *Supplement 2 for I-805 Managed Lanes Project*, November 2009). In addition, a Noise Abatement Decision Report (NADR; *Preliminary Noise Abatement Decision Report, Interstate 805 Managed Lanes South Project*, November 2009) was prepared for the Project. The results and conclusions of the NSR and NADR are summarized in this subchapter.

The Project area is largely developed and consists of a variety of land uses, including single- and multi-family residences, institutional facilities (i.e., schools and churches), hotels/motels, commercial businesses, and recreational areas such as parks. Noise measurements sites were chosen as being representative of similar nearby sensitive sites to ensure that an entire area is represented when determining noise impacts and abatement measures for that area. Noise measurements were mainly conducted in frequent outdoor human use areas which would be expected to receive the greatest noise impacts from the proposed Project. Receptors, defined as single points, are typically located at outdoor use area of the noise sensitive receptors such as residences, schools, and recreational areas. Areas of frequent outdoor human use in the Project area include backyards of the single-family residences, common areas at multi-family residential developments (e.g., pool areas, grass lawns), school and church playgrounds, parks, and recreational facilities. Refer to Figures 1-5A through 1-5W (Build Alternative 1), 1-7A through 1-7C (Build Alternative 2), 1-8 (Option 2, Variation A), and 1-9 (Option 2, Variation C) for locations of receptors and proposed barriers, as well as measurement locations.

2.14.3 Environmental Consequences

Noise Measurements

Noise measurements were taken at 76 locations at or adjacent to areas of frequent outdoor human use along I-805 south in June 2008. In addition, seven noise measurements conducted in November of 2007 as part of the NSR for the Interstate 805 Auxiliary Lane and Ramp Metering project were used in this analysis. Long- and short-term measurements were conducted to establish the baseline conditions and to calibrate the traffic noise model.

Long-term measurements were conducted at 32 sites for a minimum duration of 24 hours. Short-term measurements were conducted at 51 sites for 20 minutes each. A total of 17 measurement locations were used for traffic noise model calibration purposes.

Some of the short-term measurements were conducted during time intervals outside of the peak noise hour. These measurements were adjusted to reflect peak hourly noise levels using the results of the nearby long-term noise measurements. The peak noise hour was determined by a long-term measurement running simultaneously with each short-term measurement. The difference in noise levels between the hour that the short-term measurement was recorded and the hour that the actual peak hour level occurred was applied to each short-term measurement level to adjust it to the peak hour. For short-term measurements that were conducted without a

long-term measurement running simultaneously (only two), short-term measurements were adjusted to the overall peak hour noise level of the closest long-term measurement.

Some of the measurements were conducted on sidewalks, cul-de-sacs, or empty lots in situations where there was no access to outdoor use areas. However, in these cases, the noise measurement locations were chosen to best represent the nearby outdoor use areas. In most situations, the noise measurement positions were the same distance and relative elevation to the highway as the outdoor use areas the noise measurement was intended to represent.

Noise Model

The FHWA Traffic Noise Model Version 2.5 was used to estimate existing noise levels, to predict future noise levels for the build and no build alternatives, and to evaluate potential abatement measures. Traffic noise levels were modeled using projected Year 2030 and LOS C traffic volumes to obtain the worst-case scenario. Traffic volumes of on- and off-ramps under the build and no build conditions were capped at 800 vehicles per hour per lane and LOS C volumes of 1,000 vehicles per hour per lane were assumed for highway connectors. Noise-sensitive receptor sites in the Project area are identified in Figures 1-5A through 1-5W (Build Alternative 1), 1-7A through 1-7C (Build Alternative 2), 1-8 (Option 2, Variation A), and 1-9 (Option 2, Variation C), and Table 2.14-3.

Future Noise Environment

The future noise environment within the Project area was determined for the build and no build alternatives based on the noise measurements and traffic data. The future/worst-case scenario traffic noise levels were modeled to determine the impacts to noise sensitive receptors and feasible abatement measures. For purposes of measuring noise impacts, the worst-case traffic noise occurs when traffic is operating under LOS C conditions, where traffic is heavy, but remains free flowing.

Build Alternative 1

Short-term Construction Noise Impacts

Noise produced by construction equipment required to build the proposed Project would occur with varying intensity and duration during the different phases of construction. Construction is expected to occur over an estimated period of eight years. Typically, construction activities would occur on weekdays between the hours of 7:00 AM and 7:00 PM; however, nighttime construction may occur as well.

Construction activities would result in a short-term, temporary increase in the ambient noise level. The increase in noise level primarily would be experienced close to the noise source. The magnitude of the impact would depend on the type of construction activity, noise level generated by various pieces of construction equipment, duration of the construction phase, and distance between the noise source and receiver.

In general, construction equipment generates a noise level between approximately 70 dBA and 100 dBA at 50 feet from the source. Noise levels generated by construction equipment (or by any "point source") decrease at a rate of approximately six dBA per doubling of distance away from the source. Therefore, at a distance of 100 feet, the noise levels would be approximately six dBA lower than at the 50 feet reference distance.

During the construction period, several sensitive receptors close to the Project area may be exposed to high noise levels. Implementation of the noise control measures identified in Section 2.14.4 would avoid or minimize short-term construction noise.

Long-term Noise Impacts

Noise sensitive outdoor use locations in the Project area were evaluated based on future predicted noise levels. A total of 530 receptor sites were evaluated and are shown in Figures 1-5A through 1-5W. A receptor was evaluated for abatement where future predicted noise levels would approach (within 1 dBA) or exceed the NAC (67 dBA for activity category B) or substantially increase (by 12 dBA) existing noise levels. Soundwall heights ranging from 8 feet to 16 feet were considered.

Noise sensitive receptor sites in the Project area and their existing and future predicted peak hour noise levels are presented in Table 2.14-3. There is only one receptor location, R6.21A, which would experience a substantial increase in peak noise levels (12 dBA or greater) with the Project over existing conditions. There are 408 receptor locations for which peak noise levels would approach or exceed the NAC without abatement. As demonstrated on Table 2.14-3, in many cases the existing noise level approaches or exceeds the NAC. Abatement was considered at these receptors. The evaluative process of abatement consideration is discussed in Section 2.14.4.

Build Alternative 2

Short-term Construction Noise Impacts

Short-term construction noise impacts for this alternative would be similar to those identified above for Build Alternative 1 given the similarity of build alternative footprints. There may be some differences in the construction activity within the southern portion of the Project site since Build Alternative 2 proposes two HOV/transit lanes between East Palomar Street and Telegraph Canyon Road, compared to four proposed under Build Alternative 1. Any differences in construction activities (e.g., in equipment, workforce, or duration) would be minor and would not be expected to result in measurable differences in overall construction noise levels along the Project site.

Long-term Noise Impacts

Long-term noise impacts resulting from Build Alternative 2 would be the same as those identified above for Build Alternative 1 because the proposed footprint is so similar between the build alternatives. Consequently, noise sensitive receptors would be at the same locations and distance from the proposed improvements.

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**Table 2.14-3
FUTURE PREDICTED NOISE LEVELS AND BARRIER ANALYSIS FOR BUILD ALTERNATIVES 1 AND 2 (L_{eq(h)}, dBA)¹**

Receptor Number	Receptor Location	Land Use ²	Existing Noise Level	Future Peak Hour Traffic Noise Levels, L _{eq(h)} , dBA ¹															Feasible	Considered Barrier No. / Location
				No Build Alternative	Proposed Project	Activity Category/ NAC	Impact Type ³	Requires Abatement Consideration	Noise Level and Insertion Loss (IL) with Barrier											
									8 feet		10 feet		12 feet		14 feet		16 feet			
									L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL		
SEGMENT 1 - Orange Avenue to Telegraph Canyon Road																				
R1.1	1399 Nacion Avenue, Chula Vista	SFR	68	68	68	B/67	A/E	Yes	64	4	64	4	63	5	63	5	62	6	Yes	S287/ Top-of-Berm and R/W
R1.2	1385 Nacion Avenue, Chula Vista	SFR	65	65	66	B/67	A/E	Yes	63	3	62	4	62	4	61	5	61	5	Yes	
R1.3	1375 Nacion Avenue, Chula Vista	SFR	70	70	71	B/67	A/E	Yes	67	4	66	5	65	6	64	7	63	8	Yes	
R1.4	1369 Nacion Avenue, Chula Vista	SFR	69	69	70	B/67	A/E	Yes	67	3	66	4	66	4	65	5	64	6	Yes	
R1.5	1365 Nacion Avenue, Chula Vista	SFR	67	67	68	B/67	A/E	Yes	67	1	65	3	66	2	65	3	65	3	Yes	
R1.6	1345 Nacion Avenue, Chula Vista	SFR	67	68	68	B/67	A/E	Yes	68	--	67	1	67	1	66	2	65	3	--	
R1.7	1329 Nacion Avenue, Chula Vista	SFR	66	66	67	B/67	A/E	Yes	66	1	64	3	65	2	64	3	63	4	--	S325/ Shoulder and R/W
R1.8	1291 Nacion Avenue, Chula Vista	SFR	75	78	77	B/67	A/E	Yes	70	7	68	9	66	11	64	13	63	14	Yes	
R1.9	1281 Nacion Avenue, Chula Vista	SFR	74	77	75	B/67	A/E	Yes	67	8	65	10	64	11	63	12	62	13	Yes	
R1.10	1241 Nacion Avenue, Chula Vista	SFR	68	71	67	B/67	A/E	Yes	63	4	62	5	61	6	61	6	60	7	Yes	
R1.11	1227 Nacion Avenue, Chula Vista	SFR	70	73	68	B/67	A/E	Yes	64	4	63	5	62	6	61	7	61	7	Yes	
R1.12	1207 Nacion Avenue, Chula Vista	SFR	72	75	71	B/67	A/E	Yes	65	6	64	7	63	8	62	9	61	10	Yes	
R1.13	1197 Nacion Avenue, Chula Vista	SFR	74	77	71	B/67	A/E	Yes	66	5	64	7	63	8	62	9	61	10	Yes	
R1.14	1181 Nacion Avenue, Chula Vista	SFR	68	71	69	B/67	A/E	Yes	64	5	63	6	62	7	61	8	60	9	Yes	
R1.15	1145 Nacion Avenue, Chula Vista	SFR	67	70	68	B/67	A/E	Yes	63	5	62	6	61	7	61	7	60	8	Yes	
R1.16	1121 Nacion Avenue, Chula Vista	SFR	66	69	67	B/67	A/E	Yes	62	5	62	5	61	6	60	7	60	7	Yes	
R1.17	399 East Naples Street, Chula Vista	SFR	68	68	69	B/67	A/E	Yes	65	4	64	5	63	6	62	7	61	8	Yes	
R1.18	395 East Naples Street, Chula Vista	SFR	63	63	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R1.19*	398 Montcalm Street, Chula Vista	--	69	70	71	--	--	No	--	--	--	--	--	--	--	--	--	--	--	
R1.20	398 Montcalm Street, Chula Vista	SFR	74	75	76	B/67	A/E	Yes	69	7	68	8	67	9	65	11	64	12	Yes	
R1.21	394 Montcalm Street, Chula Vista	SFR	70	71	71	B/67	A/E	Yes	66	5	65	6	65	6	62	9	61	10	Yes	
R1.22	399 Montcalm Street, Chula Vista	SFR	70	71	73	B/67	A/E	Yes	67	6	66	7	65	8	65	8	63	10	Yes	
R1.23	395 Montcalm Street, Chula Vista	SFR	60	61	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R1.24	398 Montclair Street, Chula Vista	SFR	74	74	77	B/67	A/E	Yes	73	4	71	6	69	8	69	8	66	11	Yes	
R1.25	394 Montclair Street, Chula Vista	SFR	68	68	70	B/67	A/E	Yes	67	3	66	4	66	4	65	5	62	8	Yes	
R1.26	399 Montclair Street, Chula Vista	SFR	71	71	73	B/67	A/E	Yes	67	6	67	6	66	7	65	8	65	8	Yes	
R1.27	1020 Nacion Avenue, Chula Vista	SFR	63	63	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R1.28	398 Inkopah Street, Chula Vista	SFR	71	72	74	B/67	A/E	Yes	67	7	66	8	65	9	64	10	64	10	Yes	
R1.29	399 Inkopah Street, Chula Vista	SFR	73	74	75	B/67	A/E	Yes	68	7	67	8	66	9	65	10	64	11	Yes	
R1.30	985 Nacion Avenue, Chula Vista	SFR	71	78	80	B/67	A/E	Yes	69	11	67	13	65	15	64	16	63	17	Yes	
R1.31	971 Nacion Avenue, Chula Vista	SFR	65	73	69	B/67	A/E	Yes	61	8	60	9	59	10	58	11	57	12	Yes	
R1.32	955 Nacion Avenue, Chula Vista	SFR	65	72	69	B/67	A/E	Yes	59	10	57	12	57	12	55	15	55	14	Yes	
R1.33	945 Nacion Avenue, Chula Vista	SFR	64	72	68	B/67	A/E	Yes	60	8	57	11	56	12	55	13	54	14	Yes	
R1.34	935 Nacion Avenue, Chula Vista	SFR	67	69	70	B/67	A/E	Yes	63	7	60	10	59	11	57	13	56	14	Yes	
R1.35	915 Nacion Avenue, Chula Vista	SFR	66	68	70	B/67	A/E	Yes	62	8	60	10	59	11	58	12	57	13	Yes	
R1.36	909 Nacion Avenue, Chula Vista	SFR	65	68	69	B/67	A/E	Yes	62	7	59	10	58	11	56	13	55	14	Yes	
R1.37	1384 Raven Avenue, Chula Vista	SFR	63	65	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R1.38	1378 Raven Avenue, Chula Vista	SFR	64	66	66	B/67	A/E	Yes	65	1	64	2	63	3	62	4	62	4	--	
R1.39	1366 Raven Avenue, Chula Vista	SFR	64	66	66	B/67	A/E	Yes	65	1	64	2	63	3	62	4	62	4	--	
R1.40	1354 Raven Avenue, Chula Vista	SFR	62	64	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R1.41	1342 Raven Avenue, Chula Vista	SFR	64	66	66	B/67	A/E	Yes	65	1	64	2	63	3	62	4	61	5	Yes	
R1.42	1330 Raven Avenue, Chula Vista	SFR	63	65	66	B/67	A/E	Yes	65	1	64	2	63	3	62	4	61	5	Yes	
R1.43	1324 Raven Avenue, Chula Vista	SFR	63	65	66	B/67	A/E	Yes	65	1	64	2	63	3	62	4	61	5	Yes	
R1.44	1318 Raven Avenue, Chula Vista	SFR	61	63	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R1.45	1306 Raven Avenue, Chula Vista	SFR	64	66	66	B/67	A/E	Yes	64	2	63	3	62	4	61	5	61	5	Yes	

¹ Leq(h) are A-weighted, peak hour noise levels in decibels.
² Land Use: CHR = church; COM = commercial; HM = hotel/motel; MFR = multi-family residence; REC = recreational area; SCH = school; SFR = single-family residence.
³ S = substantial increase (12 dBA or more); A/E = approach or exceed NAC.

* This site was chosen for monitoring purpose only. No noise sensitive use in this area.
 ** This site does not represent a sensitive land use; however it is representative of adjacent backyards in this area.
BOLD indicates minimum height required to meet feasibility requirements of the NAC.

**Table 2.14-3 (cont.)
FUTURE PREDICTED NOISE LEVELS AND BARRIER ANALYSIS FOR BUILD ALTERNATIVES 1 AND 2 (L_{eq(h)}, dBA)¹**

Receptor Number	Receptor Location	Land Use ²	Existing Noise Level	Future Peak Hour Traffic Noise Levels, L _{eq(h)} , dBA ¹																Feasible	Considered Barrier No. / Location
				No Build Alternative	Proposed Project	Activity Category/ NAC	Impact Type ³	Requires Abatement Consideration	Noise Level and Insertion Loss (IL) with Barrier												
									8 feet		10 feet		12 feet		14 feet		16 feet				
		L _{eq(h)}		IL		L _{eq(h)}		IL		L _{eq(h)}		IL		L _{eq(h)}		IL					
SEGMENT 1 - Orange Avenue to Telegraph Canyon Road (cont.)																					
R1.46	1296 Finch Place, Chula Vista	SFR	78	78	78	B/67	A/E	Yes	67	11	67	11	65	13	64	14	63	15	Yes	S320/ R/W, Shoulder, Private Property	
R1.47	1290 Finch Place, Chula Vista	SFR	79	79	80	B/67	A/E	Yes	78	2	76	4	71	9	68	12	66	14	Yes		
R1.48	1278 Finch Place, Chula Vista	SFR	79	79	79	B/67	A/E	Yes	68	11	66	13	65	14	63	16	63	16	Yes		
R1.49	1266 Finch Place, Chula Vista	SFR	79	79	80	B/67	A/E	Yes	68	12	65	15	64	16	63	17	62	18	Yes		
R1.50	1236 Finch Place, Chula Vista	SFR	76	76	77	B/67	A/E	Yes	66	11	65	12	64	13	63	14	63	14	Yes		
R1.51	1212 Finch Place, Chula Vista	SFR	78	78	79	B/67	A/E	Yes	68	11	66	13	65	14	64	15	63	16	Yes		
R1.52	422 East Oxford Street, Chula Vista	SFR	79	79	80	B/67	A/E	Yes	71	9	69	11	68	12	66	14	65	15	Yes		
R1.52A	1180 Ocala Avenue, Chula Vista	SFR	68	68	69	B/67	A/E	Yes	67	2	66	3	65	4	64	5	64	5	Yes		
R1.53	1165 Osage Avenue, Chula Vista	SFR	63	63	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R1.54	1164 Ocala Avenue, Chula Vista	SFR	67	67	68	B/67	A/E	Yes	66	2	65	3	64	4	63	5	63	5	Yes		
R1.55	1123 Osage Avenue, Chula Vista	SFR	62	61	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R1.56	1122 Ocala Avenue, Chula Vista	SFR	73	73	71	B/67	A/E	Yes	67	4	67	4	64	7	63	8	62	9	Yes		
R1.56A	1102 Ocala Avenue, Chula Vista	SFR	71	71	71	B/67	A/E	Yes	67	4	66	5	64	7	63	8	62	9	Yes		
R1.57	425 Montclair Street, Chula Vista	SFR	74	74	76	B/67	A/E	Yes	69	7	68	8	67	9	66	10	65	11	Yes		
R1.58	424 Jamul Court, Chula Vista	SFR	75	75	75	B/67	A/E	Yes	69	6	68	7	67	8	66	9	65	10	Yes		
R1.59	429 Jamul Court, Chula Vista	SFR	76	75	76	B/67	A/E	Yes	70	6	68	8	67	9	66	10	65	11	Yes		
R1.60	426 Inkopah Street, Chula Vista	SFR	69	69	69	B/67	A/E	Yes	66	3	65	4	64	5	64	5	63	6	Yes		
R1.61A	421 Inkopah Street, Chula Vista	SFR	79	79	78	B/67	A/E	Yes	69	9	67	11	67	11	65	13	64	14	Yes		
R1.61	512 Manzanita Street, Chula Vista	SFR	78	78	79	B/67	A/E	Yes	69	10	68	11	67	12	65	14	64	15	Yes		
R1.62	518 Manzanita Street, Chula Vista	SFR	76	76	78	B/67	A/E	Yes	66	12	65	13	64	14	63	15	62	16	Yes		
R1.63	524 Manzanita Street, Chula Vista	SFR	74	74	76	B/67	A/E	Yes	65	11	63	13	62	14	61	15	61	15	Yes		
R1.64	525 Manzanita Street, Chula Vista	SFR	71	71	72	B/67	A/E	Yes	63	9	62	10	61	11	61	11	61	11	Yes		
R1.65	535 Manzanita Street, Chula Vista	SFR	68	68	70	B/67	A/E	Yes	60	10	59	11	59	11	58	12	58	12	Yes		
R1.66	Woodland Hill Condos, 530 Telegraph Canyon Road, Chula Vista	MFR	70	72	73	B/67	A/E	Yes	66	7	64	9	62	11	61	12	61	12	Yes		
R1.67	Woodland Hill Condos, 518 Telegraph Canyon Road, Chula Vista	MFR	69	71	71	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--		
R1.68	Woodland Hill Condos, 500 Telegraph Canyon Road, Chula Vista	MFR	66	68	67	B/67	A/E	Yes	67	0	67	0	66	1	65	2	64	3	No		
R1.69	Woodland Hill Condos, Playground, 500 Telegraph Canyon Road, Chula Vista	REC	66	69	68	B/67	A/E	Yes	67	1	64	4	63	5	62	6	61	7	Yes		
R1.66	Woodland Hill Condos, 530 Telegraph Canyon Road, Chula Vista	MFR	70	72	73	B/67	A/E	Yes	69	4	68	5	66	7	65	8	65	8	Yes		
R1.67	Woodland Hill Condos, 518 Telegraph Canyon Road, Chula Vista	MFR	69	71	71	B/67	A/E	Yes	66	5	66	5	64	7	63	8	62	9	Yes		
R1.68	Woodland Hill Condos, 500 Telegraph Canyon Road, Chula Vista	MFR	66	68	67	B/67	A/E	Yes	65	2	63	4	61	6	61	6	60	7	Yes		
R1.69	Woodland Hill Condos, Playground, 500 Telegraph Canyon Road, Chula Vista	REC	66	69	68	B/67	A/E	Yes	67	1	64	4	64	4	63	5	63	5	Yes		
SEGMENT 2 - Telegraph Canyon Road to East H Street																					
R2.1	841 Tamayo Drive, Chula Vista	MFR	61	65	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.2	843 Tamayo Drive, Chula Vista	MFR	56	60	62	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.3	845 Tamayo Drive, Chula Vista	MFR	56	60	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.4	826 Tamayo Drive, Chula Vista	MFR	55	59	62	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.5	818 Tamayo Drive, Chula Vista	MFR	53	56	59	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.6	811 Tamayo Drive, Chula Vista	MFR	53	56	58	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.7	814 Tamayo Drive, Chula Vista	MFR	53	57	60	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.8	398 East Millan Court, Chula Vista	SFR	71	73	76	B/67	A/E	Yes	66	10	65	11	64	12	63	13	62	14	Yes		
R2.9	390 East Millan Court, Chula Vista	SFR	63	65	68	B/67	A/E	Yes	64	4	63	5	63	5	63	5	62	6	Yes		
R2.10	397 East Millan Court, Chula Vista	SFR	74	76	77	B/67	A/E	Yes	66	11	65	12	63	14	62	15	62	15	Yes		
R2.11	392 Lemire Court, Chula Vista	SFR	66	68	70	B/67	A/E	Yes	68	2	68	2	66	4	65	5	65	5	Yes		
R2.12	396 Lemire Court, Chula Vista	SFR	75	77	77	B/67	A/E	Yes	72	5	71	6	69	8	68	9	67	10	Yes		
R2.13	395 Lemire Court, Chula Vista	SFR	72	74	73	B/67	A/E	Yes	64	9	62	11	62	11	61	12	61	12	Yes		
R2.14	747 Nacion Avenue, Chula Vista	SFR	73	75	75	B/67	A/E	Yes	68	7	65	10	64	11	63	12	63	12	Yes		
R2.15	741 Nacion Avenue, Chula Vista	SFR	72	74	73	B/67	A/E	Yes	65	8	65	8	64	9	64	9	63	10	Yes		
R2.16	731 Nacion Avenue, Chula Vista	SFR	71	73	74	B/67	A/E	Yes	65	9	64	10	63	11	63	11	62	12	Yes		
R2.17	705 Nacion Avenue, Chula Vista	SFR	70	72	74	B/67	A/E	Yes	65	9	64	10	63	11	62	12	61	13	Yes		

¹ Leq(h) are A-weighted, peak hour noise levels in decibels.

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³ S = substantial increase (12 dBA or more); A/E = approach or exceed NAC.

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**Table 2.14-3 (cont.)
FUTURE PREDICTED NOISE LEVELS AND BARRIER ANALYSIS FOR BUILD ALTERNATIVES 1 AND 2 (L_{eq(h)}, dBA)¹**

Receptor Number	Receptor Location	Land Use ²	Existing Noise Level	Future Peak Hour Traffic Noise Levels, L _{eq(h)} , dBA ¹																Feasible	Considered Barrier No. / Location
				No Build Alternative	Proposed Project	Activity Category/ NAC	Impact Type ³	Requires Abatement Consideration	Noise Level and Insertion Loss (IL) with Barrier												
									8 feet		10 feet		12 feet		14 feet		16 feet				
SEGMENT 2 - Telegraph Canyon Road to East H Street (cont.)																					
R2.18	377 East J Street, Chula Vista	SFR	74	75	78	B/67	A/E	Yes	68	10	74	4	67	11	67	11	67	11	Yes	S381A/B / Shoulder and Retaining Wall	
R2.18A	361 East J Street, Chula Vista	SFR	73	74	77	B/67	A/E	Yes	69	8	73	4	68	9	68	9	68	9	Yes		
R2.19	357 East J Street, Chula Vista	SFR	71	72	75	B/67	A/E	Yes	72	3	73	2	70	5	70	5	69	5	Yes	S381A/B / R/W & S385 / Shoulder	
R2.20	339 East J Street, Chula Vista	SFR	66	67	70	B/67	A/E	Yes	67	3	68	2	65	5	65	5	64	6	Yes		
R2.20A	339 East J Street, Chula Vista	SFR	68	69	72	B/67	A/E	Yes	70	2	61	11	68	4	68	4	67	5	Yes	--	
R2.21	677 Mission Court, Chula Vista	SFR	69	70	72	B/67	A/E	Yes	71	1	71	1	70	2	70	2	69	3	No		
R2.22	663 Mission Court, Chula Vista	SFR	71	72	75	B/67	A/E	Yes	74	1	74	1	73	2	73	2	73	2	No	S393/ R/W and Private Property	
R2.23	657 Mission Court, Chula Vista	SFR	68	69	71	B/67	A/E	Yes	71	0	71	0	71	0	71	0	71	0	No		
R2.24	639 Windsor Circle, Chula Vista	SFR	70	70	73	B/67	A/E	Yes	64	9	61	12	60	13	60	13	60	13	Yes	S393/ R/W and Private Property	
R2.25	637 Windsor Circle, Chula Vista	SFR	73	73	76	B/67	A/E	Yes	67	9	65	11	64	12	64	12	64	12	Yes		
R2.26	633 Windsor Circle, Chula Vista	SFR	72	72	75	B/67	A/E	Yes	68	7	68	7	67	8	67	8	67	8	Yes		
R2.27	629 Windsor Circle, Chula Vista	SFR	63	63	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.28	601 Melrose Avenue, Chula Vista	SFR	67	67	70	B/67	A/E	Yes	66	4	64	6	64	6	64	6	64	6	Yes		
R2.29	601 Melrose Avenue, Chula Vista	SFR	68	68	72	B/67	A/E	Yes	67	5	65	7	64	8	64	8	64	8	Yes		
R2.30	602 Melrose Avenue, Chula Vista	SFR	69	69	73	B/67	A/E	Yes	68	5	66	7	65	8	65	8	65	8	Yes		
R2.31	606 Melrose Avenue, Chula Vista	SFR	65	65	67	B/67	A/E	Yes	64	3	61	6	60	7	60	7	60	7	Yes	S393 and S403/ R/W, Shoulder, Private Property	
R2.32	610 Melrose Avenue, Chula Vista	SFR	66	66	67	B/67	A/E	Yes	62	5	62	5	61	6	61	6	61	6	Yes	--	
R2.33	614 Melrose Avenue, Chula Vista	SFR	63	63	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R2.34	Unit 54, 600 Sheffield Court, Chula Vista	MFR	64	67	69	B/67	A/E	Yes	65	4	64	5	64	5	62	7	62	7	Yes	S403/ R/W, Shoulder, Retaining Wall	
R2.35	Unit 53, 600 Sheffield Court, Chula Vista	MFR	72	75	78	B/67	A/E	Yes	75	3	73	5	71	7	69	9	67	11	Yes		
R2.36	Unit 48, 600 Shegfield Court, Chula Vista	MFR	65	68	70	B/67	A/E	Yes	68	2	67	3	65	5	64	6	62	8	Yes		
R2.37	Unit 44, 600 Sheffield Court, Chula Vista	MFR	65	68	70	B/67	A/E	Yes	69	1	68	2	68	2	66	4	65	5	Yes		
R2.38	Unit 38, 600 Sheffield Court, Chula vista	MFR	68	71	73	B/67	A/E	Yes	72	1	72	1	71	2	71	2	69	4	No		
R2.39	Unit 35, 600 Sheffield Court, Chula vista	MFR	70	73	76	B/67	A/E	Yes	75	1	74	2	73	3	73	3	72	4	No		
R2.40	Unit 13, 600 Sheffield Court, Chula Vista	MFR	57	60	60	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.41	Unit 17, 600 Sheffield Court, Chula Vista	MFR	65	68	70	B/67	A/E	Yes	64	6	63	7	62	8	62	8	61	9	Yes		
R2.42	Unit 33, 600 Sheffield Court, Chula Vista	MFR	57	60	60	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.43A	Hilltop High School, 555 Claire Avenue, Chula Vista	SCH	56	59	59	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.43	Hilltop High School, 555 Claire Avenue, Chula Vista	SCH	57	60	60	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.44	Hilltop High School, 555 Claire Avenue, Chula Vista	SCH	64	68	69	B/67	A/E	Yes	62	7	62	7	61	8	60	9	60	9	Yes		
R2.44A	Hilltop High School, 555 Claire Avenue, Chula Vista	SCH	63	67	68	B/67	A/E	Yes	64	4	63	5	62	6	61	7	60	8	Yes		
R2.45	484 Hale Street, Chula Vista	SFR	70	71	72	B/67	A/E	Yes	67	5	66	6	63	9	61	11	60	12	Yes	S358A/B and S366/ R/W, Shoulder, and Private Property (Option 1)	
R2.46	876 Floyd Avenue, Chula Vista	SFR	73	73	75	B/67	A/E	Yes	68	7	68	7	66	9	63	12	62	13	Yes		
R2.47	866 Floyd Avenue, Chula Vista	SFR	68	69	70	B/67	A/E	Yes	69	7	68	2	68	2	67	3	67	3	No		
R2.48	486 Skyhill Court, Chula Vista	SFR	70	70	72	B/67	A/E	Yes	71	1	71	1	70	2	69	3	69	3	No		
R2.49	480 Skyhill Court, Chula Vista	SFR	74	74	76	B/67	A/E	Yes	71	5	69	7	68	8	67	9	65	11	Yes		
R2.50	474 Skyhill Court, Chula Vista	SFR	63	64	68	B/67	A/E	Yes	64	4	62	6	61	7	61	7	60	8	Yes		
R2.51	473 Skyhill Court, Chula Vista	SFR	61	62	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.52	472 Allview Court, Chula Vista	SFR	67	67	70	B/67	A/E	Yes	68	2	67	3	65	5	65	5	65	5	Yes		
R2.53	468 Allview Court, Chula Vista	SFR	72	72	76	B/67	A/E	Yes	75	1	71	5	67	9	66	10	64	12	Yes		
R2.54	462 Allview Court, Chula Vista	SFR	71	71	77	B/67	A/E	Yes	67	10	66	11	64	13	61	16	60	17	Yes		
R2.55	463 Allview Court, Chula Vista	SFR	63	63	66	B/67	A/E	Yes	62	4	62	4	61	5	60	6	59	7	Yes		
R2.56	469 Allview Court, Chula Vista	SFR	50	50	54	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.57	456 Willowcrest Way, Chula Vista	SFR	63	63	66	B/67	A/E	Yes	64	2	63	3	63	63	63	3	62	4	No		
R2.58	452 Willowcrest Way, Chula Vista	SFR	66	66	69	B/67	A/E	Yes	65	4	64	5	63	6	62	7	61	8	Yes		
R2.58A	450 Willowcrest Way, Chula Vista	SFR	62	63	66	B/67	A/E	Yes	63	3	63	3	61	5	61	5	59	7	Yes		
R2.59A	448 Willowcrest Way, Chula Vista	SFR	61	61	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.59	446 Willowcrest Way, Chula Vista	SFR	61	61	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.60	447 Berland Way, Chula Vista	SFR	66	66	68	B/67	A/E	Yes	67	1	66	2	65	3	63	5	62	6	Yes		
R2.61	426 East J Street, Chula Vista	SFR	74	76	77	B/67	A/E	Yes	75	2	72	5	67	10	65	12	63	14	Yes		
R2.62	432 East J Street, Chula Vista	SFR	64	65	67	B/67	A/E	Yes	63	4	62	5	61	6	60	7	60	7	No		
R2.63A	424 East J Street, Chula Vista	SFR	74	75	77	B/67	A/E	Yes	66	11	64	13	63	14	61	16	61	16	Yes		
R2.63	422 East J Street, Chula Vista	SFR	73	74	76	B/67	A/E	Yes	66	10	64	12	63	13	62	14	61	15	Yes		

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Receptor Number	Receptor Location	Land Use ²	Existing Noise Level	Future Peak Hour Traffic Noise Levels, L _{eq(h)} , dBA ¹																Feasible	Considered Barrier No. / Location
				No Build Alternative	Proposed Project	Activity Category/ NAC	Impact Type ³	Requires Abatement Consideration	Noise Level and Insertion Loss (IL) with Barrier												
									8 feet		10 feet		12 feet		14 feet		16 feet				
									L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL			
SEGMENT 2 - Telegraph Canyon Road to East H Street (cont.)																					
R2.64	Gayle McCandliss Park, 415 East J Street, Chula Vista	REC	71	72	74	B/67	A/E	Yes	68	6	67	7	67	7	67	7	66	8	Yes	S376/ R/W and Private Property	
R2.64A	Gayle McCandliss Park, 415 East J Street, Chula Vista	REC	68	69	71	B/67	A/E	Yes	67	4	66	5	66	5	65	6	64	7	Yes		
R2.65	Gayle McCandliss Park, 415 East J Street, Chula Vista	REC	68	69	71	B/67	A/E	Yes	65	6	64	7	64	7	63	8	62	9	Yes		
R2.66	Halecrest Elementary School, 475 East J Street, Chula Vista	SCH	64	65	66	B/67	A/E	Yes	63	3	62	4	61	5	61	5	61	5	Yes		
R2.67	Halecrest Elementary School, 475 East J Street, Chula Vista	SCH	64	65	66	B/67	A/E	Yes	62	4	61	4	61	5	60	6	60	6	Yes		
R2.45	484 Hale Street, Chula Vista	SFR	68	71	72	B/67	A/E	Yes	69	3	69	3	68	4	67	5	67	5	No ⁴	S352/ Shoulder, S358B/ R/W, and S366A/B / Private Property (OPTION 2)	
R2.46	876 Floyd Avenue, Chula Vista	SFR	71	73	75	B/67	A/E	Yes	70	5	70	5	69	6	69	6	68	7	Yes		
R2.47	866 Floyd Avenue, Chula Vista	SFR	66	69	70	B/67	A/E	Yes	66	4	66	4	65	5	64	6	64	6	Yes		
R2.48	486 Skyhill Court, Chula Vista	SFR	68	70	72	B/67	A/E	Yes	70	2	69	3	67	5	67	5	66	6	Yes		
R2.49	480 Skyhill Court, Chula Vista	SFR	72	74	76	B/67	A/E	Yes	70	6	67	9	67	9	66	10	64	12	Yes		
R2.50	474 Skyhill Court, Chula Vista	SFR	61	64	68	B/67	A/E	Yes	63	5	62	6	61	7	61	7	59	9	Yes		
R2.51	473 Skyhill Court, Chula Vista	SFR	59	62	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R2.52	472 Allview Court, Chula Vista	SFR	65	67	70	B/67	A/E	Yes	68	0	66	4	65	5	64	6	64	6	Yes		
R2.53	468 Allview Court, Chula Vista	SFR	70	72	76	B/67	A/E	Yes	75	1	71	5	67	9	66	10	64	12	Yes		
SEGMENT 3 - East H Street to Bonita Road																					
R3.1	519 Calvaros Drive, Chula Vista	SFR	60	65	67	B/67	A/E	Yes	66	1	65	2	63	4	62	5	61	6	Yes	--	
R3.2	509 Calvaros Drive, Chula Vista	SFR	65	65	67	B/67	A/E	Yes	64	3	63	4	62	5	60	7	59	8	Yes		
R3.3	471 Carvalos Drive, Chula Vista	SFR	60	60	62	B/67	N	No	60	2	59	3	58	4	--	--	57	5	Yes		
R3.4	475 Carvalos Drive, Chula Vista	SFR	64	69	71	B/67	A/E	Yes	68	3	66	5	65	6	64	7	63	8	Yes		
R3.5	445 Carvalos Drive, Chula Vista	SFR	60	60	62	B/67	N	No	59	3	58	4	57	5	56	6	55	7	Yes		
R3.6	222 Dovary Road, Chula Vista	SFR	63	68	70	B/67	A/E	Yes	69	1	68	2	68	2	67	3	67	3	No		
R3.7	221 Dovary Road, Chula Vista	SFR	67	72	73	B/67	A/E	Yes	73	0	73	0	72	1	72	1	71	2	No		
R3.8	197 Pepper Tree Road, Chula Vista	SFR	69	74	75	B/67	A/E	Yes	70	5	68	7	67	8	65	10	66	9	Yes	S425/ Shoulder (Option 1)	
R3.9	195 Pepper Tree Road, Chula Vista	SFR	66	71	72	B/67	A/E	Yes	70	2	68	4	67	5	66	6	67	5	Yes		
R3.10	173 Pepper Tree Road, Chula Vista	SFR	66	71	72	B/67	A/E	Yes	71	1	71	1	70	2	69	3	70	2	No ⁴		
R3.11	199 Pepper Tree Road, Chula Vista	SFR	64	69	70	B/67	A/E	Yes	70	0	69	1	69	1	69	1	68	2	No ⁴		
R3.12	190 Pepper Tree Road, Chula Vista	SFR	62	67	67	B/67	A/E	Yes	67	0	66	1	66	1	65	2	64	3	No ⁴		
R3.13	193 Pepper Tree Road, Chula Vista	SFR	63	67	68	B/67	A/E	Yes	67	1	66	2	66	2	65	3	64	4	No ⁴		
R3.14	191 Pepper Tree Road, Chula Vista	SFR	70	74	75	B/67	A/E	Yes	73	2	71	4	70	5	68	7	66	9	Yes		
R3.15	4335 Adrienne Drive, Chula Vista	SFR	66	71	72	B/67	A/E	Yes	71	1	70	2	69	3	69	3	67	5	Yes		
R3.16	221 Pepper Tree Road, Chula Vista	SFR	65	70	70	B/67	A/E	Yes	68	2	67	3	66	4	65	5	63	7	Yes		
R3.17	4320 Adrienne Drive, Chula Vista	SFR	69	73	75	B/67	A/E	Yes	74	1	74	1	73	2	73	2	72	3	No ⁴		
R3.18	4310 Adrienne Drive, Chula Vista	SFR	65	70	71	B/67	A/E	Yes	70	1	70	1	70	1	69	2	69	2	No ⁴		
R3.19	4311 Adrienne Drive, Chula Vista	SFR	71	76	77	B/67	A/E	Yes	75	2	73	4	71	6	70	7	68	9	Yes		
R3.17	4320 Adrienne Drive, Chula Vista	SFR	69	73	75	B/67	A/E	Yes	74	1	74	1	73	2	73	2	72	3	No ⁴	S431/Private Property	
R3.20	5 Vista Drive, Chula Vista	SFR	72	77	78	B/67	A/E	Yes	70	8	69	9	68	10	67	11	66	12	Yes	S437/ Private Property	
R3.21	5 Vista Drive, Chula Vista	SFR	68	73	74	B/67	A/E	Yes	68	6	68	6	67	7	66	8	66	8	Yes		
R3.22	7 Vista Drive, Chula Vista	SFR	64	69	71	B/67	A/E	Yes	69	2	69	2	68	3	68	3	67	4	No ⁵		
R3.23	9 Vista Drive, Chula Vista	SFR	62	67	69	B/67	A/E	Yes	68	1	67	2	67	2	66	3	66	3	No ⁵		
R3.24	La Quinta Inn, 150 Bonita Road, Chula Vista	HM	67	67	68	B/67	A/E	Yes	65	3	64	4	63	5	61	7	61	7	Yes	S447A/ Shoulder	
R3.25	3184 Lynndale Place, Chula Vista	SFR	69	72	72	B/67	A/E	Yes	69	3	68	4	66	6	65	7	65	7	Yes	S420/ Shoulder and Ramp Shoulder	
R3.26	3148 Lynndale Place, Chula Vista	SFR	71	74	73	B/67	A/E	Yes	69	4	67	6	65	8	65	8	64	9	Yes		
R3.27	3124 Lynndale Place, Chula Vista	SFR	72	75	73	B/67	A/E	Yes	69	4	67	6	65	8	64	9	64	9	Yes		
R3.27A*	3112 Lynndale Place, Chula Vista	SFR	72	75	73	B/67	A/E	No	--	--	--	--	--	--	--	--	--	--	--		
R3.28	3112 Lynndale Place, Chula Vista	SFR	72	75	73	B/67	A/E	Yes	69	4	67	6	66	7	65	8	64	9	Yes		
R3.29A	4346 Lynndale Lane, Chula Vista	SFR	66	69	67	B/67	A/E	Yes	64	3	63	4	61	6	61	6	60	7	Yes		
R3.29	4370 Lynndale Lane, Chula Vista	SFR	65	67	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R3.30	Spectrum Church Day Care, 4378 Lynndale Lane, Chula Vista	SCH	65	67	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R3.31	4324 Lynwood Drive, Chula Vista	SFR	70	73	75	B/67	A/E	Yes	73	2	72	3	71	4	70	5	70	5	Yes		
R3.32	4234 Lynwood Drive, Chula Vista	SFR	70	73	75	B/67	A/E	Yes	73	2	72	3	71	4	70	5	70	5	Yes		
R3.33	4202 Lynwood Drive, Chula Vista	SFR	65	67	67	B/67	A/E	Yes	64	3	63	4	63	4	62	5	62	5	Yes	S435/ Shoulder	
R3.34	4206 Lynwood Drive, Chula Vista	SFR	69	72	73	B/67	A/E	Yes	69	4	68	5	67	6	66	7	65	8	Yes		

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				No Build Alternative	Proposed Project	Activity Category/ NAC	Impact Type ³	Requires Abatement Consideration	Noise Level and Insertion Loss (IL) with Barrier												
									8 feet		10 feet		12 feet		14 feet		16 feet				
L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL								
SEGMENT 4 - Bonita Road to SR 54																					
R4.1	Burger King, 97 Bonita Road, Chula Vista	COM	65	65	67	C/72	N	No	--	--	--	--	--	--	--	--	--	--	--	--	S447B/ Shoulder and S457/ Ramp Shoulder
R4.2	Ramada Inn, 91 Bonita Road, Chula Vista	HM	60	60	62	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R4.3	Bonita Road Baptist Church 73 Bonita Road, Chula Vista	SCH	65	66	67	B/67	A/E	Yes	64	3	63	4	62	5	61	6	61	6	6	6	Yes
R4.4	Bonita Road Baptist Church 73 Bonita Road, Chula Vista	SCH	66	67	68	B/67	A/E	Yes	65	3	64	4	63	5	62	6	62	6	6	6	Yes
R4.5*	75 East Flower Street, Chula Vista	MFR	70	71	73	C/72	A/E	No	--	--	--	--	--	--	--	--	--	--	--	--	
R4.6	67 East Flower Street, Chula Vista	MFR	77	77	79	C/72	A/E	No	--	--	--	--	--	--	--	--	--	--	--	--	
R4.7	45 East Flower Street, Chula Vista	MFR	62	63	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	--
R4.8	40 East Flower Street, Chula Vista	MFR	78	78	81	C/72	A/E	No	--	--	--	--	--	--	--	--	--	--	--	--	
R4.9	26 East Flower Street, Chula Vista	MFR	78	79	81	C/72	A/E	No	--	--	--	--	--	--	--	--	--	--	--	--	
R4.10	14 Primrose Place, Chula Vista	SFR	71	73	74	B/67	A/E	Yes	63	11	62	12	61	13	60	14	60	14	60	14	Yes
R4.11**	9 Primrose Place, Chula Vista	SFR	65	67	69	B/67	A/E	Yes	63	6	63	6	62	7	61	8	61	8	61	8	Yes
R4.12	99 Hilltop Drive, Chula Vista	SFR	65	67	68	B/67	A/E	Yes	63	5	63	5	62	6	61	7	61	7	61	7	Yes
R4.13	75 Hilltop Drive, Chula Vista	SFR	65	66	68	B/67	A/E	Yes	64	4	63	5	62	6	61	7	60	8	60	8	Yes
R4.14*	48 Hilltop Drive, Chula Vista	SFR	71	73	74	B/67	A/E	No	--	--	--	--	--	--	--	--	--	--	--	--	
R4.15	25 Vista Way, Chula Vista	SFR	69	70	72	B/67	A/E	Yes	64	8	63	9	62	10	61	11	60	12	60	12	Yes
R4.16	18 Vista Way, Chula Vista	SFR	72	74	76	B/67	A/E	Yes	65	11	64	12	63	13	61	15	61	15	61	15	Yes
R4.17	26 Vista Way, Chula Vista	SFR	66	67	68	B/67	A/E	Yes	60	8	59	9	58	10	58	10	57	11	57	11	Yes
R4.18	34 Vista Way, Chula Vista	SFR	65	66	67	B/67	A/E	Yes	58	9	57	10	56	11	55	12	55	12	55	12	Yes
SEGMENT 5 - SR 54 to Prospect Street																					
R5.1A	Cornerstone Church, 1914 Sweetwater Road, National City	REC	65	69	70	B/67	A/E	Yes	66	4	65	5	64	6	64	6	63	7	63	7	--
R5.1	Cornerstone Church, 1914 Sweetwater Road, National City	--	64	68	68	B/67	--	No	--	--	--	--	--	--	--	--	--	--	--	--	--
R5.2	2931 Prospect Street, National City	SFR	63	64	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	--
R5.2A	2923 Prospect Street, National City	SFR	66	67	68	B/67	A/E	Yes	65	3	64	4	64	4	64	4	63	5	63	5	Yes
R5.3	2919 Prospect Street, National City	SFR	67	68	69	B/67	A/E	Yes	65	4	65	4	64	5	64	5	63	6	63	6	Yes
R5.4	2857 Prospect Street, National City	SFR	67	68	69	B/67	A/E	Yes	65	4	64	5	63	6	63	6	62	7	62	7	Yes
R5.5	2815 Prospect Street, National City	SFR	69	70	71	B/67	A/E	Yes	65	6	64	7	63	8	63	8	62	9	62	9	Yes
R5.6	2741 Prospect Street, National City	SFR	75	76	78	B/67	A/E	Yes	71	7	69	9	67	11	66	12	65	13	65	13	Yes
R5.7*	2741 Prospect Street, National City	SFR	83	80	81	B/67	A/E	No	--	--	--	--	--	--	--	--	--	--	--	--	--
R5.8	2563 Grove Street, National City	SFR	70	70	72	B/67	A/E	Yes	69	3	68	4	68	4	67	5	67	5	67	5	Yes
R5.9	2563 Grove Street, National City	SFR	67	67	67	B/67	A/E	Yes	63	4	63	4	63	4	62	5	62	5	62	5	Yes
R5.10	3220 Olive Street, National City	SFR	69	70	70	B/67	A/E	Yes	68	2	67	3	66	4	65	5	65	5	65	5	Yes
R5.11	3210 Olive Street, National City	SFR	67	68	68	B/67	A/E	Yes	66	2	64	4	64	4	63	5	63	5	63	5	Yes
R5.12	3139 Shelby Drive, National City	SFR	69	72	72	B/67	A/E	Yes	66	6	65	7	64	8	63	9	62	10	62	10	Yes
R5.13	3038 Shelby Drive, National City	SCH	72	75	77	B/67	A/E	Yes	72	5	70	7	69	8	68	9	67	10	67	10	Yes
R5.14	3038 Shelby Drive, National City	SCH	72	75	76	B/67	A/E	Yes	68	8	66	10	65	11	63	13	62	14	62	14	Yes
R5.15	3030 Shelby Drive, National City	SFR	69	73	74	B/67	A/E	Yes	71	3	68	6	66	8	64	10	62	12	62	12	Yes
R5.16	2252 Ridgeway Drive, National City	SFR	76	77	79	B/67	A/E	Yes	77	2	75	4	72	7	72	7	68	11	68	11	Yes
R5.17*	2252 Ridgeway Drive, National City	SFR	77	78	80	B/67	A/E	No	--	--	--	--	--	--	--	--	--	--	--	--	--
R5.18	2305 Ridgeway Drive, National City	SFR	76	77	79	B/67	A/E	Yes	74	5	72	7	70	9	69	10	67	12	67	12	Yes
R5.19	2311 Ridgeway Drive, National City	SFR	73	74	76	B/67	A/E	Yes	72	4	71	5	70	6	69	7	63	13	63	13	Yes
R5.20	2339 Ridgeway Drive, National City	SFR	71	74	75	B/67	A/E	Yes	68	7	68	7	67	8	66	9	66	9	66	9	No ⁴
R5.21	2625 Prospect Street, National City	SFR	71	74	76	B/67	A/E	Yes	70	6	70	6	70	6	69	7	69	7	69	7	Yes
R5.22	2545 Prospect Street, National City	SFR	64	67	68	B/67	A/E	Yes	68	0	68	0	67	1	67	1	66	2	66	2	No ⁴

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									8 feet		10 feet		12 feet		14 feet		16 feet			
									L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL		
SEGMENT 6 - Prospect Street to East Plaza Boulevard																				
R6.1	2667 Newell Street, National City	SFR	66	68	70	B/67	A/E	Yes	65	5	65	5	65	5	63	7	63	7	Yes	S533/ R/W, Retaining Wall, Private Property
R6.2	2440 Newell Street, National City	SFR	53	55	58	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--
R6.3	2332 Newell Street, National City	SFR	59	61	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--
R6.3A	Las Palmas Park, 1800 East Newell Street, National City	REC	65	67	71	B/67	A/E	Yes	66	5	64	7	64	7	63	8	62	9	Yes	S549/ R/W, Retaining Wall
R6.4	Las Palmas Park, 1800 East Newell Street, National City	REC	61	63	68	B/67	A/E	Yes	63	5	62	6	62	6	61	7	61	7	Yes	
R6.5	Las Palmas Park, 1800 East Newell Street, National City	REC	67	69	72	B/67	A/E	Yes	66	6	65	7	64	8	64	8	63	9	Yes	
R6.6	Las Palmas Park, 1800 East Newell Street, National City	REC	55	57	61	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R6.6A	Las Palmas Park, 1800 East Newell Street, National City	REC	60	62	69	B/67	A/E	Yes	65	4	64	5	64	5	63	6	63	6	Yes	
R6.7	Las Palmas Elementary School, 1900 East 18th Street, National City	SCH	62	64	70	B/67	A/E	Yes	65	5	64	6	64	6	63	7	63	7	Yes	
R6.8	Las Palmas Elementary School, 1900 East 18th Street, National City	SCH	57	59	62	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R6.9	1938 East 17th Street, National City	SFR	71	71	73	B/67	A/E	Yes	64	9	62	11	61	12	60	13	59	14	Yes	
R6.10	1948 East 16th Street, National City	SFR	72	72	74	B/67	A/E	Yes	64	10	62	12	61	13	60	14	60	14	Yes	
R6.11	1939 East 16th Street, National City	REC	69	69	75	B/67	A/E	Yes	64	11	62	13	61	14	60	15	59	16	Yes	S567/ R/W
R6.12	1507 Sheryl Lane, National City	SFR	63	63	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R6.13	1409 Sheryl Lane, National City	SFR	61	61	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R6.14	2524 Prospect Street, National City	SFR	69	69	71	B/67	A/E	Yes	66	5	65	6	65	6	64	7	64	7	Yes	S536/ R/W
R6.15	2108 24th Street, National City	SFR	67	67	69	B/67	A/E	Yes	65	4	64	5	63	6	62	7	61	8	Yes	
R6.16	2315 Grove Street, National City	SFR	60	60	61	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R6.17	2105 Grove Street, National City	SFR	62	62	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R6.18	1927 Grove Street, National City	SFR	61	61	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R6.19	1728 Grove Street, National City	SFR	74	74	76	B/67	A/E	Yes	72	4	72	4	71	5	71	5	71	5	Yes	S562/ R/W
R6.20	1612 Grove Street, National City	SFR	75	75	77	B/67	A/E	Yes	68	9	66	11	65	12	64	13	63	14	Yes	
R6.21A	2105 East 16th Street, National City	SFR	67	67	79	B/67	S	Yes	67	12	66	13	64	15	63	16	63	16	Yes	S566/ R/W
R6.21	1508 Grove Street, National City	SFR	59	59	66	B/67	A/E	Yes	64	2	63	3	62	4	61	5	60	6	Yes	S570/ R/W
R6.21B	1432 Grove Street, National City	SFR	61	61	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R6.22	1408 Grove Street, National City	SFR	69	69	72	B/67	A/E	Yes	--	--	68	4	67	5	66	6	63	9	Yes	
SEGMENT 7 - East Plaza Boulevard to Division Street (43rd STREET INTERCHANGE DESIGN OPTIONS 1, 2A, AND 2C)																				
R7.1	1876 East 12th Street, National City	MFR	70	70	72	B/67	A/E	Yes	71	1	68	4	66	6	64	8	63	9	Yes	S581/ R/W
R7.2	1856 East 12th Street, National City	MFR	71	71	74	B/67	A/E	Yes	68	6	66	8	65	9	64	10	63	11	Yes	
R7.3	1911 East 12th Street, National City	SFR	73	73	78	B/67	A/E	Yes	69	9	67	11	65	13	64	14	63	15	Yes	
R7.4	1830/1835 11th Street, National City	SFR	67	71	77	B/67	A/E	Yes	67	10	66	11	65	12	64	13	63	14	Yes	
R7.5	1852 East 9th Street, National City	MFR	70	70	79	B/67	A/E	Yes	67	12	65	14	64	15	63	16	62	17	Yes	
R7.6	1852 East 9th Street, National City	MFR	70	70	75	B/67	A/E	Yes	67	8	65	10	64	11	63	12	62	13	Yes	
R7.7	1846 East 9th Street, National City	SFR	71	71	71	B/67	A/E	Yes	62	9	62	9	61	10	60	11	59	12	Yes	
R7.8*	1848 Terry Lane, National City	--	65	69	71	B/67	A/E	No	--	--	--	--	--	--	--	--	--	--	--	
R7.9	1908 East 8th Street, National City	SFR	68	70	71	B/67	A/E	Yes	66	5	65	6	65	6	64	7	63	8	Yes	S597/ R/W
R7.10	734 Mariposa Circle, National City	MFR	68	70	73	B/67	A/E	Yes	67	6	66	7	65	8	65	8	64	9	Yes	
R7.11	734 Mariposa Circle, National City	MFR	70	72	75	B/67	A/E	Yes	69	6	67	8	67	8	66	9	65	10	Yes	
R7.12	617 R Avenue, National City	MFR	75	77	81	B/67	A/E	Yes	73	8	71	10	69	12	68	13	68	13	Yes	
R7.13	613 R Avenue, National City	MFR	68	70	72	B/67	A/E	Yes	67	5	67	5	66	6	65	7	64	8	Yes	
R7.14	609 R Avenue, National City	MFR	63	65	67	B/67	A/E	Yes	67	0	66	1	66	1	65	2	65	2	No	
R7.15	421 R Avenue, National City	SFR	70	72	76	B/67	A/E	Yes	70	6	70	6	69	7	69	7	68	8	Yes	
R7.16	Historic Granger Music Hall, 1615 East 4th Street, National City	COM	70	72	75	B/67	A/E	Yes	70	5	69	6	68	7	67	8	66	9	Yes	
R7.17	Integrity Charter School, 125 Palm Avenue, National City	SCH	63	60	61	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R7.17A	1443 East 1st Street, National City	MFR	61	56	56	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	

¹ Leq(h) are A-weighted, peak hour noise levels in decibels.

² Land Use: CHR = church; COM = commercial; HM = hotel/motel; MFR = multi-family residence; REC = recreational area; SCH = school; SFR = single-family residence.

³ S = substantial increase (12 dBA or more); A/E = approach or exceed NAC.

* This site was chosen for monitoring purpose only. No noise sensitive use in this area.

** This site does not represent a sensitive land use; however it is representative of adjacent backyards in this area.

BOLD indicates minimum height required to meet feasibility requirements of the NAC.

Table 2.14-3 (cont.)
FUTURE PREDICTED NOISE LEVELS AND BARRIER ANALYSIS FOR BUILD ALTERNATIVES 1 AND 2 (L_{eq(h)}, dBA)¹

Receptor Number	Receptor Location	Land Use ²	Existing Noise Level	Future Peak Hour Traffic Noise Levels, L _{eq(h)} , dBA ¹																Feasible	Considered Barrier No. / Location
				No Build Alternative	Proposed Project	Activity Category/ NAC	Impact Type ³	Requires Abatement Consideration	Noise Level and Insertion Loss (IL) with Barrier												
									8 feet		10 feet		12 feet		14 feet		16 feet				
				L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL						
SEGMENT 7 – East Plaza Boulevard to Division Street (43rd STREET INTERCHANGE DESIGN OPTIONS 1, 2A, AND 2C) (cont.)																					
R7.18	2104 East 12th Street, National City	SFR	70	73	75	B/67	A/E	Yes	71	4	70	5	68	7	68	7	67	8	Yes	S582/ R/W	
R7.18A	2106 East 11th Street, National City	SFR	71	74	77	B/67	A/E	Yes	74	3	74	3	73	4	71	6	71	6	Yes		
R7.19*	1035 Paradise Drive, National City	SFR	69	72	77	B/67	A/E	No	--	--	--	--	--	--	--	--	--	--	--		
R7.19A	2100 East 10th Street, National City	SFR	68	71	75	B/67	A/E	Yes	70	5	70	5	69	6	69	6	68	7	Yes		
R7.19B	2044 East 10th Street, National City	SFR	73	76	75	B/67	A/E	Yes	67	8	67	8	66	9	65	10	64	11	Yes		
R7.20	2103 East 10th Street, National City	SFR	75	78	80	B/67	A/E	Yes	76	4	75	5	74	6	72	8	72	8	Yes		
R7.20A	943 Paradise Drive, National City	SFR	73	76	79	B/67	A/E	Yes	77	2	76	3	75	4	74	5	73	6	Yes		
R7.21A	904 Paradise Drive, National City	SFR	68	69	71	B/67	A/E	Yes	66	5	65	6	65	6	64	7	64	7	Yes		
R7.21	1944 East 8th Street, National City	MFR	68	69	68	B/67	A/E	Yes	66	2	65	3	64	4	64	4	63	5	Yes		
R7.21B	826 Paradise Drive, National City	SFR	68	69	70	B/67	A/E	Yes	66	4	64	6	63	7	63	7	63	7	Yes		
R7.21C	818 Paradise Drive, National City	SFR	69	70	65	B/67	N	Yes	62	3	61	4	60	5	60	5	59	6	--		
R7.22	2011 East 8th Street, National City	SFR	68	69	69	B/67	A/E	Yes	65	4	64	5	64	5	63	6	63	6	Yes		
R7.23	2011 East 7th Street, National City	SFR	69	70	70	B/67	A/E	Yes	66	4	65	5	64	6	63	7	63	7	Yes		
R7.24*	514 South T Avenue, National City	SFR	73	72	75	B/67	A/E	No	--	--	--	--	--	--	--	--	--	--	--		
R7.25	420 South T Avenue, National City	SFR	64	65	68	B/67	A/E	Yes	--	--	68	0	68	0	68	0	67	1	--		
R7.26	1928 East 4th St National City	SFR	73	74	77	B/67	A/E	Yes	70	7	69	8	68	9	67	10	67	10	Yes		
R7.27	Tiny Tots Daycare, East 4th Street, National City	SCH	64	65	67	B/67	A/E	Yes	66	1	66	1	65	2	65	2	64	3	--		
R7.28	El Toyon Park, 2005 East 4th Street, National City	REC	61	62	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
SEGMENT 7 – East Plaza Boulevard to Division Street (43rd STREET INTERCHANGE DESIGN OPTION 1)																					
R7.28A	El Toyon Park, 2005 East 4th Street, National City	REC	64	65	67	B/67	A/E	Yes	65	2	64	3	62	5	62	5	61	6	Yes	S614/ Shoulder	
R7.28B	Rancho De La Nacion Elementary School, 1830 E Division Street, National City	SCH	70	71	74	B/67	A/E	Yes	69	5	68	6	67	7	66	8	65	9	Yes		
R7.29	Rancho De La Nacion Elementary School, 1830 E Division Street, National City	SCH	70	67	68	B/67	A/E	Yes	64	4	63	5	63	5	62	6	62	6	Yes		
R7.29A	Rancho De La Nacion Elementary School, 1830 E Division Street, National City	SCH	69	66	67	B/67	A/E	Yes	63	4	63	4	62	5	62	5	61	6	Yes		
SEGMENT 7 – East Plaza Boulevard to Division Street (43rd STREET INTERCHANGE DESIGN OPTIONS 2A AND 2C)																					
R7.28A	El Toyon Park, 2005 East 4th Street, National City	REC	64	65	68	B/67	A/E	Yes	65	2	64	4	62	6	62	6	61	7	Yes	S614/ Shoulder	
R7.28B	Rancho De La Nacion Elementary School, 1830 E Division Street, National City	SCH	70	71	74	B/67	A/E	Yes	69	5	68	6	67	7	67	7	64	10	Yes		
R7.29	Rancho De La Nacion Elementary School, 1830 E Division Street, National City	SCH	70	67	70	B/67	A/E	Yes	66	4	64	6	64	6	62	8	62	8	Yes		
R7.29A	Rancho De La Nacion Elementary School, 1830 E Division Street, National City	SCH	69	66	69	B/67	A/E	Yes	65	4	64	4	64	5	62	7	61	8	Yes		
SEGMENT 8 - Division Street to Imperial Avenue (43rd STREET INTERCHANGE DESIGN OPTIONS 1, 2A, AND 2C)																					
R8.1	101 Gilbert Lane, National City	SFR	63	64	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R8.2	1431 Fig Court, National City	SFR	63	64	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R8.3	1405 Scott Drive, National City	SFR	62	63	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R8.3A	4615 Delta Street, National City	MFR	60	61	62	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R8.4	First Samoan Congregational Church, 1347 South 45th Street, San Diego	REC	59	59	61	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R8.5	First Samoan Congregational Church, 1347 South 45th Street, San Diego	REC	61	61	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R8.8	849 South 46th Street, San Diego	SFR	71	73	77	B/67	A/E	Yes	70	7	69	8	69	8	69	8	68	9	Yes	S663/ R/W	
R8.8A	829 South 46th Street, San Diego	SFR	75	77	78	B/67	A/E	Yes	69	9	68	10	67	11	66	12	66	12	Yes		
R8.9A	743 South 46th Street, San Diego	SFR	75	77	78	B/67	A/E	Yes	68	10	67	11	66	12	65	13	64	14	Yes		
R8.9	711 South 46th Street, San Diego	SFR	73	75	75	B/67	A/E	Yes	67	8	66	9	65	10	64	11	64	11	Yes		
R8.9B	605 South 46th Street, San Diego	SFR	68	70	72	B/67	A/E	Yes	66	6	65	7	65	7	64	8	63	9	Yes		
R8.10	627 South 46th Street, San Diego	SFR	69	71	75	B/67	A/E	Yes	66	9	65	10	63	12	63	12	62	13	Yes		
R8.10A	511 South 46th Street, San Diego	SFR	70	72	78	B/67	A/E	Yes	68	10	67	11	65	13	65	13	63	15	Yes		
R8.11	4606 Ocean View Boulevard, San Diego	SFR	64	66	68	B/67	A/E	Yes	68	0	68	0	67	1	67	1	66	2	No ⁵		
R8.11A	419 South 46th Street, San Diego	SFR	66	68	69	B/67	A/E	Yes	67	2	66	3	65	4	64	5	63	6	Yes		
R8.12	335 South 46th Street, San Diego	SFR	68	70	71	B/67	A/E	Yes	68	3	66	5	65	6	64	7	63	8	Yes		
R8.13	245 South 46th Street, San Diego	SFR	65	67	68	B/67	A/E	Yes	65	3	64	4	63	5	62	6	61	7	Yes		
R8.14	210 South 46th Street, San Diego	SFR	61	63	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R8.14A	4571 Imperial Avenue, San Diego	SFR	61	63	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R8.15	1721 Division Street, San Diego	SFR	66	66	67	B/67	A/E	No	--	--	--	--	--	--	--	--	--	--	--		
R8.15A	1708 Delta Street, San Diego	SFR	66	66	67	B/67	A/E	No	--	--	--	--	--	--	--	--	--	--	--		
R8.23	1251 South 47th Street, San Diego	MFR	63	63	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R8.24	4707 Lander Street, San Diego	SFR	58	58	60	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R8.25	4727 Crooked Creek Court, San Diego	SFR	62	62	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		

¹ Leq(h) are A-weighted, peak hour noise levels in decibels.

² Land Use: CHR = church; COM = commercial; HM = hotel/motel; MFR = multi-family residence; REC = recreational area; SCH = school; SFR = single-family residence.

³ S = substantial increase (12 dBA or more); A/E = approach or exceed NAC.

⁵ Would be considered reasonable if private property owner(s) donate(s) required easements.

* This site was chosen for monitoring purpose only. No noise sensitive use in this area.

** This site does not represent a sensitive land use; however it is representative of adjacent backyards in this area. **BOLD** indicates minimum height required to meet feasibility requirements of the NAC.

Table 2.14-3 (cont.)
FUTURE PREDICTED NOISE LEVELS AND BARRIER ANALYSIS FOR BUILD ALTERNATIVES 1 AND 2 (L_{eq(h)}, dBA)¹

Receptor Number	Receptor Location	Land Use ²	Existing Noise Level	Future Peak Hour Traffic Noise Levels, L _{eq(h)} , dBA ¹																Feasible	Considered Barrier No. / Location
				No Build Alternative	Proposed Project	Activity Category/ NAC	Impact Type ³	Requires Abatement Consideration	Noise Level and Insertion Loss (IL) with Barrier												
									8 feet		10 feet		12 feet		14 feet		16 feet				
				L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL						
SEGMENT 8 - Division Street to Imperial Avenue (43rd STREET INTERCHANGE DESIGN OPTIONS 1, 2A AND 2C) (cont.)																					
R8.26	828 South 47th Street, San Diego	SFR	73	73	74	B/67	A/E	Yes	67	7	67	7	66	8	66	8	65	9	Yes	S662/ R/W	
R8.27	742 South 47th Street, San Diego	MFR	75	75	73	B/67	A/E	Yes	68	5	67	6	66	7	65	8	65	8	Yes		
R8.28	720 South 47th Street, San Diego	SFR	71	70	69	B/67	A/E	Yes	66	3	65	4	65	4	64	5	64	5	Yes		
R8.29	626 South 47th Street, San Diego	SFR	72	72	73	B/67	A/E	Yes	67	6	66	7	65	8	65	8	64	9	Yes		
R8.29A	610 South 47th Street, San Diego	SFR	67	67	69	B/67	A/E	Yes	66	3	66	3	65	4	65	4	65	4	No		
R8.30	520 South 47th Street, San Diego	SCH	71	71	73	B/67	A/E	Yes	69	4	68	5	68	5	67	6	67	6	Yes		
R8.31	Walter J Porter Elementary School, 4800 T Street, San Diego	SCH	63	63	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R8.32	133 South 47th Street, San Diego	SFR	60	60	62	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
SEGMENT 8 - Division Street to Imperial Avenue (43rd STREET INTERCHANGE DESIGN OPTION 1)																					
R8.6A	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	67	67	69	B/67	A/E	Yes	66	3	65	4	64	5	64	5	64	5	Yes	S647/ Ramp Shoulder/ R/W	
R8.6	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	68	69	70	B/67	A/E	Yes	66	4	65	5	64	6	64	6	63	7	Yes		
R8.6B	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	72	73	75	B/67	A/E	Yes	67	8	66	9	65	10	64	11	64	11	Yes		
R8.7A	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	74	75	77	B/67	A/E	Yes	68	9	67	10	66	11	65	12	64	13	Yes		
R8.7	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	66	67	70	B/67	A/E	Yes	65	5	65	5	64	6	64	6	63	7	Yes		
R8.16A	1703 Delta Street, San Diego	SFR	67	67	68	B/67	A/E	Yes	65	6	64	4	64	4	63	5	63	5	Yes	S634/ Shoulder and S640/ Ramp Shoulder	
R8.16	138 North Q Avenue, San Diego	SFR	69	69	71	B/67	A/E	Yes	66	5	65	6	64	7	64	7	63	8	Yes		
R8.17	1614 Gamma Street, San Diego	SFR	72	66	68	B/67	A/E	Yes	66	2	65	3	64	4	63	5	63	5	Yes		
R8.18	1602 Beta Street, San Diego	SFR	70	70	73	B/67	A/E	Yes	68	5	67	6	66	7	65	8	65	8	Yes		
R8.19	1603 Beta Street, San Diego	SFR	72	72	75	B/67	A/E	Yes	70	5	69	6	68	7	67	8	66	9	Yes		
R8.20	1605 Alpha Street, San Diego	SFR	71	71	74	B/67	A/E	Yes	69	5	69	5	68	6	67	7	66	8	Yes		
R8.21	1291 47th Street, San Diego	MFR	66	66	69	B/67	A/E	Yes	65	4	65	4	64	5	63	6	63	6	Yes		
R8.22	1271 47th Street, San Diego	MFR	66	66	68	B/67	A/E	Yes	65	3	64	4	63	5	63	5	63	5	Yes		
SEGMENT 8 - Division Street to Imperial Avenue (43rd STREET INTERCHANGE DESIGN OPTIONS 2A AND 2C)																					
R8.15	1721 Division Street, San Diego	SFR	66	66	69	B/67	A/E	Yes	66	3	65	4	63	6	61	8	61	8	Yes	S620/ Shoulder	
R8.15A	1708 Delta Street, San Diego	SFR	66	66	69	B/67	A/E	Yes	67	2	66	3	64	5	62	7	62	7	Yes		
R8.16A	1703 Delta Street, San Diego	SFR	67	67	70	B/67	A/E	Yes	66	4	66	4	64	6	62	8	62	8	Yes	S634/ Shoulder	
R8.16	138 North Q Avenue, San Diego	SFR	69	69	71	B/67	A/E	Yes	67	4	66	5	64	7	63	8	63	8	Yes		
R8.17	1614 Gamma Street, San Diego	SFR	72	66	69	B/67	A/E	Yes	66	3	65	4	64	5	64	5	64	5	Yes		
R8.18	1602 Beta Street, San Diego	SFR	70	70	72	B/67	A/E	Yes	69	3	68	4	67	5	66	6	66	6	Yes		
R8.19	1603 Beta Street, San Diego	SFR	72	72	75	B/67	A/E	Yes	70	5	69	6	68	7	66	9	66	9	Yes		
R8.20	1605 Alpha Street, San Diego	SFR	71	71	74	B/67	A/E	Yes	69	5	69	5	68	6	65	9	65	9	Yes		
R8.21	1291 47th Street, San Diego	MFR	66	66	71	B/67	A/E	Yes	67	4	67	4	65	6	63	8	68	3	Yes		
R8.22	1271 47th Street, San Diego	MFR	66	66	69	B/67	A/E	Yes	67	2	67	2	64	5	62	7	62	7	Yes		
R8.23	1251 47th Street, San Diego	MFR	63	63	66	B/67	A/E	Yes	64	2	63	3	62	4	61	5	60	6	Yes		
SEGMENT 8 - Division Street to Imperial Avenue (43rd STREET INTERCHANGE DESIGN OPTION 2A)																					
R8.6A	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	67	67	69	B/67	A/E	Yes	65	4	64	5	64	5	62	7	62	7	Yes	S647/ Ramp Shoulder, R/W	
R8.6	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	68	69	70	B/67	A/E	Yes	66	4	65	5	64	6	63	7	62	8	Yes		
R8.6B	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	72	73	75	B/67	A/E	Yes	68	7	66	9	65	10	65	10	64	11	Yes		
R8.7A	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	74	75	77	B/67	A/E	Yes	69	8	67	10	66	11	65	12	65	12	Yes		
R8.7	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	66	67	70	B/67	A/E	Yes	65	5	65	5	64	6	64	6	63	7	Yes		
SEGMENT 8 - Division Street to Imperial Avenue (43rd STREET INTERCHANGE DESIGN OPTION 2C)																					
R8.6A	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	67	67	70	B/67	A/E	Yes	65	5	64	6	64	6	63	7	62	8	Yes	S647/ Ramp Shoulder, Transition, R/W	
R8.6	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	68	69	70	B/67	A/E	Yes	66	4	65	5	64	6	63	7	62	8	Yes		
R8.6B	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	72	73	75	B/67	A/E	Yes	68	7	66	9	65	10	65	10	64	11	Yes		
R8.7A	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	74	75	77	B/67	A/E	Yes	69	8	67	10	66	11	65	12	65	12	Yes		
R8.7	Willie Henderson Sports Complex, 1035 South 45th Street, San Diego	REC	66	67	69	B/67	A/E	Yes	66	3	65	4	64	5	64	5	63	6	Yes		

¹ Leq(h) are A-weighted, peak hour noise levels in decibels.

² Land Use: CHR = church; COM = commercial; HM = hotel/motel; MFR = multi-family residence; REC = recreational area; SCH = school; SFR = single-family residence.

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**Table 2.14-3 (cont.)
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Receptor Number	Receptor Location	Land Use ²	Existing Noise Level	Future Peak Hour Traffic Noise Levels, L _{eq(h)} , dBA ¹																Feasible	Considered Barrier No. / Location
				No Build Alternative	Proposed Project	Activity Category/ NAC	Impact Type ³	Requires Abatement Consideration	Noise Level and Insertion Loss (IL) with Barrier												
									8 feet		10 feet		12 feet		14 feet		16 feet				
				L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL						
SEGMENT 9 - Imperial Avenue to Market Street																					
R9.1	4578 Imperial Avenue, San Diego	SFR	60	63	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R9.2	YMCA, 151 Ymca Way, San Diego	REC	62	65	68	B/67	A/E	Yes	64	4	63	5	63	5	62	6	62	6	Yes	S691/ Shoulder and Inside R/W	
R9.3	YMCA, 151 Ymca Way, San Diego	REC	64	67	70	B/67	A/E	Yes	66	4	65	5	64	6	63	7	63	7	Yes		
R9.4	YMCA, 151 Ymca Way, San Diego	REC	70	73	77	B/67	A/E	Yes	68	9	67	10	66	11	66	11	65	12	Yes		
R9.5	4445 K Street, San Diego	SFR	65	68	71	B/67	A/E	Yes	66	5	65	6	65	6	64	7	64	7	Yes		
R9.6	345 44th Street, San Diego	SFR	64	67	70	B/67	A/E	Yes	64	6	63	7	63	7	62	8	62	8	Yes	S707/ R/W	
R9.7	4387 J Street, San Diego	SFR	70	73	75	B/67	A/E	Yes	66	9	65	10	64	11	63	12	62	13	Yes		
R9.8	439 Carlos Street, San Diego	SFR	63	66	68	B/67	A/E	Yes	63	5	62	6	61	7	60	8	60	8	Yes		
R9.9	516 Carlos Street, San Diego	SFR	64	67	71	B/67	A/E	Yes	63	8	62	9	61	10	60	11	60	11	Yes		
R9.10	Creek Side Villas Apartments, 4651 Nogal Street, San Diego	MFR	60	59	61	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R9.11	4646 Nogal Street, San Diego	SFR	64	63	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R9.12	Creek Side Villas Apartments, 275 East Street, San Diego	MFR	59	58	60	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R9.13	Creek Side Villas Apartments, 220 47th Street, San Diego	MFR	72	71	73	B/67	A/E	Yes	67	6	66	7	64	9	63	10	63	10	Yes	S694/ Shoulder and Inside R/W	
R9.14	Creek Side Villas Apartments, 220 47th Street, San Diego	MFR	74	73	76	B/67	A/E	Yes	73	3	71	5	71	5	69	7	67	9	Yes		
R9.14A	Creek Side Villas Apartments, 220 47th Street, San Diego	REC	56	55	55	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R9.15	Chollas/Mead Elementary School, 4525 Market Street, San Diego	SCH	60	60	61	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R9.16	Chollas/Mead Elementary School, 4525 Market Street, San Diego	SCH	62	62	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R9.17	Chollas/Mead Elementary School, 4525 Market Street, San Diego	SCH	63	63	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R9.18	Chollas/Mead Elementary School, 4525 Market Street, San Diego	SCH	62	62	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R9.19	4455 Market Street, San Diego	MFR	66	66	67	B/67	A/E	Yes	64	3	63	4	62	5	62	5	61	6	Yes	S708/ R/W	
R9.20	4455 Market Street, San Diego	MFR	76	76	78	B/67	A/E	Yes	67	11	65	13	64	14	62	16	62	16	Yes		
R9.21	4455 Market Street, San Diego	MFR	75	75	77	B/67	A/E	Yes	65	12	65	12	63	14	62	15	61	16	Yes		
R9.22	4455 Market Street, San Diego	MFR	73	73	75	B/67	A/E	Yes	66	9	65	10	64	11	63	12	62	13	Yes		
SEGMENT 10 - Market Street to SR 94																					
R10.1	619 Denby Street, San Diego	SFR	63	69	70	B/67	A/E	Yes	62	8	60	10	58	12	57	13	56	14	Yes	S723/ R/W	
R10.2	722 Denby Street, San Diego	SFR	63	69	72	B/67	A/E	Yes	65	7	64	8	63	9	62	10	61	11	Yes		
R10.3	815 Toyne Street, San Diego	MFR	63	69	70	B/67	A/E	Yes	63	7	61	9	59	11	58	12	58	12	Yes		
R10.4	842 Toyne Street, San Diego	SFR	55	61	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R10.5	872 Toyne Street, San Diego	SFR	60	66	67	B/67	A/E	Yes	63	4	62	5	62	5	62	5	61	6	Yes	S735/ R/W	
R10.6	4210 Hilltop Drive, San Diego	SFR	67	68	69	B/67	A/E	Yes	62	7	60	9	58	11	58	11	57	12	Yes		
R10.7	928 42nd Street, San Diego	SFR	62	63	66	B/67	A/E	Yes	62	4	61	5	60	6	60	6	59	7	Yes		
R10.8	4171 C Street, San Diego	SFR	61	62	66	B/67	A/E	Yes	65	1	64	2	64	2	63	3	63	3	No		
R10.9	4152-54 C Street, San Diego	SFR	69	70	72	B/67	A/E	Yes	71	1	69	3	68	4	67	5	66	6	Yes	S714/ R/W	
R10.20	4413-17 G Street, San Diego	MFR	64	66	67	B/67	A/E	Yes	61	6	61	6	60	7	60	7	60	7	Yes		
R10.21	717 44th Street, San Diego	SFR	57	59	60	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R10.22	Wat Lao Buddharam, 726 44th Street, San Diego	MFR	59	61	62	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R10.23	4361 Tremont Street, San Diego	MFR	61	63	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R10.24*	4361 Tremont Street, San Diego	--	68	70	72	B/67	--	No	--	--	--	--	--	--	--	--	--	--	--	--	
R10.25	4390 Tremont Street, San Diego	SFR	56	58	59	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R10.26	840 44th Street, San Diego	SFR	56	58	60	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R10.27	4345 Hilltop Drive, San Diego	SFR	57	59	60	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R10.28	4350 Hilltop Drive, San Diego	SFR	59	61	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R10.29	936 44th Street, San Diego	--	66	68	69	B/67	--	No	--	--	--	--	--	--	--	--	--	--	--	--	
R10.30	936 44th Street, San Diego	SFR	55	57	58	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R10.31	4343 C Street, San Diego	MFR	68	70	71	B/67	A/E	Yes	63	8	61	10	60	11	59	12	58	13	Yes	S734/ R/W	
R10.32	4343 C Street, San Diego	REC	59	61	62	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R10.33	4343 C Street, San Diego	MFR	63	65	68	B/67	A/E	Yes	60	8	59	9	59	9	58	10	57	11	Yes		
R10.34	4343 C Street, San Diego	MFR	66	68	70	B/67	A/E	Yes	61	9	60	10	59	11	59	11	58	12	Yes		

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				No Build Alternative	Proposed Project	Activity Category/ NAC	Impact Type ³	Requires Abatement Consideration	Noise Level and Insertion Loss (IL) with Barrier											
									8 feet		10 feet		12 feet		14 feet		16 feet			
		L _{eq(h)}		IL		L _{eq(h)}		IL		L _{eq(h)}		IL		L _{eq(h)}		IL				
SEGMENT 11 - SR 94 to Home Avenue																				
R11.1	1575 42nd Street, San Diego	SFR	62	64	66	B/67	A/E	Yes	61	5	61	5	61	5	60	6	60	6	Yes	S757/ R/W and Private Property
R11.2	4185 Spillman Drive, San Diego	SFR	63	65	66	B/67	A/E	Yes	66	0	66	0	66	0	66	0	66	0	No	
R11.3	4205 Spillman Drive, San Diego	SFR	63	65	67	B/67	A/E	Yes	62	5	61	6	60	7	59	8	59	8	Yes	
R11.4	4206 Spillman Drive, San Diego	SFR	65	65	67	B/67	A/E	Yes	63	4	62	5	61	6	60	7	60	7	Yes	
R11.5	4232 Staton Road, San Diego	SFR	67	69	71	B/67	A/E	Yes	65	6	64	7	63	8	63	8	63	8	Yes	
R11.6A*	4231 Home Avenue, San Diego	--	69	69	72	B/67	--	No	--	--	--	--	--	--	--	--	--	--	--	S767/ R/W and Private Property
R11.6	4231 Home Avenue, San Diego	SFR	67	68	71	B/67	A/E	Yes	68	3	67	4	64	7	63	8	62	9	Yes	
R11.7	4219 Home Avenue, San Diego	SFR	64	64	67	B/67	A/E	Yes	67	0	66	1	65	2	65	2	64	3	No	
R11.8	4207 Home Avenue, San Diego	SFR	62	62	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R11.9	Little League Baseball Field, San Diego	REC	57	58	58	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R11.10	1706 Ridge View Drive, San Diego	SFR	67	68	69	B/67	A/E	Yes	66	3	64	5	62	7	60	9	59	10	Yes	S762/ R/W and Private Property
R11.11	1722 Ridge View Drive, San Diego	SFR	69	70	73	B/67	A/E	Yes	65	8	62	11	61	12	59	14	58	15	Yes	
R11.12	1756 Ridge View Drive, San Diego	SFR	70	71	74	B/67	A/E	Yes	64	10	63	11	61	13	61	13	60	14	Yes	
R11.13	1776 Ridge View Drive, San Diego	SFR	71	72	75	B/67	A/E	Yes	68	7	66	9	64	11	63	12	62	13	Yes	
R11.14	1802 Ridge View Drive, San Diego	SFR	71	72	75	B/67	A/E	Yes	64	11	63	12	62	13	61	14	60	15	Yes	
R11.15	1818 Ridge View Drive, San Diego	SFR	72	73	75	B/67	A/E	Yes	65	10	63	12	61	14	60	15	59	16	Yes	
R11.16	1842 Ridge View Drive, San Diego	SFR	68	68	70	B/67	A/E	Yes	66	4	65	5	62	8	60	10	59	11	Yes	
SEGMENT 12 - Home Avenue to I-805/SR 15 Interchange)																				
R 12.1	Playground, 4281 Juniper Street, San Diego	REC	62	65	66	B/67	A/E	Yes	57	9	56	10	55	11	54	12	53	13	Yes	S774/ Private Property
R 12.1A	4281 Juniper Street, San Diego	MFR	61	64	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R 12.1B	4283 Juniper Street, San Diego	MFR	62	65	66	B/67	A/E	Yes	58	8	56	10	55	11	53	13	53	13	Yes	
R 12.2	Juniper Gardens Apartments, 4257 Juniper Street, San Diego	MFR	70	73	74	B/67	A/E	Yes	66	8	64	10	63	11	62	12	60	14	Yes	S776A/B / R/W and Private Property
R 12.3	Juniper Gardens Apartments, 4255 Juniper Street, San Diego	MFR	71	74	76	B/67	A/E	Yes	67	9	65	11	63	13	62	14	61	15	Yes	S780/ Private Property
R 12.4	Hollywood Park, 2406 Fairmount Avenue, San Diego	REC	68	71	73	B/67	A/E	Yes	66	7	65	8	64	9	63	10	62	11	Yes	S784/ R/W and Private Property
R 12.5	2260 Shamrock Street, San Diego	SFR	76	76	77	B/67	A/E	Yes	66	11	64	13	63	14	62	15	61	16	Yes	
R 12.6	2280 Shamrock Street, San Diego	SFR	78	77	80	B/67	A/E	Yes	76	4	71	9	67	13	65	15	63	17	Yes	
R 12.7	2310 Shamrock Street, San Diego	SFR	73	73	75	B/67	A/E	Yes	66	9	64	11	63	12	61	14	60	15	Yes	
R 12.8	2324 Shamrock Street, San Diego	SFR	73	73	74	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	
R 12.9	2348 Shamrock Street, San Diego	SFR	72	72	73	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	
R 12.10	2335 Tulip Street, San Diego	SFR	77	77	78	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	
R 12.11	2345 Tulip Street, San Diego	SFR	67	67	69	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	
R 12.11A	2409 Tulip Street, San Diego	SFR	65	65	66	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	
R 12.12	2344 Tulip Street, San Diego	SFR	74	74	74	B/67	A/E	Yes	67	7	65	9	64	10	64	10	63	11	Yes	S796/ R/W
R 12.13	Azalea Park, 2596 Violet Street, San Diego	REC	73	73	74	B/67	A/E	Yes	66	8	65	9	64	10	64	10	63	11	Yes	
R 12.14	4027 Pepper Drive, San Diego	SFR	76	76	77	B/67	A/E	Yes	67	10	66	11	65	12	64	13	63	14	Yes	
R 12.15	4014 Pepper Drive, San Diego	MFR	76	76	77	B/67	A/E	Yes	70	7	68	9	67	10	66	11	66	11	Yes	
R 12.16	Azalea Park, 2596 Violet Street, San Diego	REC	70	68	70	B/67	A/E	Yes	70	0	69	1	69	1	69	1	68	2	No	
R 12.17	Azalea Park, 2596 Violet Street, San Diego	REC	69	69	72	B/67	A/E	Yes	71	1	70	2	69	3	68	4	67	5	Yes	
R 12.18	3915 Manzanita Drive, San Diego	SFR	69	69	71	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	
R 12.19	3901 Manzanita Drive, San Diego	SFR	76	76	78	B/67	A/E	Yes	68	10	65	13	63	15	62	16	61	17	Yes	
R 12.20	3922 Manzanita Drive, San Diego	SFR	72	72	73	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	
R 12.21	4214 Home Avenue, San Diego	SFR	59	64	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R 12.22	4232 Home Avenue, San Diego	SFR	61	67	68	B/67	A/E	Yes	68	0	68	0	68	0	68	0	68	0	--	
R 12.23	4235 Posey Place, San Diego	SFR	66	70	72	B/67	A/E	Yes	65	7	62	10	60	12	59	13	58	14	Yes	S771A/B / R/W and Private Property
R 12.24*	4226 Posey Place, San Diego	SFR	67	71	73	B/67	A/E	No	--	--	--	--	--	--	--	--	--	--	--	
R 12.25	4216 Posey Place, San Diego	SFR	59	63	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	

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									8 feet		10 feet		12 feet		14 feet		16 feet				
L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL						
SEGMENT 12 - Home Avenue to I-805/SR 15 Interchange) (cont.)																					
R 12.26	4175 Trailing Drive, San Diego	SFR	64	68	70	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	--	
R 12.27	1921 Panay Court, San Diego	SFR	64	68	70	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	--	
R 12.28	2011 Tulip Street, San Diego	SFR	67	71	73	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	--	
R 12.29	1972 Panay Court, San Diego	MFR	72	76	78	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	--	
R 12.30	2127 Tulip Street, San Diego	SFR	70	76	78	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	--	
R 12.31	2135 Tulip Street, San Diego	SFR	73	77	78	B/67	A/E	Yes	67	11	65	13	64	14	63	15	62	16	Yes	S785/ R/W and Private Property	
R 12.32	2147 Crenshaw Street, San Diego	SFR	61	64	66	B/67	A/E	Yes	64	2	63	3	63	3	63	3	62	4	No		
R 12.33	2205 Crenshaw Street, San Diego	SFR	65	69	71	B/67	A/E	Yes	66	5	66	5	64	7	64	7	63	8	Yes	--	
R 12.34	2214 Crenshaw Street, San Diego	SFR	63	67	68	B/67	A/E	Yes	65	3	64	4	63	5	63	5	62	6	--		
R 12.35	2267 Ralene Street, San Diego	SFR	58	62	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R 12.36	2268 Ralene Street, San Diego	SFR	58	62	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R 12.36A	2256 Ralene Street, San Diego	SFR	54	58	59	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R 12.37	4004 Juniper Street, San Diego	SFR	77	77	79	B/67	A/E	Yes	71	8	69	10	67	12	65	14	64	15	Yes	S795/ R/W	
R 12.38	2333 39th Street, San Diego	SFR	65	66	68	B/67	A/E	Yes	65	3	64	4	63	5	63	5	62	6	Yes		
R 12.39*	2333 39th Street, San Diego	SFR	78	80	82	B/67	A/E	No	--	--	--	--	--	--	--	--	--	--	--	--	
R 12.40	2404 39th Street, San Diego	SFR	77	78	78	B/67	A/E	Yes	74	4	74	4	73	5	73	5	73	5	Yes	--	
R 12.41	2342 39th Street, San Diego	SFR	75	76	77	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	--	
SEGMENT 13 - I-805/SR 15 Interchange to Landis Street along I-805																					
R 13.4	2217 Haller Street, San Diego	MFR	69	69	71	B/67	A/E	Yes	66	5	65	6	64	7	63	8	63	8	Yes	--	
R 13.5	2257 Haller Street, San Diego	MFR	69	69	70	B/67	A/E	Yes	65	5	64	6	63	7	63	7	62	8	Yes	S801/ Shoulder	
R 13.6	2405 Haller Street, San Diego	SFR	73	73	73	B/67	A/E	Yes	69	4	69	4	68	5	67	6	67	6	Yes		
R 13.54	2362 Haller Street, San Diego	SFR	63	63	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	Shoulder	
R 13.55	2412 Haller Street, San Diego	SFR	66	66	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R 13.56	2454 Haller Street, San Diego	SFR	63	63	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	--	
R 13.56A	2377 Vancouver Avenue, San Diego	SFR	71	71	70	B/67	A/E	Yes	69	1	69	1	69	1	69	1	69	1	No	--	
R 13.7	2431 Haller Street, San Diego	SFR	77	77	75	B/67	A/E	Yes	74	1	74	1	74	1	74	1	74	1	No		
R 13.8	2461 Haller Street, San Diego	SFR	76	76	75	B/67	A/E	Yes	75	0	75	0	75	0	75	0	75	0	No	--	
R 13.9	2491 Haller Street, San Diego	SFR	76	76	75	B/67	A/E	Yes	75	0	75	0	75	0	75	0	75	0	No		
R 13.10	2541 Haller Street, San Diego	SFR	77	77	76	B/67	A/E	Yes	76	0	76	0	76	0	76	0	75	1	No	--	
R 13.11	2615 Haller Street, San Diego	SFR	78	78	77	B/67	A/E	Yes	77	0	77	0	77	0	77	0	77	0	No		
R 13.12	2639 Haller Street, San Diego	SFR	77	77	76	B/67	A/E	Yes	76	0	76	0	76	0	76	0	76	0	No	--	
R 13.13	2636 Haller Street, San Diego	SFR	70	70	70	B/67	A/E	Yes	70	0	70	0	70	0	70	0	69	1	No		
R 13.14	Montclair Park, 2971 Nile Street, San Diego	REC	63	66	68	B/67	A/E	Yes	66	2	65	3	65	3	64	4	63	5	Yes	S817A/B / Shoulder	
R 13.15	Montclair Park, 2971 Nile Street, San Diego	REC	64	67	68	B/67	A/E	Yes	66	2	66	2	65	3	64	4	63	5	Yes		
R 13.16	3675 Quince Street, San Diego	SFR	73	75	74	B/67	A/E	Yes	68	6	66	8	66	8	65	9	65	9	Yes	S823/ R/W, Private Property	
R 13.17	2941 Vancouver Avenue, San Diego	SFR	64	66	66	B/67	A/E	Yes	61	5	61	5	60	6	59	7	59	7	Yes		
R 13.18	3622 Quince Street, San Diego	SFR	68	70	71	B/67	A/E	Yes	63	8	62	9	61	10	60	11	59	12	Yes	--	
R 13.18A*	3028 Haller Street, San Diego	SFR	72	74	74	N/A	N/A	No	--	--	--	--	--	--	--	--	--	--	--		
R 13.19	3042 Haller Street, San Diego	SFR	72	74	75	B/67	A/E	Yes	67	8	65	10	62	13	60	15	59	16	Yes	--	
R 13.20	3049 Vancouver Avenue, San Diego	SFR	68	70	71	B/67	A/E	Yes	70	1	70	1	70	1	70	1	70	1	No		
R 13.21	3067-3069 Vancouver Avenue, San Diego	SFR	66	68	69	B/67	A/E	Yes	68	1	68	1	68	1	67	2	67	2	No	--	
R 13.22	3585 Redwood Street, San Diego	SFR	69	73	73	B/67	A/E	Yes	66	7	65	8	64	9	63	10	62	11	Yes		
R 13.23	3122 Haller Street, San Diego	SFR	65	69	69	B/67	A/E	Yes	62	7	61	8	60	9	59	10	58	11	Yes	S835/ R/W -	
R 13.24	3132 Haller Street, San Diego	SFR	64	68	69	B/67	A/E	Yes	62	7	61	8	60	9	59	10	58	11	Yes		
R 13.25	3240 Haller Street, San Diego	SFR	64	68	68	B/67	A/E	Yes	62	6	61	7	60	8	59	9	58	10	Yes	--	
R 13.26	3524 Thorn Street, San Diego	SFR	70	74	74	B/67	A/E	Yes	63	11	61	13	60	14	58	16	57	17	Yes		
R 13.27	3335 Vancouver Avenue, San Diego	SFR	72	76	75	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	--	
R 13.28	3407 Vancouver Avenue, San Diego	SFR	73	77	77	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--		
R 13.29	3429 Vancouver Avenue, San Diego	SFR	72	76	76	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--	S849/ Private Property	
R 13.30	3522 Vancouver Avenue, # 28, San Diego	SFR	73	74	74	B/67	A/E	Yes	65	9	64	10	63	11	63	11	62	12	Yes		

¹ Leq(h) are A-weighted, peak hour noise levels in decibels.

² Land Use: CHR = church; COM = commercial; HM = hotel/motel; MFR = multi-family residence; REC = recreational area; SCH = school; SFR = single-family residence.

³ S = substantial increase (12 dBA or more); A/E = approach or exceed NAC.

* This site was chosen for monitoring purpose only. No noise sensitive use in this area.

** This site does not represent a sensitive land use; however it is representative of adjacent backyards in this area.

BOLD indicates minimum height required to meet feasibility requirements of the NAC.

**Table 2.14-3 (cont.)
FUTURE PREDICTED NOISE LEVELS AND BARRIER ANALYSIS FOR BUILD ALTERNATIVES 1 AND 2 (L_{eq(h)}, dBA)¹**

Receptor Number	Receptor Location	Land Use ²	Existing Noise Level	Future Peak Hour Traffic Noise Levels, L _{eq(h)} , dBA ¹																Feasible	Considered Barrier No. / Location
				No Build Alternative	Proposed Project	Activity Category/ NAC	Impact Type ³	Requires Abatement Consideration	Noise Level and Insertion Loss (IL) with Barrier												
									8 feet		10 feet		12 feet		14 feet		16 feet				
				L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL						
SEGMENT 13 - I-805/SR 15 Interchange to Landis Street along I-805 (cont.)																					
R 13.31	3483 Dwight Street, San Diego	SFR	78	79	78	B/67	A/E	Yes	65	13	63	15	61	17	60	18	59	19	Yes	S853/ Private Property	
R 13.32	3645 Nile Street, San Diego	SFR	72	73	74	B/67	A/E	Yes	64	10	63	11	62	12	61	13	61	13	Yes	S857/ R/W	
R 13.33	3677 Nile Street, San Diego	SFR	75	76	76	B/67	A/E	Yes	64	12	62	14	61	15	60	16	59	17	Yes		
R 13.34	3310 Cherokee Avenue, San Diego	MFR	72	76	77	B/67	A/E	Yes	66	11	65	12	63	14	63	14	62	15	Yes		
R 13.34A	3310 Cherokee Avenue, San Diego	MFR	70	74	74	B/67	A/E	Yes	65	9	63	11	63	11	62	12	61	13	Yes		
R 13.34B	3310 Cherokee Avenue, San Diego	MFR	60	64	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R 13.35	3543 Myrtle Avenue, # 1, San Diego	SFR	72	76	76	B/67	A/E	Yes	64	12	63	13	62	14	61	15	60	16	Yes		
R 13.36	3505 Wilson Avenue, San Diego	SFR	60	64	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R 13.37	3527 Wilson Avenue, # 31, San Diego	SFR	56	60	58	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R 13.38	3544 Wilson Avenue, San Diego	SFR	74	76	77	B/67	A/E	Yes	66	11	64	13	63	14	62	15	61	16	Yes		
R 13.39	3558 Wilson Avenue, # 60, San Diego	SFR	72	74	73	B/67	A/E	Yes	65	8	64	9	62	11	62	11	61	12	Yes		
R 13.40	3502 Dwight Street, # 6, San Diego	SFR	71	73	72	B/67	A/E	Yes	67	5	62	10	60	12	59	13	58	14	Yes		
R 13.41	3512 Dwight Street, San Diego	SFR	65	67	66	B/67	A/E	Yes	63	3	60	6	59	7	58	8	57	9	Yes		
R 13.42	3616 Wilson Avenue, San Diego	SFR	62	64	63	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R 13.43	3634 35th Street, San Diego	SFR	72	72	71	B/67	A/E	Yes	66	5	66	5	65	6	65	6	65	6	Yes		
R 13.44	3660 35th Street, San Diego	SFR	73	73	73	B/67	A/E	Yes	72	1	72	1	71	2	70	3	69	4	No ⁴	S856/ R/W and Private Property	
R 13.45	3669 Swift Avenue, San Diego	SFR	75	75	75	B/67	A/E	Yes	75	0	75	0	72	3	67	8	64	11	Yes		
R 13.46	3457 Landis Street, San Diego	SFR	74	74	74	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--		
R 13.46A	3455 Landis Street, San Diego	SFR	75	74	74	B/67	A/E	Yes	--	--	--	--	--	--	--	--	--	--	--		
SEGMENT 14 - I-805/SR 15 Interchange to Myrtle Street along SR 15																					
R 14.1	2858 39th Street, San Diego	SFR	76	76	77	B/67	A/E	Yes	73	4	71	6	69	8	68	9	67	10	Yes		
R 14.2	2910 39th Street, San Diego	SFR	74	74	75	B/67	A/E	Yes	73	2	72	3	71	4	70	5	68	7	Yes		
R 14.2A*	2913 38th Street, San Diego	--	75	75	75	B/67	A/E	No	--	--	--	--	--	--	--	--	--	--	--		
R 14.3	2933 38th Street, San Diego	SFR	75	75	76	B/67	A/E	Yes	69	7	68	8	68	8	66	10	64	12	Yes		
R 14.4	2963 38th Street, San Diego	SFR	77	77	77	B/67	A/E	Yes	69	8	66	11	65	12	64	13	62	15	Yes		
R 14.5	3035 38th Street, San Diego	SFR	64	64	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R 14.6	3058 38th Street, San Diego	SFR	71	75	75	B/67	A/E	Yes	66	9	64	11	62	13	61	14	60	15	Yes		
R 14.7	3090 38th Street, San Diego	SFR	70	74	74	B/67	A/E	Yes	65	9	63	11	62	12	61	13	60	14	Yes		
R 14.8	3108 38th Street, San Diego	SFR	70	74	75	B/67	A/E	Yes	67	8	65	10	63	12	62	13	61	14	Yes		
R 14.9	3132 38th Street, San Diego	SFR	70	74	74	B/67	A/E	Yes	66	8	65	9	63	11	62	12	61	13	Yes		
R 14.10	3220 38th Street, San Diego	SFR	70	74	74	B/67	A/E	Yes	64	10	63	11	62	12	61	13	60	14	Yes		
R 14.11	3742 Thorn Street, San Diego	SFR	72	76	77	B/67	A/E	Yes	65	12	63	14	62	15	60	17	60	17	Yes		
R 14.12	3460 39th Street, San Diego	MFR	74	75	75	B/67	A/E	Yes	65	10	63	12	62	13	61	14	60	15	Yes		
R 14.13	3460 39th Street, San Diego	MFR	75	76	77	B/67	A/E	Yes	66	11	64	13	62	15	61	16	60	17	Yes		
R 14.14	3505 39th Street, San Diego	MFR	63	64	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R 14.15	3521 39th Street, # 27, San Diego	SFR	62	63	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R 14.16	3568 40th Street, # 70, San Diego	SFR	62	63	64	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R 14.17	4003 Dwight Street, San Diego	SFR	60	61	62	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		
R 14.18	4012 Dwight Street, # 14, San Diego	SFR	65	66	66	B/67	A/E	Yes	62	4	63	3	63	3	62	4	61	5	--		
R 14.19	3626 Central Avenue, # 30, San Diego	SFR	63	61	62	B/67	N	No	59	3	60	2	60	2	59	3	59	3	--		
R 14.20	3642 Central Avenue, San Diego	SFR	66	64	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--		

¹ Leq(h) are A-weighted, peak hour noise levels in decibels.

² Land Use: CHR = church; COM = commercial; HM = hotel/motel; MFR = multi-family residence; REC = recreational area; SCH = school; SFR = single-family residence.

³ S = substantial increase (12 dBA or more); A/E = approach or exceed NAC.

⁴ Not reasonable, but recommended due to severely impacted receptor(s) that must be abated for.

* This site was chosen for monitoring purpose only. No noise sensitive use in this area.

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**Table 2.14-3 (cont.)
FUTURE PREDICTED NOISE LEVELS AND BARRIER ANALYSIS FOR BUILD ALTERNATIVES 1 AND 2 (L_{eq(h)}, dBA)¹**

Receptor Number	Receptor Location	Land Use ²	Existing Noise Level	Future Peak Hour Traffic Noise Levels, L _{eq(h)} , dBA ¹														Feasible	Considered Barrier No. / Location	
				No Build Alternative	Proposed Project	Activity Category/ NAC	Impact Type ³	Requires Abatement Consideration	Noise Level and Insertion Loss (IL) with Barrier											
									8 feet		10 feet		12 feet		14 feet		16 feet			
L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL	L _{eq(h)}	IL							
SEGMENT 14 - I-805/SR 15 Interchange to Myrtle Street along SR 15 (cont.)																				
R 14.21	3325 Cherokee Avenue, San Diego	SFR	72	74	74	B/67	A/E	Yes	73	1	72	2	72	2	72	2	71	3	No	--
R 14.22	3679 Bellingham Avenue, San Diego	SFR	74	76	76	B/67	A/E	Yes	76	0	75	1	74	2	74	2	73	3	No	
R 14.23	3685 Bellingham Avenue, San Diego	SFR	74	76	76	B/67	A/E	Yes	76	0	75	1	74	2	74	2	73	3	No	
R 14.24	3676 Bellingham Avenue, San Diego	SFR	72	74	75	B/67	A/E	Yes	74	1	74	1	73	2	73	2	72	3	No	
R 14.25	3440 37th Street, San Diego	SFR	70	72	72	B/67	A/E	Yes	72	0	71	1	71	1	71	1	70	2	No	
R 14.26	3453-55 37th Street, San Diego	SFR	72	74	74	B67	A/E	Yes	74	0	74	0	73	1	73	1	73	1	No	
R 14.27	3721 Myrtle Avenue, San Diego	SFR	74	76	77	B/67	A/E	Yes	76	1	76	1	76	1	75	2	74	3	No	
R 14.28	3732 Myrtle Avenue, San Diego	SFR	75	77	77	B/67	A/E	Yes	77	0	76	1	75	2	75	2	74	3	No	
R 14.29	3503 37th Street, San Diego	SFR	70	72	73	B/67	A/E	Yes	72	1	72	1	72	1	71	2	71	2	No	
R 14.30	3519 37th Street, San Diego	SFR	68	70	71	B/67	A/E	Yes	71	0	70	1	70	1	69	2	69	2	No	
R 14.31	3537 37th Street, San Diego	SFR	67	69	69	B/67	A/E	Yes	69	0	68	1	68	1	67	2	66	3	No	
R 14.32	3542 38th Street, San Diego	SFR	72	74	75	B/67	A/E	Yes	73	2	73	2	72	3	71	4	70	5	Yes	
R 14.33	Park de la Cruz, 3901 Landis Street, San Diego	SFR	60	62	62	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	
R 14.34	Park de la Cruz, 3901 Landis Street, San Diego	REC	62	64	65	B/67	N	No	--	--	--	--	--	--	--	--	--	--	--	

¹ Leq(h) are A-weighted, peak hour noise levels in decibels.

² Land Use: CHR = church; COM = commercial; HM = hotel/motel; MFR = multi-family residence; REC = recreational area; SCH = school; SFR = single-family residence.

³ S = substantial increase (12 dBA or more); A/E = approach or exceed NAC.

* This site was chosen for monitoring purpose only. No noise sensitive use in this area.

** This site does not represent a sensitive land use; however it is representative of adjacent backyards in this area.

BOLD indicates minimum height required to meet feasibility requirements of the NAC.

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No Build Alternative

Under the No Build Alternative, no Project-related improvements would occur, and therefore, no noise impacts would result. However, noise levels would approach/exceed the NAC and no noise abatement would be considered.

2.14.4 Avoidance, Minimization, and/or Abatement Measures

Build Alternative 1

Short-term Construction Noise Impacts

Short-term construction noise impacts would be avoided or minimized with implementation of the following noise control measures during Project construction:

- Compliance with Caltrans' Standard Specifications 7-1.011 (May 2006) Sound Control Requirements. "The contractor shall comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the contract. Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without said muffler."
- Ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine enclosures, and engine vibration isolators, intact and operational. All construction equipment would be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding, etc.).
- Idling equipment would be turned off.
- A construction noise monitoring program would be implemented.
- Noisier operations would be performed during times least sensitive to receptors.
- The community would be informed of anticipated construction activities and schedules.

Long-term Noise Impacts and Noise Abatement

Noise abatement was evaluated for receptor locations where future predicted noise levels would approach (within 1 dBA) or exceed the NAC (67 dBA for activity category B) or substantially increase (by 12 dBA) existing noise levels. As identified in Table 2.14-3, peak noise levels would approach or exceed the NAC at 408 receptor locations. Soundwall heights ranging from 8 to 16 feet were considered. Noise abatement is considered acoustically feasible if it would achieve a minimum five-dBA reduction at the receptor. Other non-acoustical factors related to sight distance standards, safety, maintenance, and security also could affect feasibility. Noise barriers are considered reasonable if the estimated cost of abatement is equal to or less than the allowance per benefited residence. The Project NSR identifies 85 potential feasible soundwalls along the Project site. The feasible soundwalls were then further evaluated for their cost reasonableness in the NADR. The soundwalls preliminarily recommended for Build Alternative 1 and the corresponding receptors for which they would provide abatement are identified in Tables 2.14-4A through 2.14-17A and shown in Figures 1-5A through 1-5W (Build

Alternative 1), 1-7A through 1-7C (Build Alternative 2), 1-7 (Option 2, Variation A), and 1-9 (Option 2, Variation C). Tables 2.14-4B through 2.14-17B show soundwalls that were studied but not recommended due to the estimated construction cost exceeding the total reasonable cost allowance.

The following discussion of noise abatement is organized by the analysis segments 1 through 14 of the Project site, as referenced in the Project NSR. Based on the NADR, Caltrans evaluated the reasonableness of the feasible soundwalls along the Project site as discussed in the following section. If during final design, the Project has substantially changed, noise barriers might not be provided. The final decision on the noise barriers would be made upon completion of the public involvement process during the final Project design process.

Segment 1 – Orange Avenue to Telegraph Canyon Road

Soundwall S287. Soundwall S287 would be 14 feet tall and approximately 675 feet in length along the SB side of I-805, and would provide feasible noise reduction for the backyards of seven single-family residences, represented by Receptors R1.1 through R1.4. Soundwall S287 would be located inside the R/W on top of an existing berm and would replace a portion of an existing 12-foot high soundwall along the freeway R/W. Noise levels at receptor R1.5 would not be reduced by five dBA with this wall. The estimated construction cost of S287, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S287 is preliminarily recommended. (Table 2.14-4A)

Soundwall S325. Soundwall S325 would be 8 to 14 feet in height and would extend 4,949 feet along the R/W and shoulder along SB I-805. It would provide feasible noise reduction for the backyards of 55 single-family residences, represented by Receptors R1.8 through R1.33 (excluding R1.23 and R1.26). Future noise levels at Receptor R1.23 and R1.26 do not approach the NAC; therefore, no abatement measures are considered (not counted as a benefited residence). The estimated construction cost of S325, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S325 is preliminarily recommended. (Table 2.14-4A)

Soundwall S351. Soundwall S351 would be 8 feet tall and 380 feet in length located on the SB side of I-805. Most of the soundwall would be located within the freeway R/W, except for an approximately 71-foot long section within private property. Soundwall S351 would provide feasible noise reduction for the backyards of four single-family residences, represented by Receptors R1.34 through R1.36. Soundwall S351 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction Soundwall S351 is not recommended. However, Soundwall S351 may be recommended if negotiations with property owners could result in reducing or eliminating easement costs required for construction. If the estimated construction cost would not be reduced to less than or equal to the reasonable allowance, construction of S351 would not be recommended. (Table 2.14-4B)

Soundwall S294. Soundwall S294 would be 14 to 16 feet in height and 692 feet long along R/W on NB I-805. It would provide feasible noise reduction for the backyards of seven single-family residences, represented by Receptors R1.41 through R1.43 and R1.45. Future noise levels at Receptors R1.40 and R1.44 do not approach the NAC; therefore, no abatement measures are considered. Soundwall S294 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S294 is not recommended. (Table 2.14-4B)

Soundwall S320. Soundwall S320 would be 8 to 16 feet in height and would extend 3,867 feet along the R/W line and shoulder, and on private property on the NB side of I-805. It would provide feasible noise reduction for the backyards of 65 single-family residences, represented by Receptors R1.46 through R1.61A. The estimated construction cost of S320, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S320 is preliminarily recommended. Also, it is recommended that the wall be built along Caltrans R/W and tie into the existing 6 foot wall on private property at station 300+64. (Table 2.14-4A)

Soundwall S340. Soundwall S340 would be 8 feet in height and 988 feet long and located along R/W and on private property on the NB side of I-805 at the Telegraph Canyon Road off-ramp. It would provide feasible noise reduction for the backyards of 13 single-family residences, represented by Receptors R1.61 through R1.65. The estimated construction cost of S340, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S340 is preliminarily recommended. (Table 2.14-4A)

Soundwall S344. Soundwall S344 would be 8 feet tall and 226 feet long along the R/W line on the NB side of I-805. It would provide feasible noise reduction for four patio areas of one of the buildings in the Woodland Hills Condominiums, represented by Receptor R1.66. Soundwall S344 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S344 is not recommended. However, Soundwall S344 may be recommended if negotiations with property owners could result in reducing or eliminating easement costs required for construction. If the estimated construction cost would not be reduced to less than or equal to the reasonable allowance, construction of S351 would not be recommended. (Table 2.14-4B)

Soundwall S348. Soundwall S348 would be 8 to 12 feet in height and 220 feet long along the R/W line and within private property on the NB side of I-805. It would provide feasible noise reduction for the Woodland Hills Condominium playground represented by Receptor R1.69. Receptor R1.68 is located behind this soundwall; however, it is not feasible to provide the required five dBA noise reduction at this receptor. Soundwall S348 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S348 is not recommended. (Table 2.14-4B)

**Table 2.14-4A
SEGMENT 1 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIERS**

Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S287	R1.1 – R1.5	7 SFR	SB top-of-berm and R/W	14 feet/ 675 feet	\$329,000	\$326,132
S325	R1.8 – R1.33	55 SFR	SB R/W and shoulder	8-14 feet/ 4,949 feet	\$3,025,000	\$1,265,317
S320	R1.46 – R1.61A	65 SFR	NB R/W, shoulder, and private property	8-16 feet/ 3,867 feet	\$3,575,000	\$1,328,727
S340	R1.61 – R1.65	13 SFR	NB R/W and private property	8 feet/ 988 feet	\$689,000	\$486,840

Notes:

¹ Land use: SFR = single-family residence

Table 2.14-4B SEGMENT 1 – SUMMARY OF PRELIMINARILY NOT RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S294	R1.41, R1.42, R1.43, R1.45	7 SFR	NB R/W	14-16 feet/ 692 feet	\$315,000	\$476,857
S344	R1.66	4 MFR	NB R/W	8 feet/ 226 feet	\$156,000	\$208,055
S348	R.169	1 REC	NB R/W and private property	8-12 feet/ 22 feet	\$33,000	\$365,118
S351	R1.34 – R1.36	4 SFR	SB R/W and private property	8 feet/ 380 feet	\$196,000	\$212,192

Notes:

¹ Land use: SFR = single-family residence; MFR = multi-family residence; REC = recreational.

Receptors Without Proposed Noise Abatement. Receptors R1.6 and R1.7 represent the backyards of single-family residences on the SB side of I-805 that have an existing 12-foot high soundwall. Raising the height of the existing soundwall to 16 feet would not provide a five dBA benefit to any of the residences.

Receptors R1.38 and R1.39 represent the backyards of single-family residences on the NB side of I-805, which have an existing six-foot high property wall. Raising the height of the existing soundwall to 16 feet would not provide a five dBA benefit to any of the residences.

Receptor R1.67 represents the patio areas of a multi-family building of the Woodland Hills Condominiums on the NB side of I-805. Due to the topography of the area, there is no feasible location to construct a soundwall along the R/W line.

Segment 2 – Telegraph Canyon Road to East H Street

Soundwall S369. Soundwall S369 would be 8 to 16 feet in height, 1,478 feet long, and would be located on the SB side of I-805 along the R/W, a retaining wall, and private property. It would provide feasible noise reduction for the backyards of 19 single-family residences, represented by Receptors R2.8 through R2.17. The estimated construction cost of S369, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S369 is preliminarily recommended. (Table 2.14-5A)

Soundwall S381A/S381B. According to the supplemental NSR, Soundwall S381A would be 14 feet in height located on the R/W line and Soundwall S381B would be 14 to 16 feet in height located inside the R/W on top of a new berm on the SB side of I-805. The gap provided between the two soundwalls is needed for access purposes. The soundwalls would provide a minimum five dBA noise reduction for outdoor use areas of four single-family residences represented by Receptors R2.18, R2.18A, and R2.19. Soundwall S381A/S381B is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Since R2.18, R2.18A, and R2.19 ARE severely impacted (i.e., predicted noise levels with the Project would be 75 dBA or greater), abatement must be provided. Therefore construction of soundwall S381A/S381B is preliminarily recommended. (Table 2.14-5A)

Soundwall S393. Soundwall S393 would be 8 to 14 feet in height and would extend 1,078 feet along the SB side of I-805 within the R/W and on private property. It would provide feasible noise reduction for the backyards of 12 single-family residences, represented by Receptors R2.24 through R2.30. Soundwall S393, in combination with Soundwall S403, would provide feasible reduction for the backyards of single-family residences, represented by Receptors R2.31 through R2.33. The estimated construction cost of S393, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S393 is preliminarily recommended. (Table 2.14-5A)

Soundwall S403. Soundwall S403 would be 8 to 16 feet in height and would extend 2,022 feet along the SB side of I-805 within the R/W, along a shoulder, a retaining wall, and on private property. It would provide feasible noise reduction for 18 patio areas of multi-family residences of the Windsor Heights Apartments, represented by Receptors R2.34 through R2.37 and R2.41, as well as the sports field of the Hilltop High School (four frontage units), represented by Receptors R2.44 and R2.44A. Soundwall S403, in combination with Soundwall S393, would provide feasible reduction for single-family residences, represented by Receptors R2.31 through R2.33. Receptors R2.38 and R2.39 would not receive a five dBA noise reduction with soundwall S403. Receptors R2.40, R2.42, R2.43A, and R2.43 are not predicted to be impacted. The estimated construction cost of S403, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S403 is preliminarily recommended. (Table 2.14-5A)

Soundwalls S358A/S358B and S366A/S366B (Option 1). Soundwalls S358 and S366 would be 8 to 16 feet in height and 2,200 feet long. These soundwalls would be located on the NB side of the I-805 along the R/W line and private property and would work as a system to provide feasible noise reduction for the backyards of 17 single-family residences, represented by Receptors R2.45, R2.46, R2.49, R2.50, R2.52 through R2.55, R2.58, R2.58A, and R2.60 through R2.63. Soundwall S358 alone would provide feasible noise abatement to Receptors R2.45, R2.46, R2.49, R2.50, and R2.53, while Soundwall S366 without Soundwall S358 would provide feasible noise reductions to R2.54, R2.55, R2.58, R2.58A, and R2.60 through R2.63. Receptor R2.52 requires both soundwalls to be benefited. Receptors R2.47, R2.48, and R2.56 would not receive a five dBA noise reduction with soundwalls S358A/S358B and S366A/S366B. Soundwall S358A/S358B and S366A/S366B (Option 1) are not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S358A/S358B and S366A/S366B (Option 1) are not recommended. (Table 2.14-5B)

Soundwalls S352, S358B, and S366A/S366B (Option 2). Soundwalls S352, S358B, and S366A/S366B would work as a system that would be an alternative to Soundwalls S358 and S366, as well as Soundwalls S344 and S348 in Segment 1. These soundwalls would be 8 to 16 feet in height and 3,187 feet long, and would be located along the NB side of I-805. Soundwall S352 would be located on the freeway shoulder and Soundwalls S358B and S366 would be located on the R/W line. These soundwalls would provide feasible noise reduction for the backyards of 21 single-family residences, represented by Receptors R2.45 through R2.50, R2.52 through R2.53, R2.58, R2.58A, and R2.60 through R2.63, and the patio areas of eight multi-family residences and a playground of the Woodland Hills Condominiums (Receptors 1.66 through R1.69). The estimated construction cost of S352, S358B, and S366A/S366B (Option 2) including all easement costs, are less than the reasonable cost allowance and so are considered reasonable. Soundwalls S352, S358B, and S366A/S366B (Option 2) are preliminarily recommended. (Table 2.14-5A)

Soundwall S376. Soundwall S376 would be 12 feet tall and 429 feet long, and would be located along the freeway R/W line and on private property on the NB side of I-805. It would provide feasible noise reduction for Halecrest Park, represented by Receptors R2.64 through R2.65, as well as Halecrest Elementary School, represented by Receptors R2.66 and R2.67. The estimated construction cost of S376, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S376 is preliminarily recommended. (Table 2.14-5A)

Soundwall S381 A/B and S385. According to the supplemental NSR, Soundwall S381 A/B and S385 would be located on the SB shoulder of I-805. The 14- to 16-foot high soundwall system would provide a feasible noise reduction for six single-family residences represented by Receptors R2.20 and R2.20A. Soundwalls S381 A/B and S385 are not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwalls S381 A/B and S385 is not recommended. (Table 2.14-5B)

**Table 2.14-5A
SEGMENT 2 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIERS**

Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S369	R2.8 – R2.17	19 SFR	SB R/W, retaining wall, and private property	8-16 feet/ 1,478 feet	\$1,045,000	\$718,304
S381A/ S381B	R2.18 – R2.19	4 SFR	SB shoulder and retaining wall	14-16 feet/ 625 feet	\$172,000	\$344,847
S393	R2.24 – R2.32	12 SFR	SB R/W and private property	8-14 feet/ 1,078 feet	\$636,000	\$599,258
S403	R2.31 – R2.44A	18 MFR and 1 SCH (4 frontage units)	SB R/W, shoulder, and retaining wall	8-16 feet/ 2,022 feet	\$1,166,000	\$677,198
S352, S358B and S366A/ S366B (Option 2) ³	R2.45 – R2.63 R1.66-R1.69	21 SFR and 10 MFR 1 playground (1 frontage unit)	NB R/W, shoulder, and private property	12-14 feet/ 1,402 feet, 6-14 feet / 542 feet, 8-16 feet / 1,243 feet	\$1,760,000	\$1,516,068
S376	R2.64 – R2.67	1 REC (3 frontage units) 1 SCH (3 frontage units)	NB R/W and private property	12 feet/ 429 feet	\$294,000	\$183,817

Notes:

¹ Land use: SFR = single-family residence; MFR = multi-family residence; REC = recreational; SCH = school.

³ These soundwalls are an alternative to S358 and S366.

Table 2.14-5B
SEGMENT 2 – SUMMARY OF PRELIMINARILY NOT RECOMMENDED NOISE BARRIERS

Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S358A/ S358B and S366A/ S366B (Option 1) ³	R2.45, R2.46, R2.49, R2.50, R2.52 – R2.55, R2.58, R2.58A, R2.60 – R2.63 R1.66-R1.69	17 SFR	NB R/W, shoulder, and private property	6-14 feet / 957 feet, 8-16 feet / 1,243 feet	\$935,000	\$1,146,234
S381A/B and S385	R2.20 – R2.20A	2 SFR	SB R/W and shoulder	14-16 feet/ 625 feet	\$258,000	\$408,042

Notes:

¹ Land use: SFR = single-family residence.

³ These soundwalls are an alternative to S358 and S366.

Receptors Without Proposed Noise Abatement. Receptors R2.21 through R2.23 would be impacted by the Project, but standard noise abatement techniques would not be feasible. Receptors R2.21 through R2.23 represent single-family residences on the SB side of I-805, north of East J Street on Mission Court. Both the R/W line and shoulder of I-805 are lower in elevation than these receptors. The existing soundwall on the shoulder would not provide a five dBA noise reduction to Receptors R2.21 through R2.23, and abatement at the property line would not be feasible, as the property line elevation is lower than the residence’s outdoor use area elevation. Although a soundwall would not be feasible, Receptor R2.22 represents three single-family residences that are predicted to be severely impacted; alternative abatement measures would be considered.

Segment 3 – East H Street to Bonita Road

Soundwall S425. Soundwall S425 would be located along the edge of shoulder of the I-805 southbound off-ramp to East H Street and would terminate at the I-805 southbound on-ramp from Bonita Road. This area is represented by receptors R3.1 through R3.19. The soundwall would extend for approximately 2,700 feet. The height of the barrier required to achieve a 5 dBA or more insertion loss at the critical design receiver is 16 feet. The wall would benefit 13 single-family residences and is considered feasible. Construction of Soundwall S425 is feasible but not reasonable due to the estimated construction cost being higher than the total cost allowance for Soundwall S425. Construction of Soundwall S425 is not recommended. (Table 2.14-6B). To abate for the four severely impacted receptors, R.3.8, R3.14, R3.17, and R3.19, Soundwall S425 (Option 1) discussed below is being preliminarily recommended for construction.

Soundwall S425 (Option 1). Soundwall S425 (Option 1) would be 14 to 16 feet in height and would extend 1,700 feet along the shoulder of the SB side of I-805 between the East H Street off-ramp and the Bonita Road on-ramp. The soundwall would provide feasible reduction for outdoor use areas of six single-family residences, represented by Receptors R3.8, R3.9, R3.14 through R3.16, and R3.19. Receptors R3.10 through R3.13, R3.17, and R3.18 would not receive a five dBA noise reduction due to the elevation difference and distance to the shoulder. Soundwall S425 (Option 1) is not reasonable due to the estimated construction cost exceeding

the total reasonable cost allowance. Because four receptors, R3.8, R3.14, R3.17, and R3.19, would be severely impacted, abatement must be provided. Therefore, construction of Soundwall S425 (Option 1) is preliminarily recommended. (Table 2.14-6A)

Soundwall S431. Soundwall S431 would be 8 to 10 feet in height and 390 feet long, and would be located along an existing fence line on private property on the SB side of I-805. This soundwall would provide feasible noise reduction for the outdoor use area of a single-family residence represented by Receptor R3.17. Soundwall S431 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. However, R3.17 is severely impacted; therefore, construction of Soundwall S431 is preliminarily recommended. (Table 2.14-6A)

Soundwall S437. Soundwall S437 would be 8 feet tall and 370 feet long, and would be located on private property on the SB side of I-805. This soundwall would provide feasible noise reduction for one single-family residential patio and swimming pool area, represented by Receptors R3.20 and R3.21. Noise levels at Receptors R3.22 and R3.23 would not be reduced by five dBA with Soundwall S437. Soundwall S437 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. However, R3.20 is severely impacted; therefore, construction of Soundwall S437 is preliminarily recommended. (Table 2.14-6A)

Soundwall S447A. Soundwall S447A would be 12 feet high and 775 feet long along the shoulder on the SB side of I-805. It would provide feasible noise abatement for the pool area of the La Quinta Inn, represented by Receptor R3.24. Soundwall S447A is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S447A is not recommended. (Table 2.14-6B)

Soundwall S420. Soundwall S420 would be 12 to 16 feet in height and would extend 1,900 feet along the shoulder on the NB side of I-805 between the East H Street on-ramp and the Bonita Road off-ramp. The soundwall would provide feasible noise reduction for outdoor use areas of seven single-family residences, represented by Receptors R3.25 through R3.29A, and R3.31. Receptors R3.29 and R3.30 would not be impacted. Receptor R3.31 requires the combination of Soundwalls S420 and S435 to achieve a five dBA noise reduction. Soundwall S420 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Because R3.31 would be severely impacted, abatement must be provided. Therefore, construction of S420 is preliminarily recommended. (Table 2.14-6A)

Soundwall S435. Soundwall S435 would be 12 to 16 feet tall and would extend 1,066 feet along the shoulder on the NB side of I-805, just south of the Bonita Road undercrossing. It would provide feasible noise reduction for three single-family residences, represented by Receptors R3.32 through R3.34. Soundwall S435 would work as a system with Soundwall S420 to provide feasible noise abatement to R3.31. Noise levels at Receptors R3.32 through R3.34 would be reduced by five dBA with a 16-foot high soundwall. Soundwall S435 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Because R3.32 would be severely impacted, abatement must be provided. Therefore, construction of S425 is preliminarily recommended. (Table 2.14-6A)

Table 2.14-6A
SEGMENT 3 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIERS

Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S425 (Option 1)	R3.8 – R3.19	6 SFR	SB shoulder	14-16 feet/ 1,700 feet	\$318,000	\$584,342
S437	R3.20 – R3.23	1 SFR	Private property	8 feet/ 370 feet	\$51,000	\$717,411
S420	R3.25 – R3.31	7 SFR	NB shoulder and ramp shoulder	12-16 feet/ 1,900 feet	\$273,000	\$541,800
S431	R3.17	1 SFR	Private property	8-10 feet/ 390 feet	\$51,000	\$349,692
S435	R3.32 – R3.34	3 SFR	NB shoulder	12-16 feet/ 1,066 feet	\$147,000	\$377,600

Notes:

¹ Land use: SFR = single-family residence.

Table 2.14-6B
SEGMENT 3 – SUMMARY OF PRELIMINARILY NOT RECOMMENDED NOISE BARRIERS

Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S425	R3.1 – R3.19	13 SFR	SB shoulder and ramp shoulder	16 feet/ 2,700 feet	\$689,000	\$961,803
S447A	R3.24	1HM	SB shoulder	12 feet / 775 feet	\$33,000	\$273,058

Notes:

¹ Land use: SFR = single-family residence ; HM = hotel/motel.

Segment 4 – Bonita Road to State Route 54

Soundwall S447A. Soundwall S447A would be 12 feet in height and would extend 775 feet along the shoulder on the SB side of I-805, across the Bonita Road undercrossing. This soundwall would provide feasible noise reduction for one hotel/motel, represented by Receptor R3.24. Soundwall S447A is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S447A is not recommended. (Table 2.14-7B)

Soundwalls S447B and S457. Soundwall S447B would be 12 feet in height and would extend 1,100 feet along the shoulder on the SB side of I-805, north of Bonita Road. The soundwall would be a continuation of Soundwall S447A. Soundwall S457 would be 12 feet high and located along the Bonita Road off-ramp shoulder on the SB side of I-805. These soundwalls would work as a system to provide feasible noise reduction for Bonita Road Baptist Church School's playground and playfield, represented by Receptors R4.3 and R4.4. Soundwalls S447B and S457 are not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwalls S447B and S457 is not recommended. (Table 2.14-7B)

Soundwall S473. Soundwall S473 would be 8 to 10 feet in height and would extend 1,840 feet along the R/W line on the SB side of I-805, north of Bonita Road. This soundwall would provide feasible noise abatement for the backyards of 18 single-family residences. The estimated construction cost of S473, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S473 is preliminarily recommended. (Table 2.14-7A)

Table 2.14-7A SEGMENT 4 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S473	R4.10 – R4.18	18 SFR	SB R/W	8-10 feet/ 1,840 feet	\$738,000	\$651,244

Notes:

¹ Land use: SFR = single-family residence; SCH = school.

Table 2.14-7B SEGMENT 4 – SUMMARY OF PRELIMINARILY NOT RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S447A	R3.24	1 HM (1 frontage unit)	SB shoulder	12 feet / 775 feet	\$33,000	\$273,058
S447B/ S457	R4.3, R4.4	1 SCH	SB shoulder and ramp shoulder	12 feet / 1,000 feet	\$172,000	\$383,113

Notes:

¹ Land use: SFR = HM = hotel/motel; SCH = school.

Receptors Without Proposed Noise Abatement. Receptors R4.5 through R4.9 represent walkways and parking lots of the Eucalyptus Grove Apartments that are not considered frequent outdoor human use areas. The only frequent outdoor human use area is a community pool, which is shielded from freeway noise by adjacent buildings. No abatement measures are required for these receptors.

Segment 5 – State Route 54 to Prospect Street

Soundwall S519. Soundwall S519 would be 12 to 16 feet high and would extend 1,460 feet along the shoulder of the I-805 SB off-ramp to WB SR 54. It would provide feasible noise reduction to the backyards of 13 single-family residences, represented by Receptors R5.2A through R5.6. The estimated construction cost of S519 is less than the reasonable cost allowance and so is considered reasonable. Soundwall S519 is preliminarily recommended. (Table 2.14-8A)

Soundwalls S529 and S533. Soundwall S529 would be 8 to 14 feet in height and 575 feet long along the shoulder and on private property on the SB side of I-805. Soundwall S533 would be 8 to 12 feet tall and 440 feet in length along the freeway R/W, next to a retaining wall, and on private property on the SB side of I-805. These soundwalls work as a system and would provide feasible noise reduction for outdoor use areas of three single-family residences, represented by Receptors R5.8, R5.9, and R6.1 (in Segment 6). Soundwalls S529 and S533 are not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwalls S529 and S533 is not recommended. (Table 2.14-8B)

Soundwalls S508 and S510. Soundwall S508 would be 8 to 16 feet in height and 85 feet in length, located within R/W on the NB side of I-805. Soundwall S510 would be 12 feet in height and 350 feet in length, located along the edge of shoulder of the SR 54 WB connector to NB I-805. These soundwalls work as a system and would provide feasible noise abatement for the backyards of three single-family residences, represented by Receptors R5.10 through R5.12. Soundwalls S508 and S510 are not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwalls S508 and S510 is not recommended. (Table 2.14-8B)

Soundwall S510. Soundwall S510 would be 12 feet in height and 350 feet long, located along the shoulder of the WB 54 connector to NB I-805. This soundwall would provide feasible noise reduction for one single-family residence, represented by Receptor R5.12. Soundwall S510 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S510 is not recommended. (Table 2.14-8B)

Soundwall S516. Soundwall S516 would be 10 to 12 feet in height and 530 feet long, and would be located along the R/W line and on private property on the NB side of I-805, just south of Euclid Avenue. It would provide feasible noise reduction for the outdoor use area of the Little Seeds Child Care and the backyards of two single-family residences, represented by Receptors R5.13 to R5.15. Noise levels at Receptor R5.13 would remain above the NAC even with construction of soundwall S516. Construction of Soundwall S516 is not reasonable due to the estimated construction cost being higher than the total cost allowance for Soundwall S516. Because Receptors R5.13 and R5.14 would be severely impacted, abatement must be provided. Therefore, construction of Soundwall S516 is preliminarily recommended. (Table 2.14-8A)

Soundwall S522. Soundwall S522 would be 12 to 14 feet high and 750 feet in length located on the shoulder of the WB SR 54 to NB I-805 connector. It would provide feasible abatement for the backyards of four single-family residences, represented by Receptors R5.16 through R5.19, but noise levels at these Receptors would remain above the NAC. Construction of Soundwall S522 is not reasonable due to the estimated construction cost being higher than the total cost allowance for Soundwall S522. Therefore, construction of Soundwall S522 is preliminarily recommended. (Table 2.14-8A)

Soundwall S526. Soundwall S526 would be 8 feet in height and 315 feet in length, and would be located on private property on Ridgeway Drive, just north of Euclid Avenue on the NB side of I-805. It is not feasible to abate for highway traffic noise from within the R/W or shoulder in this area due to the higher R/W and shoulder elevation compared to the residence elevation; however, a soundwall on private property would provide feasible abatement for the backyards of two single-family residences, represented by Receptor R5.20. Construction of Soundwall S526 is not reasonable due to the estimated construction cost being higher than the total cost

allowance for Soundwall S526. Because Receptor R5.20 would be severely impacted, abatement must be provided. Therefore, construction of Soundwall S526 is preliminarily recommended. (Table 2.14-8A)

Soundwall S530. Soundwall S530 would be 8 feet tall and 315 feet long along the R/W line on the NB side of I-805, just south of Prospect Street. It would provide feasible noise abatement for the outdoor use area of a single-family residence represented by Receptor R5.21. Feasible noise abatement would not be obtained for the residence represented by Receptor R5.22, due to the distance and higher elevation of the residence represented compared to the soundwall. Soundwall S530 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Because Receptor R5.21 would be severely impacted, abatement must be provided. Therefore, construction of Soundwall S530 is preliminarily recommended. (Table 2.14-8A)

Table 2.14-8A						
SEGMENT 5 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S519	R5.2 – R5.6	13 SFR	SB shoulder	12-16 feet/ 1,460 feet	\$689,000	\$473,600
S516	R5.13 – R5.15	2 SFR and 1 SCH (1 frontage unit)	NB R/W and private property	10-12 feet/ 530 feet	\$159,000	\$287,036
S522	R5.16 – R5.19	4 SFR	NB shoulder	12-14 feet/ 750 feet	\$220,000	\$313,973
S526	R5.20	2 SFR	private property	8 feet/ 315 feet	\$102,000	\$198,025
S530	R5.21 – R5.22	1 SFR	NB R/W	8 feet/ 315 feet	\$51,000	\$144,526

Notes:

¹ Land use: SFR = single-family residence; SCH = school.

Table 2.14-8B						
SEGMENT 5 – SUMMARY OF PRELIMINARILY NOT RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S529/ S533	R5.8, R5.9, R6.1	3 SFR	SB R/W, private property	8-14 feet / 575 feet 8-12 / 440 feet	\$141,000	\$431,444
S508/ S510	R5.10 – R5.12	2 SFR	NB R/W, WB SR 54 – I-805 connector shoulder	8-16 feet / 85 feet 12 feet / 350 feet	\$135,000	\$333,544
S510	R5.12	1 SFR	WB SR 54 – I-805 connector shoulder	12 feet / 350 feet	\$39,000	\$149,955

Notes:

¹ Land use: SFR = single-family residence.

Receptors Without Proposed Noise Abatement. Receptor R5.1 is a noise measurement calibration site that does not represent any outdoor use areas. Receptor R5.1A represents a canopied outdoor use area of a church parking lot that is far from I-805 and is mainly impacted by SR 54 and not by the Project. Furthermore, the church building has no exterior windows facing traffic and interior noise would be well below the 52 dBA interior noise abatement criteria. Therefore, no noise abatement is proposed for these receptors.

Segment 6 – Prospect Street to East Plaza Boulevard

Soundwall S533. Soundwall S533 is discussed above in Segment 5 because it works as a system with Soundwall S529, which is in Segment 5.

Soundwall S549. Soundwall S549 would be 8 to 10 feet in height and would extend 1,805 feet along R/W on the SB side of I-805. The soundwall would provide feasible noise reduction for Las Palmas Park, represented by Receptors R6.3A through R6.5, and R6.6A and Las Palmas Elementary School, represented by Receptor R6.7. Receptors R6.6 and R6.8 would not be impacted. The estimated construction cost of S549 is less than the reasonable cost allowance and so is considered reasonable. Soundwall S549 is preliminarily recommended. (Table 2.14-9A)

Soundwall S563. Soundwall S563 would be 8 feet high and 500 feet long, and would be located along the R/W between East 18th Street and East 16th Street on the SB side of I-805. It would provide a feasible noise reduction for the backyard areas of six single-family residences, represented by Receptors R6.9 and R6.10. The estimated construction cost of S563 including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S563 is preliminarily recommended. (Table 2.14-9A)

Soundwall S567. Soundwall S567 would be 8 feet high and 235 feet in length along R/W on SB I-805, just north of East 16th Street. It would provide feasible noise abatement for the pool area (frontage unit) of an apartment building represented by Receptor R6.11. The Project NADR determined soundwall S567 is not reasonable. Construction of Soundwall S567 is not reasonable due to the estimated construction cost being higher than the total cost allowance for Soundwall S526. Because Receptor R6.11 would be severely impacted, abatement must be provided. Therefore, construction of Soundwall S567 is preliminarily recommended. (Table 2.14-9A)

Soundwall S536. Soundwall S536 would be 8 to 10 feet in height and 450 feet long, and would be located along R/W on NB I-805 between Prospect Street and East 24th Street. It would provide a feasible noise reduction to the outdoor use areas of two single-family residences, represented by Receptors R6.14 and R6.15. Soundwall S536 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S536 is not recommended. (Table 2.14-9B)

Soundwall S562. Soundwall S562 would be 8 to 12 feet high and 620 feet long, and would be located along R/W on NB I-805 between East 18th Street and East 16th Street. Soundwall S562 would provide feasible noise reduction for the backyards of nine single-family residences, represented by Receptors R6.19 and R6.20. The estimated construction cost of S562 is less than the reasonable cost allowance and so is considered reasonable. Soundwall S562 is preliminarily recommended. (Table 2.14-9A)

Soundwall S566. Soundwall S566 would be 8 to 12 feet in height and 175 feet in length, and would be located along R/W on NB I-805, just north of East 16th Street. It would provide

feasible noise reduction for the backyard of one single-family residence represented by Receptor R6.21A. Soundwall S566 is not reasonable due to the estimated construction cost with easement exceeding the total reasonable cost allowance. However, receptor R6.21A is severely impacted; therefore, its construction is preliminarily recommended. (Table 2.14-9A)

Soundwall S570. Soundwall S570 would be 8 to 14 feet tall and 500 feet long, and would be located along R/W on NB I-805 between East 16th Street and East 14th Street. It would provide feasible noise reduction for the backyards of three single-family residences, represented by Receptors R6.21 and R6.22. The single-family residence represented by Receptor R6.21B would not be impacted. Soundwall S570 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Construction of Soundwall S570 is not recommended. (Table 2.14-9B)

Table 2.14-9A SEGMENT 6 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Cost Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S549	R6.3A – R6.8	2 REC (10 frontage units) 1 SCH (3 frontage units)	SB R/W and retaining wall	8-10 feet/ 1,805 feet	\$637,000	\$612,134
S563	R6.9 and R6.10	6 SFR	SB R/W	8 feet/ 500 feet	\$294,000	\$258,356
S567	R6.11	1 REC (1 frontage unit)	SB R/W	8 feet/ 235 feet	\$53,000	\$111,153
S562	R6.19 and R6.20	9 SFR	NB R/W	8-12 feet/ 620 feet	\$459,000	\$296,347
S566	R6.21A	1 SFR	NB R/W	8-12 feet/ 175 feet	\$61,000	\$75,861

Notes:

¹ Land use: SFR = single-family residence; REC = recreational; SCH = school.

Table 2.14-9B SEGMENT 6 – SUMMARY OF PRELIMINARILY NOT RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S536	R6.14, R6.15	2 SFR	NB R/W	8-10 feet/ 450 feet	\$94,000	\$166,022
S570	R6.21, R6.21B, R6.22	3 SFR	NB R/W	8-14 feet/ 450 feet	\$117,000	\$208,759

Notes:

¹ Land use: SFR = single-family residence.

Segment 7 – East Plaza Boulevard to Division Street

I-805/43rd Street Interchange Design Variations. At the I-805/43rd Street Interchange, three design variation options have been analyzed for traffic noise impacts and abatement measures. The three options are referred to as Option 1, Option 2A, and Option 2C. As described in

Chapter 1, Option 1 consists of removing the existing 43rd Street NB off-ramp overcrossing and replacing it with a new overcrossing structure. Option 2A would remove the existing 43rd Street interchange and replace it with a reconfigured 47th Street/Palm Avenue interchange that would connect Palm Avenue, 47th Street, and 43rd Street. The new interchange would be a conventional intersection. Option 2C would be similar to 2A but instead of a conventional intersection, it would include a four-way intersection along with a new SB loop on-ramp at the northeast quadrant of the intersection. These options only affect the north end of Segment 7 and the south end of Segment 8. The interchange option(s) for each soundwall design described in Segments 7 and 8 follow each soundwall name.

The soundwalls are described in the following order, as applicable, for Segments 7 and 8:

- Soundwalls that are common to all options
- Soundwalls that are specific to Option 1 only
- Soundwalls that are common to both Options 2A and 2C
- Soundwalls that are specific only to Option 2A
- Soundwalls that are specific only to Option 2C

Soundwall S581 (43rd Street Design Options 1, 2A, and 2C). Soundwall S581 would be 8 to 12 feet in height and would extend 1,346 feet within R/W on the SB side of I-805 between East Plaza Boulevard and East 8th Street. It would provide feasible noise reduction for outdoor use areas of seven single-family and eight multi-family residences, represented by Receptors R7.1 through R7.7. The estimated construction cost of S581 is less than the reasonable cost allowance and so is considered reasonable. Soundwall S581 is preliminarily recommended. (Table 2.14-10A)

Soundwall S597 (43rd Street Design Options 1, 2A, and 2C). Soundwall S597 would be 8 to 16 feet tall and would extend 1,700 feet along R/W on the SB side of I-805, just south of East 8th Street to East 4th Street. It would provide feasible noise reduction for outdoor use areas of 5 single-family and 12 multi-family residences, represented by Receptors R7.8 through R7.13 and R7.15. Soundwall S597 would not provide a five dBA noise reduction to the residence represented by Receptor R7.14. The estimated construction cost of S597 including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S597 is preliminarily recommended. (Table 2.14-10A)

Soundwall S609 (43rd Street Design Options 1, 2A, and 2C). Soundwall S609 would be 8 and 10 feet in height and 192 feet long, and would be located within R/W on the SB side of I-805. It would provide feasible noise reduction for the outdoor use areas of the Granger Music Hall, represented by Receptor R7.16. Construction of Soundwall S609 is not reasonable due to the estimated construction cost being higher than the total cost allowance for Soundwall S609. Because Receptor R7.16 would be severely impacted, abatement must be provided. Therefore, construction of Soundwall S609 is preliminarily recommended. (Table 2.14-10A)

Soundwall S582 (43rd Street Design Options 1, 2A, and 2C). Soundwall S582 would be 8 to 16 feet in height and would extend 989 feet along R/W on the NB side of I-805. It would provide feasible noise reduction for the backyards of nine single-family residences, represented by Receptors R7.18 through R7.20A. The estimated construction cost of S582 including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Construction of Soundwall S582 is preliminarily recommended. (Table 2.14-10A)

Soundwall S592 (43rd Street Design Options 1, 2A, and 2C). Soundwall S592 would be 8 to 16 feet in height and would extend 1,300 feet along located on the NB on-ramp from East Plaza Boulevard. Soundwall S592 would provide feasible noise reduction for the backyards of nine

single-family residences, represented by Receptors R7.21A and R7.21B through R7.23 and one multi-family residence represented by Receptor R7.21. The estimated construction cost of S592 is less than the reasonable cost allowance and so is considered reasonable. Construction of Soundwall S592 is preliminarily recommended. (Table 2.14-10A)

Soundwall S602 (43rd Street Design Options 1, 2A, and 2C). Soundwall S602 would be 8 feet high and 215 feet long, and would be located along the freeway R/W on the NB side of I-805, near East 4th Street. The soundwall would provide a feasible noise reduction for the backyards of two single-family residences, represented by Receptor R7.26. The estimated construction cost of S602 including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Construction of Soundwall S602 is preliminarily recommended. (Table 2.14-10A)

Soundwall S614 (43rd Street Design Option 1). Soundwall S614 would be 12 to 14 feet in height and would extend 1,056 feet along the shoulder of the NB I-805 off-ramp to 43rd Street. It would provide feasible noise reduction for the northern end of El Toyon Park, represented by Receptor R7.28A; and a school, represented by Receptors R7.28B through R7.29A. The southern end of El Toyon Park is represented by Receptor R7.28, which is not impacted and does not require noise abatement. The estimated construction cost of S614 is less than the reasonable cost allowance and so is considered reasonable. Construction of Soundwall S614 is preliminarily recommended. (Table 2.14-10A)

Soundwall S614 (43rd Street Options 2A and 2C). Soundwall S614 would be 12 to 14 feet in height and would extend 1,096 feet along the shoulder of the NB I-805 off-ramp to 43rd Street. It would provide feasible noise reduction for the northern end of El Toyon Park, represented by Receptor R7.28A; and a school, represented by Receptors R7.28B through R7.29A. The southern end of El Toyon Park is represented by Receptor R7.28, which is not impacted and does not require noise abatement. Soundwall S614 overlaps with Soundwall 620 in Segment 8 for Design Options 2A and 2C. The two soundwalls have not been combined for reasonableness purposes. The estimated construction cost of S614 is less than the reasonable cost allowance and so is considered reasonable. Construction of Soundwall S614 is preliminarily recommended. (Table 2.14-10A)

**Table 2.14-10A
SEGMENT 7 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIERS**

Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S581 (Options 1, 2A, and 2C)	R7.1 – R7.7	7 SFR, 8 MFR	SB R/W	8-12 feet/ 1,346 feet	\$735,000	\$371,919
S597 (Options 1, 2A, and 2C)	R7.8 – R7.15	5 SFR, 12 MFR	SB shoulder and inside R/W	8-16 feet/ 1,700 feet	\$799,000	\$545,858
S609 (Options 1, 2A, and 2C)	R7.16	1 COM (1 frontage unit)	SB R/W	8-10 feet/ 192 feet	\$49,000	\$96,926
S582 (Options 1, 2A, and 2C)	R7.18 – R7.20A	9 SFR	NB R/W	8-16 feet/ 989 feet	\$477,000	\$252,642
S592 (Options 1, 2A, and 2C)	R7.21A – R7.23	9 SFR, 1 MFR	NB shoulder	8-16 feet/ 1,300 feet	\$490,000	\$346,716

**Table 2.14-10A (cont.)
SEGMENT 7 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIERS**

Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S602 (Options 1, 2A, and 2C)	R7.26	2 SFR	NB R/W	8 feet/ 215 feet	\$102,000	\$100,877
S614 (43 rd Street Option 1)	R7.28A – R7.29A	1 REC (3 frontage units) 1 SCH (6 frontage units)	NB Shoulder	12-14 feet/ 1,056 feet	\$351,000	\$345,592
S614 (43 rd Street Options 2A and 2C)	R7.28A – R7.29A	1 REC (3 frontage units) 1 SCH (6 frontage units)	NB Shoulder	12-14 feet/ 1,096 feet	\$351,000	\$350,680

Notes:

¹ Land use: SFR = single-family residence; MFR = multi-family residence; COM = commercial; REC = recreational; SCH = school.

Receptors Without Proposed Noise Abatement. R7.25 (Options 1, 2A, and 2C), which represents the backyards of single-family residences, is located behind an existing block/glass property wall and feasible noise reduction is not possible. Receptor R2.27 Options 1, 2A, and 2C) represents a daycare facility on the NB side of I-805. Feasible noise reduction is not possible at the receptor due to the distance from the highway and the exposure to highway traffic noise from the 4th Street overcrossing, which cannot be closed off.

Segment 8 – Division Street to Imperial Avenue

I-805/43rd Street Interchange Design Options. The I-805/43rd Street Interchange options are the same as described above for Segment 7. For Segment 8 the design variation options and proposed soundwalls are as follows:

1. Design Option 1, 2A, and 2C:

Soundwall S663 (43rd Street Options 1, 2A, and 2C). Soundwall S663 would be 8 feet in height and would extend 1,265 feet along R/W on SB I-805 from Logan Avenue to Ocean View Boulevard. It would provide feasible noise reduction for the backyards of 23 single-family residences, represented by Receptors R8.8 through R8.10A. The estimated construction cost of S663, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S663 is preliminarily recommended. (Table 2.14-11A)

Soundwall S673 (43rd Street Options 1, 2A, and 2C). Soundwall S673 would be 12 to 14 feet in height and 845 feet long, and would be located along R/W on the SB side of I-805 between Ocean View Boulevard and approximately 500 feet south of Imperial Avenue. It would provide feasible noise reduction for the backyards of nine single-family residences, represented by Receptors R8.11A through R8.13. Soundwall S673 would not provide feasible noise reduction to the residence represented by Receptor R8.11 because of the exposure to highway traffic noise from the Ocean View Boulevard overcrossing, which cannot be closed off. Soundwall S673 is not reasonable due to the estimated construction cost including construction easements, exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S673 is not recommended. However, Soundwall S673 may be recommended if negotiations with property owners could result in reducing or eliminating easement costs required for construction. If the estimated construction cost would not be reduced to less than

or equal to the reasonable allowance, construction of S351 would not be recommended. (Table 2.14-11B)

Soundwall S662 (43rd Street Options 1, 2A, and 2C). Soundwall S662 would be 8 to 14 feet in height and would extend 1,270 feet along R/W on the NB side of I-805 between Logan Avenue and Ocean View Boulevard. It would provide a feasible noise reduction for the backyards of nine single-family residences and six multi-family residences, represented by Receptors R8.26 through R8.29; as well as two frontage units of the Mt. Erie Baptist Preschool playground, represented by Receptor R8.30. Receptor R8.29A, which represents the outdoor use area of a single-family residence, would not receive a five dBA noise reduction because the soundwall would not completely block the line-of-sight to the highway due to the higher elevation of the outdoor use area relative to the R/W. The estimated construction cost of S662 is less than the reasonable cost allowance and so is considered reasonable. Soundwall S662 is preliminarily recommended. (Table 2.14-11A)

2. Design Variation Option 1:

Soundwall S647 (43rd Street Option 1). Soundwall S647 would be 8 to 12 feet in height and would extend 1,107 feet along the SB I-805 shoulder and R/W. Soundwall S647 would provide feasible noise reduction for nine frontage units along the Willie Henderson Sports Complex, represented by Receptors R8.6A through R8.7. The estimated construction cost of S647 Option 1 including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S647 Option 1 is preliminarily recommended. (Table 2.14-11A)

Soundwalls S634 and S640 (43rd Street Option 1). Soundwall S634 would be 12 to 14 feet in height and would extend 1,537 feet along the NB I-805 shoulder between the off-ramp and on-ramp to Palm Avenue. Soundwall S640 would be 12 feet high and 260 feet long, and would be located along the shoulder of the NB I-805 on-ramp from Palm Avenue. These soundwalls would work as a system and provide feasible noise abatement for the backyards of 14 single-family residences, represented by Receptors R8.16A through R8.20. The estimated construction cost of S634 and S640 is less than the reasonable cost allowance and so is considered reasonable. Soundwalls S634 and S640 are preliminarily recommended. (Table 2.14-11A)

Soundwall S646 (43rd Street Option 1). Soundwall S646 would be 12 feet tall and 305 feet long, and would be located on the shoulder of the NB on-ramp from 43rd Street. It would provide feasible noise reduction for six patio areas of multi-family residences, represented by Receptors R8.21 and R8.22. The estimated construction cost of S646 is less than the reasonable cost allowance and so is considered reasonable. Soundwall S646 is preliminarily recommended. (Table 2.14-11A)

3. Design Variation Option 2A, 2C:

Soundwall S620 (43rd Street Options 2A and 2C). Soundwall S620 would be 12 feet in height and would extend 1,120 feet along the shoulder on the SB side of I-805. It would provide feasible noise reduction for six single-family residences, represented by Receptors R8.15 and R8.15A. Soundwall S620 overlaps with Soundwall S614 in Segment 7 for 43rd Street Options 2A and 2 C. Soundwall S620 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S620 is not recommended. (Table 2.14-11B)

Soundwall S634 (43rd Street Options 2A and 2C). Under the 43rd Street Options 2A and 2C, soundwall S634 would be 12 to 14 feet high and would extend 1,745 feet along the NB I-805

shoulder. It would provide feasible noise reduction for the backyards of 11 single-family residences, represented by Receptors R8.16A through R8.20. Construction of Soundwall S634 is not reasonable due to the estimated construction cost being higher than the total cost allowance for Soundwall S634. Because Receptor R8.19 would be severely impacted, abatement must be provided. Therefore, construction of Soundwall 635 is preliminarily recommended. (Table 2.14-11A)

Soundwalls S646 and S650 (43rd Street Options 2A and 2C). Under the 43rd Street Options 2A and 2C, soundwall S646 would be 12 to 14 feet in height and 700 feet long, and would be located on the shoulder of the NB on-ramp from Palm Avenue. Soundwall S650 would be 12 feet high and 264 feet long, and would be located along R/W on NB I-805. These soundwalls would work as a system and provide feasible noise reduction for the backyards of 12 multi-family residences, represented by Receptors R8.21 through R8.23. The estimated construction cost of S646 and S650 is less than the reasonable cost allowance and so is considered reasonable. Soundwalls S646 and S650 are preliminarily recommended. (Table 2.14-11A)

4. Design Variation Option 2A:

Soundwall S647 (43rd Street Option 2A). Under the 43rd Street Option 2A, soundwall S647 would be 8 to 12 feet in height and would extend 1,120 feet along the SB I-805 shoulder and R/W. It would provide feasible noise reduction for nine frontage units along the Willie Henderson Sports Complex, represented by Receptors R8.6A through R8.7. The estimated construction cost of S647 Option 2A is less than the reasonable cost allowance and so is considered reasonable. Soundwall S647 is preliminarily recommended. (Table 2.14-11A)

5. Design Variation Option 2C

Soundwall S647 (43rd Street Option 2C). Under the 43rd Street Option 2C, soundwall S647 would be 10 to 12 feet in height and would extend 1,120 feet along the SB I-805 shoulder and transition to the R/W line. It would provide feasible noise reduction for nine frontage units along the Willie Henderson Sports Complex, represented by Receptors R8.6A through R8.7. The estimated construction cost of S647 Option 2C is less than the reasonable cost allowance and so is considered reasonable. Soundwall S647 Option 2C is preliminarily recommended. (Table 2.14-11A)

**Table 2.14-11A
SEGMENT 8 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIERS**

Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S663 (Option 1, 2A, and 2C)	R8.8 – R8.10A	23 SFR	SB R/W	8 feet/ 1,265 feet	\$1,265,000	\$481,791
S662 (Option 1, 2A, and 2C)	R8.26 – R8.30	9 SFR, 6 MFR, 1 SCH (2 frontage units)	NB R/W	8-14 feet/ 1,270 feet	\$799,000	\$397,432
S647 (43 rd Street Option 1 only)	R8.6A – R8.7	1 REC (9 frontage units)	SB R/W, ramp shoulder, and transition	8-12 feet/ 1,107 feet	\$477,000	\$382,716
S634 and S640 (43 rd Street Option 1 only)	R8.16A – R8.20	14 SFR	SB Shoulder	12-14 feet/ 1,537feet, 12 feet/ 260 feet	\$714,000	\$639,838

Table 2.14-11A (cont.) SEGMENT 8 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S646 (43 rd Street Option 1 only)	R8.21 – R8.22	6 MFR	NB Shoulder	12 feet/ 305 feet	\$210,000	\$102,084
S634 (43 rd Street Options 2A and 2C only)	R8.16 – R8.20	11 SFR	NB Shoulder	12-14 feet/ 1,745 feet	\$561,000	\$653,479
S646 and S650 (43 rd Street Options 2A and 2C only)	R8.21 – R8.23	12 MFR	NB R/W and Shoulder	12-14 feet/ 700 feet, 12 feet/ 280 feet	\$468,000	\$325,302
S647 (43 rd Street Option 2A only)	R8.6A – R8.7	1 REC (9 frontage units)	SB R/W, ramp shoulder, and transition	8-12 feet/ 1,120 feet	\$477,000	\$348,716
S647 (43 rd Street Option 2C only)	R8.6A – R8.7	1 REC (9 frontage units)	SB R/W, ramp shoulder, and transition	10-12 feet/ 1,120 feet	\$477,000	\$404,232

Notes:

¹ Land use: SFR = single-family residence; MFR = multi-family residence; REC = recreational; SCH = school.

Table 2.14-11B SEGMENT 8 – SUMMARY OF PRELIMINARILY NOT RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S673 (Option 1, 2A, and 2C)	R8.11 – R8.13	9 SFR	SB R/W	12-14 feet/ 845 feet	\$441,000	\$372,892
S620 (43 rd Street Options 2A and 2C only)	R8.15 and R8.15A	6 SFR	SB shoulder	12 feet / 1,120 feet	\$282,000	\$374,210

Notes:

¹ Land use: SFR = single-family residence.

Segment 9 – Imperial Avenue to Market Street

Soundwall S691. Soundwall S691 would be 10 to 12 feet in height and 980 feet long, and would be located along the shoulder of the SB I-805 off-ramp to Imperial Avenue. Soundwall S691 would provide feasible noise reduction for the outdoor use areas of the Jackie Robinson Family YMCA, represented by Receptors R9.2 to R9.4 (5 frontage units). The outdoor use area of a single-family home represented by Receptor R9.1 would not be impacted. Construction of Soundwall S691 is not reasonable due to the estimated construction cost being higher than the total cost allowance for Soundwall S691. Because Receptor R9.4 would be severely impacted,

abatement must be provided. Therefore, construction of Soundwall S691 is preliminarily recommended. (Table 2.14-12A)

Soundwall S707. Soundwall S707 would be 8 feet in height and would extend 1,702 feet along the R/W on the SB side of I-805. It would provide feasible reduction for outdoor use areas of 16 single-family residences, represented by Receptors R9.5 to R9.9. The estimated construction cost of S707 including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S707 is preliminarily recommended. (Table 2.14-12A)

Soundwall S694. Soundwall S694 would be 10 to 12 feet high and 720 feet long, and would be located on the NB I-805 shoulder and inside the R/W. It would provide feasible noise reduction for grassy backyard outdoor use areas for four multi-family residences, represented by Receptors R9.13 and R9.14. A daycare playground behind the soundwall represented by Receptor R9.14A would not be impacted. Construction of Soundwall S694 is not reasonable due to the estimated construction cost being higher than the total cost allowance for Soundwall S694. Because Receptor R9.14 would be severely impacted, abatement must be provided. Therefore, construction of Soundwall S694 is preliminarily recommended. (Table 2.14-12A)

Soundwall S708. Soundwall S708 would be 8 to 12 feet tall and 678 feet in length, and located along the freeway R/W on the NB side of I-805. The soundwall would provide feasible noise reduction for grassy backyard outdoor use areas for 10 multi-family residences, represented by Receptors R9.19 to R9.22. The estimated construction cost of S708 including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S708 is preliminarily recommended. (Table 2.14-12A)

**Table 2.14-12A
SEGMENT 9 – SUMMARY OF PRELIMINARILY RECOMMENDED BARRIERS**

Barrier No.	Protected Receptors	Type¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S691	R9.1 – R9.4	1 REC (5 frontage units)	SB shoulder and inside R/W	10-12 feet/ 980 feet	\$265,000	\$298,823
S707	R9.5 – R9.9	16 SFR	SB R/W	8 feet/ 1,702 feet	\$848,000	\$559,243
S694	R9.13 and R9.14A	4 MFR	NB shoulder and inside R/W	10-12 feet/ 720 feet	\$148,000	\$253,755
S708	R9.19 – R9.22	10 MFR	NB R/W	8-12 feet/ 678 feet	\$530,000	\$305,721

Notes:

¹ Land use: SFR = single-family residence; MFR = multi-family residence; REC = recreational.

Segment 10 – Market Street to State Route 94

Soundwall S723. Soundwall S723 would be 8 to 10 feet in height and would extend 1,361 feet along R/W on the SB side of I-805. It would provide feasible noise reduction for the outdoor use areas of 10 single-family and 2 multi-family residences, represented by Receptors R10.1 through R10.3 and R10.5. A residence behind the soundwall represented by Receptor R10.4 would not be impacted. The estimated construction cost of S723, including all easement costs,

is less than the reasonable cost allowance and so is considered reasonable. Soundwall S723 is preliminarily recommended. (Table 2.14-13A)

Soundwall S735. Soundwall S735 would be 10 to 16 feet tall and would extend 1,150 feet along the SB side of I-805. It would provide feasible noise reduction for the outdoor use areas of four single-family residences, represented by Receptors R10.6, R10.7, and R10.9. Noise levels at Receptor R10.8 would not be reduced by five dBA with soundwall S735. Soundwall S735 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S735 is not recommended. (Table 2.14-13B)

Soundwall S714. Soundwall S714 would be 8 feet high and 220 feet long, and would be located along R/W on the NB side of I-805, north of Market Street. It would provide feasible noise reduction for outdoor use areas of four multi-family residences, represented by Receptor R10.20. The estimated construction cost of S714, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S714 is preliminarily recommended. (Table 2.14-13A)

Soundwall S734. Soundwall S734 would be 8 feet tall and 335 feet long and would be located along R/W on the NB side of I-805, south of SR 94. It would provide feasible noise reduction to patio areas of five multi-family residences, represented by Receptors R10.31, R10.33, and R10.34. A playground behind the soundwall represented by Receptor R10.32 would not be impacted. The estimated construction cost of S734 including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S734 is preliminarily recommended. (Table 2.14-13A)

Table 2.14-13A SEGMENT 10 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S723	R10.1 – R10.5	10 SFR, 2 MFR	SB R/W	8-10 feet/ 1,361 feet	\$588,000	\$580,693
S714	R10.20	4 MFR	NB R/W	8 feet/ 220 feet	\$148,000	\$96,466
S734	R10.31 – R10.34	5 MFR	NB R/W	8 feet/ 335 feet	\$185,000	\$137,679

Notes:

¹ Land use: SFR = single-family residence; MFR = multi-family residence.

Table 2.14-13B SEGMENT 10 – SUMMARY OF PRELIMINARILY NOT RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S735	R10.6 – R10.9	4 SFR	SB R/W	10-16 feet/ 1,150 feet	\$196,000	\$538,194

Notes:

¹ Land use: SFR = single-family residence.

Segment 11 – State Route 94 to Home Avenue

Soundwall S757. Soundwall S757 would be 8 to 10 feet in height and 757 feet long, and would be located along R/W on the SB I-805 off-ramp to SR 94 and within private property. It would provide feasible noise reduction for the backyards of four single-family residences, represented by Receptors R11.1 and R11.3 through R11.5. Soundwall S757 would not provide a five dBA noise reduction to the residence represented by Receptor R11.2 because the distance to the proposed soundwall is too great. Soundwall S757 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S757 is not recommended. (Table 2.14-14B)

Soundwall S767. Soundwall S767 would be 14 feet high and 185 feet long, and would be located along R/W on the SB side of I-805, just south of Home Avenue and on private property. It would provide feasible noise reduction for the backyard of one single-family residence represented by Receptor R11.6. The single-family residences represented by Receptor R11.8 would not be impacted, and residences represented by Receptor R11.7 would not be reduced by five dBA with soundwall S767. Soundwall S767 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S767 is not recommended. (Table 2.14-14B)

Soundwall S762. Soundwall S762 would be 8 to 12 feet in height and would extend 1,415 feet along NB I-805 R/W and private property between Federal Boulevard and Home Avenue. It would provide feasible noise reduction for the backyards of 16 single-family residences, represented by Receptors R11.10 through R11.16. The estimated construction cost of S762 including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S762 is preliminarily recommended. (Table 2.14-14A)

Table 2.14-14A SEGMENT 11 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIER						
Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S762	R11.10 – R11.16	16 SFR	NB R/W and private property	8-10 feet/ 1,415 feet	\$848,000	\$754,507

Notes:

¹ Land use: SFR = single-family residence.

Table 2.14-14B SEGMENT 11 – SUMMARY OF PRELIMINARILY NOT RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S757	R11.1, R11.3 – R11.5	4 SFR	SB R/W and private property	8-10 feet/ 757 feet	\$196,000	\$282,459
S767	R11.6	1 SFR	SB R/W and private property	14 feet/ 185 feet	\$49,00	\$95,138

Notes:

¹ Land use: SFR = single-family residence; MFR = multi-family residence; REC = recreational; SCH = school.

Segment 12 – Home Avenue to Interstate 805/State Route 15 Interchange

Soundwall S771A/B. Soundwall S771A/B would be 8 feet tall and 420 feet long, and would be located along R/W and private property on the SB side of I-805. This soundwall would provide feasible noise reduction to the backyards of four single-family residences, represented by Receptor R12.23. Residences represented by Receptor R12.25 would not be impacted. Soundwall S771A/B is not reasonable due to the estimated construction cost with all easements costs exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S771A/B is not recommended. However, Soundwall S771A/B may be recommended if negotiations with property owners could result in reducing or eliminating easement costs required for construction. If the estimated construction cost would not be reduced to less than or equal to the reasonable allowance, construction of S771A/B would not be recommended. (Table 2.14-15B)

Soundwall S785. Soundwall S785 would be 8 to 10 feet in height and 363 feet long, and would be located along R/W and on private property on the SB side of I-805, south of Ralene Street. It would provide feasible noise reduction for the outdoor use areas of four single-family residences, represented by Receptors R12.31 and R12.33. Feasible noise reduction is not possible at Receptors R12.32, R12.34, and R12.35 due the higher elevation of the outdoor use area relative to freeway R/W. The estimated construction cost of S785, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S785 is preliminarily recommended. (Table 2.14-15A)

Soundwall S795. Soundwall S795 would be 8 to 12 feet high and 1,024 feet long, and would be located along R/W on the SB side of I-805 between Ralene Street and SR 15. It would provide feasible noise reduction for the backyards/outdoor use areas of seven single-family residences, represented by Receptors R12.37 through R12.40. The estimated construction cost of S795 including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S795 is preliminarily recommended. (Table 2.14-15A)

Soundwall S774. Soundwall S774 would be 8 feet tall and 203 feet long, and would be located on private property on the NB side of I-805. Due to the elevation of the R/W and shoulder compared to the residence elevation, it is not feasible to abate highway traffic noise within the freeway R/W; however, a soundwall on private property would provide feasible abatement for the playground (one frontage unit) of an apartment complex and the patio areas of four multi-family residences, represented by Receptor R12.1 and R12.1B, respectively. The estimated construction cost of S774, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S774 is preliminarily recommended. (Table 2.14-15A)

Soundwall S776A/B. Soundwall S776A/B would be 8 feet high and 310 feet long, and would be located along R/W and on private property on the NB side of I-805, just north of Home Avenue. It would provide feasible noise reduction for the patios of four multi-family residences of the Juniper Gardens Apartments, represented by Receptors R12.2 and R12.3. The estimated construction cost of S776A/B including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S776A/B is preliminarily recommended. (Table 2.14-15A)

Soundwall S780. Soundwall S780 would be 8 feet in height and 425 feet long, and would be located on private property on the NB side of I-805, north of Home Avenue and adjacent to Hollywood Park. This soundwall would provide feasible noise reduction for Hollywood Park, represented by Receptor R12.4. Soundwall S780 is not reasonable due to the estimated construction cost with all easements costs exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S780 is not recommended. However, Soundwall S780 may be recommended if negotiations with property owners could result in reducing or eliminating easement costs required for construction. If the estimated construction cost would not be reduced to less than or equal to the reasonable allowance, construction of S780 would not be recommended. (Table 2.14-15B)

Soundwall S784. Soundwall S784 would be 8 to 10 feet in height and 537 feet long, and would be located on the NB side of I-805 on the R/W line and on private property. It would provide feasible noise reduction for the backyards of five single-family residences, represented by Receptors R12.5 through R12.7. Construction of Soundwall S784 is not reasonable due to the estimated construction cost including cost of construction easements being higher than the total cost allowance for Soundwall S784. However, because Receptors R12.5 and R12.6 would be severely impacted, abatement must be provided. Therefore, construction of Soundwall S784 is preliminarily recommended. (Table 2.14-15A)

Soundwall S796. Soundwall S796 would be 8 to 16 feet in height and would extend 990 feet along R/W on the NB side of I-805. It would provide feasible noise abatement for the backyards of six single-family residences represented by Receptors R12.12 and R12.14; outdoor use areas of six multi-family residences, represented by Receptor R12.15; and a park (two frontage units), represented by Receptor R12.13. Soundwall S796 would not provide a feasible noise reduction to Azalea Park, represented by Receptors R12.16 and R12.17, because the elevation at the R/W is lower than the elevation of the area of frequent human use in the park. The estimated construction cost of S796 including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S796 is preliminarily recommended. (Table 2.14-15A)

Soundwall S804. Soundwall S804 would be 8 feet tall and 176 feet long, and would be located on private property on the NB side of I-805. Due to the elevation of the R/W and shoulder relative to residential elevation, it is not feasible to abate highway traffic noise within the freeway R/W; however, a soundwall on private property would provide feasible abatement for the backyard of one severely impacted single-family residence represented by Receptor R12.19. Construction of Soundwall S804 is not reasonable due to the estimated construction cost being higher than the total cost allowance for Soundwall S804. However, abatement must be provided because Receptor R12.19 would be severely impacted. Therefore, construction of Soundwall S804 is preliminarily recommended. (Table 2.14-15A)

Table 2.14-15A						
SEGMENT 12 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S785	R12.31 – R12.33	4 SFR	SB R/W and private property	8-10 feet/ 363 feet	\$212,000	\$116,426
S795	R12.37 – R12.40	7 SFR	SB R/W	8-12 feet/ 1,024 feet	\$357,000	\$237,608
S774	R12.1 and R12.3B	1 REC (1 frontage unit) and 4 MFR	NB private property	8 feet/ 203 feet	\$245,000	\$105,149
S776A/B	R12.2 and R12.3	4 MFR	NB R/W and private property	8 feet/ 310 feet	\$212,000	\$166,985
S784	R12.5 – R12.7	5 SFR	NB R/W and private property	8-10 feet/ 537 feet	\$265,000	\$299,340
S796	R12.12 – R12.17	6 SFR, 6 MFR, 1 REC (2 frontage units)	NB R/W	8-16 feet/ 990 feet	\$714,000	\$422,224
S804	R12.19	1 SFR	NB private property	8 feet/ 176 feet	\$51,000	\$91,158

Notes:

¹ Land use: SFR = single-family residence; MFR = multi-family residence; REC = recreational.

Table 2.14-15B						
SEGMENT 12 – SUMMARY OF PRELIMINARILY NOT RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S771A/B	R12.23 – R12.25	4 SFR	SB R/W and private property	8 feet/ 420 feet	\$196,000	\$199,949
S780	R12.4	1 REC (4 frontage units)	NB R/W and private property	8 feet/ 425 feet	\$196,000	\$287,477

Notes:

¹ Land use: SFR = single-family residence; REC = recreational.

Receptors Without Proposed Noise Abatement. Receptors R12.8 and R12.9 represent the backyards of single-family residences on the NB side of I-805, just south of Tulip Street. A soundwall located on the shoulder or the R/W would not be feasible as both the R/W line and shoulder of I-805 are approximately 50 feet lower in elevation than the receptors. In addition, a soundwall on the property fence line would not be feasible due to the property fence line elevation relative to the residence's outdoor use area elevation.

Receptors R12.10 through R12.11A represent the backyards of single-family residences on the NB side of I-805 on Tulip Street. These receptors are elevated above the highway; therefore, a soundwall at the shoulder would not be feasible and a soundwall at the R/W would not provide a five dBA noise reduction. A soundwall on the private property was not considered due to the steep slopes and large backyard decks that would hinder its placement. However, Receptor R12.10 is predicted to be severely impacted; therefore, unusual and extraordinary abatement measures (e.g., building acoustical treatment) must be considered.

Receptors R12.18 and R12.20 represent the backyards of single-family residences on the NB side of I-805 on Manzanita Drive. These receptors are elevated above the R/W line and shoulder; therefore, a soundwall at the R/W or shoulder would not be feasible. A soundwall at the property fence line of these receptors would not be feasible, as the elevation at the property fence line is lower than the residence's outdoor use area elevation. A soundwall on the private property at the top of cut was not considered due to the steep slopes and large backyard decks that would hinder its placement.

Receptors R12.26 through R12.30 represent the outdoor use areas of single and multi-family residences on the SB side of I-805 on Trailing Drive, Panay Court, and Tulip Street. These receptors are elevated above the shoulder and R/W; therefore, a soundwall located on the shoulder or the R/W would not be feasible. Soundwalls located outside the R/W and on private property would not be feasible due to the higher elevation of the outdoor use areas, access restrictions, steep slopes, and large backyard decks. However, Receptors R12.29 and R12.30 are predicted to be severely impacted; therefore, unusual and extraordinary abatement measures (e.g., acoustical treatment) must be considered.

Receptor R12.41 represents the backyards of two single-family residences facing SR 15 at the I-805/SR 15 interchange on 39th Street. This receptor is elevated by approximately 65 feet above the highway and up to 35 feet above the R/W. A soundwall located on the shoulder, R/W, or private property would not be feasible due to the higher elevation of the outdoor use areas and deck.

Segment 13 – Interstate 805/State Route 15 Interchange to Landis Street along I-805

Soundwall S801. Soundwall S801 would be 12 feet in height and would extend 910 feet along the SB side of I-805 on the SB SR 15 connector. It would provide feasible noise reduction for the backyards of two single-family residences, represented by Receptor R13.56. Soundwall S801 would not provide a five dBA noise reduction to the residences represented by Receptor R13.56A because the soundwall would not completely block the line-of-sight to the highway due to the higher elevation of the backyards. The residences represented by Receptors R13.54 through R13.56 would not be impacted. Soundwall S801 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S801 is not recommended. (Table 2.14-16B)

Soundwall S817A/B. Soundwall S817A/B would be 16 feet in height and 390 feet long, and would be located on the SB side of I-805 along the SB SR 15 connector. The soundwall would provide feasible noise reduction for Montclair Park, represented by Receptors R13.14 and R13.15. Soundwall S817A/B is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. Therefore, construction of Soundwall S817A/B is not recommended. (Table 2.14-16B)

Soundwall S823. Soundwall S823 would be 8 feet in height and would extend 1,070 feet along the SB side of I-805 along R/W and on private property. It would provide a feasible noise reduction for the outdoor use areas of 11 single-family residences, represented by Receptors R13.16 through R13.19. The estimated construction cost of S823, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S823 is preliminarily recommended. (Table 2.14-16A)

Soundwall S835. Soundwall S835 would be 8 feet in height and would extend 1,010 feet along the freeway R/W on the SB side of I-805. It would provide feasible noise reduction for the backyards of 10 single-family residences, represented by Receptors R13.22 through R13.26. The estimated construction cost of S835 including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S835 is preliminarily recommended. (Table 2.14-16A)

Soundwall S849. Soundwall S849 would be 8 feet in height and 205 feet long, and would be located on private property on the SB side of I-805. It would provide feasible noise reduction for the outdoor use areas of two single-family residences, represented by Receptor R13.30. In order to construct noise barrier S853, an easement from the private property owner would be required. Soundwall S849 is not reasonable due to the estimated construction cost with construction easements exceeding the total reasonable cost allowance. However, because Receptor R13.30 would be severely impacted, abatement must be provided. Therefore, construction of Soundwall S849 is preliminarily recommended. (Table 2.14-16A)

Soundwall S853. Soundwall S853 would be 8 feet high and 85 feet long, and would be located on private property along NB I-805. It would provide feasible noise reduction for the outdoor use areas of one single-family residence, represented by Receptor R13.31. In order to construct noise barrier S853, an easement from the private property owner would be required. Soundwall S853 is not reasonable due to the estimated construction cost exceeding the total reasonable cost allowance. However, because Receptor R13.31 would be severely impacted, abatement must be provided. Therefore, construction of Soundwall S853 is preliminarily recommended. (Table 2.14-16A)

Soundwall S857. Soundwall S857 would be 8 feet in height and 520 feet long, and would be located on the SB side of I-805 along the freeway R/W. It would provide feasible noise reduction for the outdoor use areas of seven single-family residences, represented by Receptors R13.32 and R13.33. The estimated construction cost of S857, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S857 is preliminarily recommended. (Table 2.14-16A)

Soundwall S846. Soundwall S846 would be 8 to 10 feet in height and would extend 1,715 feet along the NB side of I-805 along R/W and private property between the SR 15 interchange and 35th Street. Soundwall S846 would provide feasible noise reduction for the grassy areas of eight multi-family residences of Cherokee Canyon Condominiums, represented by Receptors R13.34 and R13.34A; and the backyards of eight single-family residences, represented by Receptors R13.35 and R13.38 through R13.41. Receptors R13.34B, R13.36, and R13.37 would not be impacted. The estimated construction cost of S846, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S846 is preliminarily recommended. (Table 2.14-16A)

Soundwall S856. Soundwall S856 would be 8 to 14 feet in height and 414 feet long, and would be located on the NB side of I-805 along R/W and on private property between 35th Street and Landis Street. It would provide feasible noise reduction for the outdoor use areas of four single-family residences, represented by Receptors R13.43 and R13.45. Feasible noise reduction would not be provided to the residence represented by Receptor R13.44 because the topography sharply drops in elevation relative to elevation of the receptor and the soundwall would not completely block the line-of-sight to the highway. In order to construct noise barrier S853, an easement from the private property owner would be required. The estimated construction cost of S856 with all easement costs exceeding the total reasonable cost allowance. However, because Receptor R13.45 would be severely impacted abatement must

be provided. Therefore, construction of Soundwall S856 is preliminarily recommended. (Table 2.14-16A)

Table 2.14-16A						
SEGMENT 13 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S823	R13.16 – R13.19	11 SFR	SB R/W and private property	8 feet/ 1,070 feet	\$561,000	\$456,592
S835	R13.22 – R13.26	10 SFR	SB R/W and private property	8 feet/ 1,010 feet	\$510,000	\$453,060
S849	R13.30	2 SFR	SB private property	8 feet/ 205 feet	\$98,000	\$133,547
S853	R13.31	1 SFR	SB private property	8 feet/ 85 feet	\$53,000	\$65,602
S857	R13.32, R13.33	7 SFR	SB R/W	8 feet/ 520 feet	\$371,000	\$211,995
S846	R13.34 – R13.42	8 SFR, 8 MFR	NB R/W and private property	8-10 feet/ 1,715 feet	\$880,000	\$762,819
S856	R13.43 – R13.45	4 SFR	NB R/W and private property	8-14 feet/ 414 feet	\$204,000	\$240,482

Notes:

¹ Land use: SFR = single-family residence; MFR = multi-family residence; REC = recreational.

² Based on the base reasonable allowance of \$31,000 per residence.

NA = not available.

Table 2.14-16B						
SEGMENT 13 – SUMMARY OF PRELIMINARILY NOT RECOMMENDED NOISE BARRIERS						
Barrier No.	Protected Receptors	Type¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S801	R13.54 – R13.56, R13.56A	2 SFR	SB SR 15 connector	12 feet / 910 feet	\$70,000	\$389,988
S817A/B	R13.14, R13.15	1 REC (3 frontage units)	SB SR 15 connector	16 feet / 390 feet	\$105,000	\$209,495

Notes:

¹ Land use: SFR = single-family residence; REC = recreational.

Receptors Without Proposed Noise Abatement. Receptors R13.7 through R13.13 represent the backyards of single-family residences along the SB I-805/SR 15 interchange on Haller Street. These receptors are elevated approximately 60 feet above the shoulder of the SB I-805 to SB SR 15 connector; as such, a soundwall located on the shoulder or R/W would not be feasible. A soundwall on private property would not be feasible due to steep slopes and large backyard decks. Seventeen single-family residences, represented by Receptors R13.7 through R13.12, are predicted to be severely impacted; therefore, unusual and extraordinary abatement measures (e.g., acoustical treatment) must be considered.

Receptors R13.20 and R13.21 represent the outdoor use areas of single-family residences on the SB side of I-805. These receptors are elevated approximately 75 feet above the highway

and 50 feet above the R/W; as such, a soundwall located on the shoulder or the R/W would not be feasible. A soundwall at the private property lines of these receptors would not be feasible due to steep slopes and residential structure overhangs.

Receptors R13.27 through R13.29 represent the backyards of 10 single-family residences. These receptors are elevated approximately 60 feet above the highway and up to 35 feet above the R/W; as such, a soundwall located on the shoulder or the R/W would not be feasible. A soundwall on the private property for these receptors would not be feasible due to the steep slopes, backyard decks, patios, and other small structures. Receptors R13.27 through R13.29 are predicted to be severely impacted; therefore, unusual and extraordinary abatement measures (e.g., acoustical treatment) must be considered.

Receptors R13.46 and R13.46A represent outdoor use areas of single-family residences on the NB side of I-805. These receptors are elevated approximately 20 feet above the highway and the R/W; as such, a soundwall at the shoulder or the R/W would not be feasible. Construction of a soundwall on private property also is not feasible to the sharp rise in topography at this location.

Segment 14 – Interstate 805/State Route 15 Interchange to Myrtle Street along State Route 15

Soundwall S194. Soundwall S194 would be 8 to 14 feet in height and 780 feet long, and would be located along R/W on the NB side of SR 15 at the I-805 interchange. It would provide feasible noise reduction for the backyards of 14 single-family residences, represented by Receptors R14.1 through R14.4. The estimated construction cost of S194, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S194 is preliminarily recommended. (Table 2.14-17A)

Soundwall S210. Soundwall S210 would be 8 feet tall and would extend 1,935 feet along NB SR 15 R/W and private property. It would provide feasible noise reduction for the backyards of 18 single-family and two multi-family residences, represented by Receptors R14.6 through R14.11; and the patio areas of 16 multi-family residences, represented by Receptors R14.12 and R14.13. The estimated construction cost of S210, including all easement costs, is less than the reasonable cost allowance and so is considered reasonable. Soundwall S210 is preliminarily recommended. (Table 2.14-17A)

**Table 2.14-17A
SEGMENT 14 – SUMMARY OF PRELIMINARILY RECOMMENDED NOISE BARRIERS**

Barrier No.	Protected Receptors	Type ¹ and No. of Benefited Residences	Barrier Location	Barrier Height / Total Length	Reasonable Cost Allowance Per Barrier(s)	Estimated Construction Cost Per Barrier(s)
S194	R14.1 – R14.4	14 SFR	NB SR 15 R/W	8-14 feet/ 780 feet	\$686,000	\$364,436
S210	R14.6 – R14.13	18 SFR, 18 MFR	NB SR 15 R/W and private property	8 feet/ 1,935 feet	\$1,980,000	\$1,029,677

Notes:

¹ Land use: SFR = single-family residence; MFR = multi-family residence.

Receptors Without Proposed Noise Abatement. Receptors R14.21 through R14.31 represent the outdoor use areas of single-family residences on the SB side of SR 15 on Cherokee Avenue, Bellingham Avenue, Myrtle Avenue, 37th Street, and 38th Street. These receptors are elevated 25 to 40 feet above both the freeway shoulder and R/W with complex surrounding terrain features; as such, a soundwall located on the shoulder, R/W, or private property line would not be feasible. A 16-foot high soundwall on the SB SR 15 shoulder would provide the required five dBA reduction for one house represented by Receptor R14.32; however, a soundwall at this location is not proposed because the three multi-family residences represented by this receptor would not be benefited.

Additionally, eight single-family residences, represented by Receptors R14.21 through R14.24, R14.27, and R14.28, are predicted to be severely impacted; therefore, unusual and extraordinary abatement measures (e.g., soundwall on private property, interior acoustic treatment) must be considered.

Several other receptors are not predicted to be impacted; therefore, nor abatement was considered at these receptors.

Build Alternative 2

Short-term Construction Noise Impacts

Short-term construction noise impacts resulting from Build Alternative 2 would be avoided or minimized with implementation of the noise control measures identified above for the Build Alternative 1.

Long-term Noise Impacts

Noise Abatement

Since long-term noise impacts would be the same as those identified for Build Alternative 1, the same abatement measures would be considered for Build Alternative 2.

No Build Alternative

No avoidance, minimization, or abatement measures would occur under the No Build Alternative because no Project-related improvements are proposed.

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2.15 ENERGY

2.15.1 Regulatory Setting

The CEQA Guidelines, Appendix F, Energy Conservation, state that EIRs are required to include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

NEPA (42 USC Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

2.15.2 Affected Environment

According to the EIR for the SANDAG 2030 RTP, Pathways to the Future, the San Diego region relies primarily on oil to meet its transportation needs; however, diesel, compressed natural gas, electricity, biodiesel, ethanol, and hydrogen also are consumed. The transportation sector accounts for 53 percent of the energy consumed in the San Diego region. Motor vehicles comprise the largest consumers of fuels in the region, and gasoline accounts for over 90 percent of the energy consumed by transportation sources. About 80 percent of gasoline is consumed by light-duty passenger cars and trucks. Medium- and heavy-duty trucks, motorcycles, and buses account for the remainder of gasoline consumption. The region's existing gasoline consumption is approximately 4.4 million gallons of gasoline per day, or about 1.6 billion gallons per year. According to data provided in the 2030 RTP EIR, the existing total on-road fuel consumption per capita is 1.45 gallons per day.

After gasoline, diesel fuel is the most utilized transportation energy source, accounting for approximately 12 percent of existing consumption. The primary consumers of diesel fuel in transportation are heavy-duty trucks, with medium-duty trucks, buses, light-duty passenger cars, and railway locomotives accounting for the rest. The region currently consumes approximately 1.5 million gallons of diesel per day, or about 195 million gallons per year.

The region has a limited number of public alternative fuel stations. Alternative fuels such as natural gas, ethanol, and electricity consist of fuels that are not petroleum based. Most alternative fuel facilities in the San Diego region supply compressed natural gas or electricity. Public access to biodiesel, ethanol, or hydrogen is more limited. The region's limited alternative fuel infrastructure severely constrains the use of alternative fuel passenger vehicles.

While state and federal policies, such as the California Low-Emission Vehicle Program and the Federal Energy Policy Act of 1992, are increasing the use of alternative-fuel and low-emission vehicles, the consumption of non-renewable resources, such as fossil fuels, remains high. The need to develop energy efficient projects also is highlighted in the Director's Policy on Energy Efficiency, Conservation, and Climate Change, which states:

The California Department of Transportation incorporates energy efficiency, conservation and climate change measures into transportation planning, project development, design, operations, and maintenance of transportation facilities, fleets, buildings, and equipment to minimize use of fuel supplies and energy sources and reduce GHG emissions.

2.15.3 Environmental Consequences

The use of energy in Caltrans highway improvement projects generally can be divided between construction, operation, and maintenance activity. When considering the energy use impacts related to the improvement of existing highway facilities, energy *used* during construction, operation, and maintenance can be weighed against the energy *saved* by relieving congestion and other transportation efficiencies that come with increasing the use of more fuel-efficient travel modes, such as carpools and transit.

Build Alternative 1

Build Alternative 1 would be constructed in several phases. During the construction period, energy would be needed to manufacture the materials used in road/structures construction, as well as constructing the proposed improvements. Increased delays might be experienced for vehicles traveling in the vicinity of the construction. This would increase idling time with an increased use of gasoline by the idling vehicles. This energy use would be spread over a relatively short time frame.

Post-construction operational energy uses of the facilities associated with Build Alternative 1 would include the use of gasoline by vehicles. It would, however, be expected to increase use of HOVs and public transit relative to SOVs, thereby increasing the number of persons moved per unit of energy. The proposed improvements also would increase the speed of traffic movement in the vicinity, resulting in less time spent idling, and reduced energy consumption. This energy savings would be spread over a very long timeframe, with increasing use of the Managed Lanes and HOV/transit lanes over time.

When balancing energy used during construction and operation against energy saved by reducing congestion and other transportation efficiencies, Build Alternative 1 would not result in energy impacts.

Build Alternative 2

Energy impacts resulting from construction of Build Alternative 2 would be similar to those identified above for Build Alternative 1. Energy requirements during construction of this alternative would be slightly lower than Build Alternative 1 because two fewer HOV/transit lanes would be constructed between East Palomar Street and Telegraph Canyon Road. Such differences, however, would not be substantial.

No Build Alternative

Implementation of the No Build Alternative would not result in the consumption of energy for the construction of transportation facilities. Because no construction would occur, increased traffic delays would not occur during the construction period. As a result, idling times would not temporarily increase and additional gasoline would not be used. The No Build Alternative would contribute, however, to continued traffic congestion and inefficient energy use by idling vehicles. In addition no improvement in energy use efficiency would be realized by the expanding HOV and transit ridership. These impacts would be expected to increase over time without Project implementation.

2.15.4 Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

Because no energy impacts were identified for implementation of either build alternatives, no associated avoidance, minimization, and mitigation measures are proposed. However, Caltrans is incorporating energy-saving measures into the Project as described below.

To the extent feasible, construction traffic would be routed and scheduled to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times. The Project also would incorporate TMP strategies to minimize delay for existing traffic during construction.

Construction equipment and vehicles would be properly tuned and maintained. Low sulfur fuel would be used in all construction equipment as provided in CCR Title 17, Section 93114.

To the extent feasible, existing materials would be reused and incorporated into the proposed facilities.

Where possible, Caltrans would use drought-tolerant plants to reduce the need for irrigation and the likelihood of invasive species.

Caltrans is also proposing features that would reduce long-term maintenance needs of the Project, which reduce the long-term use of resources. These include such items as concrete median barriers, overhead video-based detection, and interconnecting light signals to increase efficiency.

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BIOLOGICAL ENVIRONMENT

2.16 NATURAL COMMUNITIES

This subchapter of this document discusses natural communities of concern. The focus of this subchapter is on biological communities, not individual plant or animal species. This subchapter also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the federal Endangered Species Act are discussed in Subchapter 2.20, Threatened and Endangered Species. Wetlands and other waters are discussed in Subchapter 2.17, Wetlands and Other Waters.

2.16.1 Affected Environment

A Natural Environment Study (NES; *Interstate 805 Managed Lanes South Natural Environmental Study*, September 2009) was prepared for the Project to evaluate the biological resources and potential impacts to such resources within the Biological Study Area (BSA).

The BSA is approximately defined as areas within 1,000 feet from I-805 R/W, with deviations occurring in the vicinity of interchanges, at the I-805/SR 15/SR 94 triangle, and at certain proposed Project components such as parking structures. The BSA boundary is shown on Figures 2.16-1A through 2.16-1M. The majority of the BSA is comprised of developed lands on gently sloping hills and mesas. There are a few areas where the Project alignment meets or is bisected by canyons or unnamed drainages. Two major drainages, Sweetwater River and Chollas Creek, intersect with the Project alignment. Elevations range from 20 feet above MSL in the lower canyon bottoms to 320 feet above MSL on the crests of the terraces and mesas.

A total of 22 sensitive natural communities occur within the BSA, including 13 upland communities and nine wetland/riparian communities. Upland habitats include native grassland, coastal sage scrub, disturbed coastal sage scrub, maritime succulent scrub, disturbed maritime succulent scrub, chamise chaparral, disturbed chamise chaparral, southern mixed chaparral, scrub oak chaparral, coastal sage scrub-chaparral, chaparral, disturbed chaparral, and non-native grassland. Wetland/riparian habitats include freshwater marsh, southern willow scrub, disturbed southern willow scrub, mule fat scrub, mule fat/broom baccharis scrub, disturbed mule fat scrub, disturbed wetland, unvegetated channel, and open water (Figures 2.16-1A through 2.16-1M). In addition, eucalyptus woodland, ornamental, disturbed habitat/ruderal, recently graded/bare ground, and developed land, which are not considered sensitive communities, occur within the BSA.

Natural Communities

Table 2.16-1 presents a summary of vegetation communities within the BSA, and is followed by a discussion of each natural community. (Wetland and riparian communities are addressed in Subchapter 2.17.)

Habitat Type	Acreage
Native grassland	0.2
Coastal sage scrub	25.2
Disturbed coastal sage scrub	36.6
Maritime succulent scrub	14.9
Disturbed maritime succulent scrub	1.5
Southern mixed chaparral	9.1
Scrub oak chaparral	0.6
Chamise chaparral	0.5
Disturbed chamise chaparral	0.7
Coastal sage scrub-chaparral	11.3
Chaparral	16.0
Disturbed chaparral	24.8
Non-native grassland	3.0
Eucalyptus woodland	16.1
Ornamental	596.2
Disturbed habitat/ruderal	220.9
Recently graded/bare ground	14.8
Developed	3,120.6
TOTAL	4,113.0

Native Grassland

Native grassland is dominated by perennial, tussock-forming species, including (*Nassella pulchra*), and foothill needlegrass (*Nassella lepida*). Native and introduced annuals frequently occur between the needlegrass tufts, often exceeding the bunchgrasses in height. This association generally occurs on fine-textured clay soils that are moist or wet in winter, but very dry in summer. The degree of habitat quality in native grasslands varies greatly depending on the history of grazing, cultivation, or other disturbance factors. Species that were observed within the BSA within native grassland include purple needlegrass, foothill needlegrass, blue-eyed grass (*Sisyrinchium bellum*), blue dicks (*Dichelostemma capitatum*), and splendid mariposa lily (*Calochortus splendens*). Also present were various non-native grasses, including slender wild oat (*Avena barbata*), Italian ryegrass (*Lolium multiflorum*), fescue (*Vulpia myuros* var. *hirsuta*), brome grasses (*Bromus* spp.), and non-native forbs such as filarees (*Erodium* spp.), and mustards (*Brassica* sp., *Sysimbrium* sp., and *Hirschfeldia* sp.). Approximately 0.2 acre of native grassland occurs within the BSA on the east side of I-805.

Coastal Sage Scrub

Diegan coastal sage scrub is a widespread coastal sage scrub type ranging from coastal Los Angeles County into northern Baja California. It consists mainly of low, soft-woody sub-shrubs that grow most actively in winter and early spring. This habitat typically occurs on low moisture-availability sites: steep, xeric slopes or clay-rich soils that are slow to release stored water.

The dominant shrub cover in this vegetative community consists of a mix of California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), laurel sumac (*Malosma laurina*), San Diego sunflower (*Viguiera laciniata*),

deerweed (*Lotus scoparius*), bush mallow (*Malacothamnus fasciculatus*), broom baccharis (*Baccharis sarothroides*), California sunflower (*Encelia californica*), and peak rushrose (*Helianthemum scoparium*).

Coastal sage scrub occurs in patches along the slopes throughout the BSA. Approximately 25.2 acres of coastal sage scrub and 36.6 acres of disturbed coastal sage scrub occur within the BSA.

Coastal Sage Scrub-Chaparral

Coastal sage scrub-chaparral is a mixed community including both drought-deciduous sage scrub species and woody chaparral species. This vegetation community is a post-fire successional community containing vegetative cover that includes roughly equal amounts of both sage scrub and chaparral species. Characteristic dominant species often include chamise (*Adenostoma fasciculatum*), California sagebrush, lilacs (*Ceanothus* spp.), black sage (*Salvia mellifera*), broom baccharis, laurel sumac, lemonadeberry (*Rhus integrifolia*), and poison oak (*Toxicodendron diversilobum*). Species within the BSA included chamise, California sagebrush, California buckwheat, black sage, laurel sumac, lemonadeberry, mission manzanita (*Xylococcus bicolor*) and chaparral candle (*Hesperoyucca whipplei*).

Within the BSA, coastal sage scrub-chaparral covers 11.3 acres and occurs within the transitional areas between other patches of coastal sage scrub and chaparral and most prominently north of Home Avenue on the eastern side of I-805.

Maritime Succulent Scrub

This vegetation community is a low, open vegetation type with a poorly developed understory. Typical species include California sagebrush, San Diego sunflower, San Diego bur-sage (*Ambrosia chenopodiifolia*), coast barrel cactus (*Ferocactus viridescens*), coastal prickly pear (*Opuntia littoralis*), coastal cholla (*O. prolifera*), snake cholla (*O. californica* var. *californica*), and fish-hook cactus (*Mammillaria dioica*). Other succulent species commonly found in the southern portion of the BSA include lance-leaf dudleya (*Dudleya lanceolata*), ladies' fingers (*D. edulis*), chalk-leaf liveforever (*D. pulverulenta*), California desert thorn (*Lyceum californica*), cliff spurge (*Euphorbia misera*), and Mohave yucca (*Yucca schidigera*). Stands of jojoba (*Simmondsia chinensis*) occur on the slopes of this community toward the southern portion of the BSA.

Within the BSA, maritime succulent scrub occurs in patches east of I-805, along Euclid Avenue, and northeast and northwest of the I-805 and SR 94 interchange. Approximately 14.9 acres of maritime succulent scrub and 1.5 acres of disturbed maritime succulent scrub occur within the BSA.

Chaparral

Chaparral is widely distributed throughout California on dry slopes and ridges at low and medium elevations where it occupies thin, rocky, or heavy soils. It is typically composed of broad-leaved, evergreen shrubs. The plants of this community have developed an ability to survive recurrent fires by producing seeds that require a fire-related cue to stimulate germination and/or by stump sprouting after being burned. Species of the following genera are characteristic in chaparral associations throughout California: *Adenostoma*, *Arctostaphylos*, *Ceanothus*, *Cercocarpus*, *Heteromeles*, *Malosma*, shrubby *Quercus*, *Rhamnus*, and *Rhus*.

Disturbed chaparral includes stands of habitat that have been subjected to disturbance factors such as clearing, intensive grazing, off-road vehicle damage, or illegal trash disposal. These areas are generally characterized by a highly reduced and fragmented shrub cover, and may support a high percentage of non-native species, particularly in the understory. Disturbed chaparral can be found near other chaparral habitat and on the eastern side of I-805. Approximately 16.0 acres of chaparral and 24.8 acres of disturbed chaparral occur within the BSA.

Southern Mixed Chaparral

Southern mixed chaparral tends to occur on steeper, more mesic north-facing slopes than chamise chaparral. This vegetation community is characterized by relatively high species diversity. Typical species include chamise, Eastwood manzanita (*Arctostaphylos glandulosa* ssp. *glandulosa*), Nuttall's scrub oak (*Quercus dumosa*), lemonadeberry, holly-leaf cherry (*Prunus ilicifolia*), toyon (*Heteromeles arbutifolia*), and winter currant (*Ribes indecorum*). The understory component is generally better developed than in chamise chaparral and may include species such as mariposa lilies (*Calochortus* spp.), soap plant (*Chlorogalum parviflorum*), and bedstraw species (*Galium* spp.), among others. Within the BSA, southern mixed chaparral can be found south of East H Street and east of I-805 and around Home Avenue, and northwest of the I-805 and SR 15 interchange. Approximately 9.1 acres of southern mixed chaparral occur within the BSA.

Scrub Oak Chaparral

Scrub oak chaparral is a dense, evergreen chaparral association that approaches 20 feet in height and is dominated by scrub oak. This habitat occurs on more mesic sites than most other chaparral associations. These more favorable sites often allow scrub oak chaparral to recover from fire more quickly than other chaparral types. Additional shrub species typically found in scrub oak chaparral include Eastwood manzanita, toyon, mountain-mahogany (*Cercocarpus betuloides*), and holly-leaf redberry (*Rhamnus ilicifolia*). Understory species often include poison oak and bedstraw, among others. Within the BSA, scrub oak chaparral covers approximately 0.6 acre and occurs west of the SR 15 and I-805 merge.

Chamise Chaparral

Chamise chaparral is characterized by nearly monotypic stands of chamise three to nine feet in height. Additional shrub species, such as mission manzanita and chaparral candle, may be present, but contribute little to the overall cover. The herbaceous component of this association is largely lacking. Chamise chaparral occurs on xeric slopes and ridges, and is found on shallower, drier soils. Within the BSA, chamise chaparral can be found north of Home Avenue and east of I-805. The total estimated acreage of chamise chaparral and disturbed chamise chaparral within the BSA is 0.5 acre and 0.7 acre, respectively.

Non-native Grassland

Non-native grassland generally occurs on fine-textured loam or clay soils, which are moist or even waterlogged during the winter rainy season and very dry during the summer and fall. It is characterized by a dense to sparse cover of annual grasses, often with native and non-native annual forbs. This habitat is a disturbance-related community most often found in old fields or openings within native scrub habitats. This association has replaced native grassland and coastal sage scrub at many localities throughout southern California. Typical grass species observed

within the BSA included wild oat (*Avena fatua*), soft chess (*Bromus hordeaceus*), foxtail chess (*B. madritensis* var. *rubens*), rigpgut grass (*B. diandrus*), and fescue. Within the BSA, non-native grasslands cover 3.0 acres and primarily occur on the west side of I-805.

Eucalyptus Woodland

Eucalyptus woodland is typically characterized by dense stands of eucalyptus trees. Eucalyptus trees were originally planted in groves throughout many regions of coastal California as a potential source of lumber and building materials, for use as windbreaks, and for horticultural novelty. They have increased their cover through natural regeneration, particularly in moist areas sheltered from strong coastal winds. Eucalyptus trees naturalize readily in the state and, where they form dense stands, tend to completely supplant native vegetation, greatly altering community structure and dynamics. Very few native plants are compatible with eucalyptus. Within the BSA, eucalyptus woodland covers 16.1 acres.

Ornamental

Ornamental vegetation consists of landscaped plantings typically associated with development such as buildings, residential roads, and highways. Pepper trees (*Schinus* spp.), oleander (*Nerium oleander*), eucalyptus (*Eucalyptus* spp.), and hottentot-fig (*Carpobrotus edulis*) are common ornamental species within the BSA. Approximately 596.2 acres of ornamental land occurs throughout the BSA.

Disturbed Habitat

Disturbed/ruderal habitat typically develops in areas with heavily compacted soils following intense levels of disturbance such as grading and is typically dominated by non-native, broad-leaf herbaceous species. It is typically comprised of species such as Russian thistle (*Salsola tragus*), mustards, fennel (*Foeniculum vulgare*), horseweed (*Conyza canadensis*), thistles (*Centaurea* spp. and *Silybum* spp.), and a lesser percent cover of non-native grasses. Disturbed habitat occurs throughout the BSA covering 220.9 acres.

Recently Graded/Bare Ground

Bare ground consists of land that is devoid of vegetation or built structures, and often contains heavily compacted soils that do not allow for quick re-sprouting of successional plant species. Bare ground covers 14.8 acres within the BSA and includes cleared trails, dirt roads, and cleared patches throughout the BSA.

Developed

Developed areas include roads, built structures, and associated yards, and associated infrastructure. Developed areas occur throughout the BSA and cover 3,120.6 acres.

Multiple Species Conservation Program

The MSCP is a comprehensive, long-term habitat conservation plan that addresses the needs of multiple species by identifying key areas for preservation as open space in order to link core biological areas into a regional wildlife preserve. The MHPA is the planned habitat preserve within the MSCP Subarea. The MSCP is the regional program through which the MHPA will be assembled as each participating jurisdiction implements their portion of the MSCP. The

planned MSCP regional preserve for southwestern San Diego County is targeted at 172,000 acres. Caltrans is not a signatory agency to the MSCP.

Portions of the MHPA are located within the Project area, adjacent to the I-805 south corridor. One portion of the MHPA is located adjacent to the SB side of I-805 between Landis Street and the I-805/SR 15 interchange. Another portion of the MHPA, comprised of a finger canyon, is located immediately east of the I-805/SR 15 interchange. A portion of the MHPA is located immediately east of I-805, between Federal Boulevard and Home Avenue. Portions of the MHPA adjacent to the Project site are shown on Figures 2.16-1J through 2.16-1M.

Wildlife Corridors

A wildlife corridor is defined as a linear area that allows for the movement of wildlife between patches of habitat or from habitat to some other resource such as water. The quality of a particular corridor to wildlife is evaluated based on focal target species expected to use the corridor. Focal species commonly used to evaluate corridor usage in San Diego County include large mammals such as mule deer (*Odocoileus hemionus*), bobcat (*Felis rufus*), or coyote (*Canis latrans*), or special status birds such as coastal California gnatcatcher (*Polioptila californica californica*) or San Diego cactus wren (*Campylorhynchus brunneicapillus sandiegensis*). Types of corridors often used include canyons and road underpasses such as culverts, bridges, and freeway interchanges of varying dimensions.

The MSCP identified a regional wildlife corridor along Sweetwater River that is surrounded by dense residential and commercial areas. This wildlife corridor provides critical east-west movement area for wildlife species along the river and consists of large tracts of open space that allow birds, large mammals, and other wildlife species to disperse between the Sweetwater Reservoir, north open space areas in Chula Vista and the refuges in south San Diego Bay. Chollas Creek may also provide a limited east-west linking wildlife corridor, although the canyons in this area are highly urbanized, which may preclude some wildlife species from occupying or using the area. Open space areas in Rice Canyon may provide a local wildlife corridor, although this canyon has been fragmented from a previous connection with Sweetwater River by East H Street and Bonita Road.

2.16.2 Environmental Consequences

The build alternatives would occur in the same locations with similar Project footprints. Impacts to developed, ornamental, eucalyptus, and disturbed habitats under Build Alternative 2 would be slightly less than impacts to those habitats under Build Alternative 1. The impacts to native habitats would be the same under both build alternatives. Therefore, the evaluation of potential impacts to the natural communities discussed below applies to both build alternatives.

Natural Communities

The following section discusses potential temporary, permanent, and indirect impacts to natural communities within the BSA.

Build Alternatives

Permanent and Temporary Impacts

Direct permanent impacts to natural communities for the build alternatives would occur as a result of cut and fill slopes, retaining walls, and/or paved areas. Bridge and overpass impact calculations include the area of the entire structure as a result of shade effects, and are not restricted to footings/support structures. Areas required for equipment access and staging to complete construction that fall outside of the permanent impact footprint are considered temporary construction impacts. Temporary impact areas that occur within native habitats would be restored to pre-Project conditions.

Acres of permanent and temporary impacts to sensitive habitats resulting from the build alternatives are provided in Table 2.16-2. Impacts to sensitive habitats are depicted on Figures 2.16-1A through 2.16-1M.

Project implementation would result in permanent impacts to 2.1 acres of coastal sage scrub, 3.1 acres of disturbed coastal sage scrub, less than 0.1 acre of coastal sage scrub-chaparral, less than 0.1 acre of maritime succulent scrub, 0.6 acre of chaparral, 3.0 acres of disturbed chaparral, and 0.2 acre of southern mixed chaparral.

Temporary impacts would occur to 0.1 acre of coastal sage scrub, 3.1 acres of disturbed coastal sage scrub, less than 0.1 acre of coastal sage scrub-chaparral, less than 0.1 acre of maritime succulent scrub, less than 0.1 acre of disturbed maritime succulent scrub, 1.2 acres of chaparral, 2.2 acres of disturbed chaparral, and 0.4 acre of southern mixed chaparral.

The build alternatives would impact other vegetation communities that are not considered sensitive, including eucalyptus woodland, ornamental, disturbed habitat/ruderal, recently graded/bare ground, and developed. Permanent impacts would occur to 0.2 acre of eucalyptus woodland, 184.2 acres of ornamental, 10.0 acres of disturbed habitat/ruderal, 0.9 acre of recently graded/bare ground, and 350.1 acres of developed. Temporary impacts would occur to 0.4 acre of eucalyptus woodland, 105.6 acres of ornamental, 7.7 acres of disturbed habitat/ruderal, 0.4 acre of recently graded/bare ground, and 36.7 acres of developed.

Table 2.16-2 IMPACTS TO SENSITIVE UPLAND NATURAL COMMUNITIES – BUILD ALTERNATIVES (acres)		
Habitat Type	Permanent Impacts	Temporary Impacts
Coastal sage scrub	2.1	0.1
Disturbed coastal sage scrub	3.1	3.1
Coastal sage scrub-chaparral	<0.1	<0.1
Maritime succulent scrub	<0.1	<0.1
Disturbed maritime succulent scrub	--	<0.1
Chaparral	0.6	1.2
Disturbed chaparral	3.0	2.2
Southern mixed chaparral	0.2	0.4
TOTAL	9.0	7.0

Indirect Impacts

Potential indirect impacts from project construction and/or operation include decreased water quality (through sedimentation, urban contaminants, or fuel release), fugitive dust, noise, non-native plant species colonization, and night lighting. Note that water quality issues are addressed in Subchapter 2.17, noise impacts are discussed in Subchapter 2.19, Animal Species, and Subchapter 2.20, and colonization of invasive plant species is discussed in Subchapter 2.21, Invasive Species.

Fugitive Dust. Fugitive dust produced by construction and extraction operations has the potential to disperse onto preserved vegetation, which may reduce the overall vigor of individual plants by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. This in turn would affect animals dependent on these plants. Fugitive dust may make plants unsuitable as habitat for insects and birds.

Night Lighting. Night lighting has potential to spill over into native habitats, which would interfere with wildlife movement and provide nocturnal predators with an unnatural advantage over their prey.

No Build Alternative

Implementation of the No Build Alternative would not result in direct or indirect impacts to natural upland communities because no improvements are proposed.

Habitat Fragmentation

Build Alternatives

Habitat fragmentation is the breaking up of larger, contiguous parcels of habitat into smaller discontinuous patches. Removal of existing native habitats can result in some habitat fragmentation and an increase in associated edge effects. Potential edge effects from such fragmentation may include the invasion of non-native plant species in what was unfragmented native habitat, and access by predators (native and non-native) to prey that would otherwise be protected in an unfragmented parcel of habitat. In addition, increases in human activity in the areas adjacent to, or within, native habitat can result in degradation of sensitive vegetation by further fragmenting habitat and forming edges through the creation of roads and trails and removing existing vegetation.

The BSA is located within an urbanized area mainly comprised of developed lands on gently sloping hills and mesas and therefore, the small patches of habitat within the BSA are currently fragmented by existing I-805 and urban development. Construction of the Build Alternatives would not further fragment habitat.

No Build Alternative

Implementation of the No Build Alternative would not result in impacts related to habitat fragmentation because no improvements are proposed.

Multiple Species Conservation Program

Build Alternatives

Project impacts to the MHPA would occur at two locations along I-805 within the freeway R/W, including (1) on the west side of I-805 between the I-805/SR 15 interchange and Landis Street, and (2) on the east side of I-805 near the I-805/SR 15 interchange (refer to Figures 2.16-1J – 2.16-1M).. Impacts to the MHPA have been minimized to the maximum extent practicable and are mostly limited to developed or disturbed areas. As identified in Table 2.16-3, Project impacts within the MHPA would include small areas (i.e., less than 0.1 acre) to the upland natural communities of disturbed chaparral, maritime succulent scrub, and southern mixed chaparral. Although the Project would entail the construction of retaining and sound walls within the MHPA, such walls would not impact wildlife movement. These areas are not wildlife corridors and the walls would be placed adjacent to the freeways and/or residences.

Habitat Type	Permanent Impacts	Temporary Impacts
Developed	2.53	0.54
Disturbed chaparral	0.00	0.09
Disturbed habitat	0.00	0.05
Maritime succulent scrub	0.04	0.00
Ornamental	3.82	7.07
Southern mixed chaparral	0.01	0.07
TOTAL	6.41	7.83

No Build Alternative

Implementation of the No Build Alternative would not result in impacts to the MHPA because no improvements are proposed.

Wildlife (Migration) Corridors

Build Alternatives

In general, I-805 currently acts as a constraint to east-west wildlife movement. The canyons, rivers, and creeks and the surrounding upland habitat, however, do provide potential corridors for wildlife to cross from east to west. Widening the freeway would continue to be a constraint to east-west wildlife movement. The entire south segment of the I-805 alignment occurs within highly urbanized areas. Wildlife currently can cross under the Sweetwater River/SR 54 overpass, which has a high viaduct-type bridge that allows movement of large wildlife species. Wildlife also can cross under I-805 at overpasses along Chollas Creek. The expansion of the existing bridges is not expected to further impede wildlife movement after construction is completed.

No Build Alternative

Implementation of the No Build Alternative would not result in impacts to wildlife corridors because no improvements are proposed.

2.16.3 Avoidance, Minimization, and/or Mitigation Measures

It should be noted that discussions with the resource agencies regarding mitigation ratios and the potential location of off-site mitigation have yet to occur. Mitigation ratios within this document are based on mitigation requirements for recent, similar Caltrans projects.

Permanent impacts to coastal sage scrub have been minimized where possible along the R/W by constructing retaining walls and minimizing the grading behind the walls. There may be temporary impacts due to construction access in these areas; however, the coastal sage scrub within these temporary impact areas would be restored when construction is completed.

Build Alternatives

Table 2.16-4 summarizes the anticipated mitigation ratios and mitigation requirements for impacts to coastal sage scrub, disturbed coastal sage scrub, coastal sage scrub-chaparral, maritime succulent scrub, disturbed maritime succulent scrub, chaparral, disturbed chaparral, and southern mixed chaparral from implementation of the build alternatives. The Project would avoid impacts to native grassland, chamise chaparral, disturbed chamise chaparral, scrub oak chaparral, and non-native grassland and therefore no mitigation would be required for those natural communities.

Temporary impacts to sensitive upland communities would be mitigated through on-site revegetation by seeding and planting with native species. Permanent impacts to sensitive upland communities would be mitigated by preservation at the Anderprise Mitigation Site located in Otay Mesa, CA. The Anderprise Mitigation Site is located south of the new alignment of SR 905. The Anderprise Mitigation Site includes canyons containing good quality coastal sage scrub and maritime succulent scrub habitat that supports the coastal California gnatcatcher. The Anderprise Mitigation Site is all within the MHPA. If the Anderson Mitigation Site cannot be used for this Project, mitigation would occur at another approved mitigation site in consultation with the resource agencies.

Table 2.16-4 PROPOSED MITIGATION REQUIREMENTS FOR IMPACTS TO SENSITIVE UPLAND NATURAL COMMUNITIES			
Habitat Type	Impact (acre)	Proposed Mitigation Ratio	Mitigation (acre)
Temporary Impacts			
Coastal sage scrub	0.1	1:1	0.1
Disturbed coastal sage scrub	3.1	1:1	3.1
Coastal sage scrub-chaparral	<0.1	1:1	<0.1
Maritime succulent scrub	<0.1	1:1	<0.1
Disturbed maritime succulent scrub	<0.1	1:1	<0.1
Chaparral	1.2	1:1	1.2
Disturbed chaparral	2.2	1:1	2.2
Southern mixed chaparral	0.4	1:1	0.4
Subtotal	7.0	--	7.0

Table 2.16-4 (cont.) PROPOSED MITIGATION REQUIREMENTS FOR IMPACTS TO SENSITIVE UPLAND NATURAL COMMUNITIES			
Habitat Type	Impact (acre)	Proposed Mitigation Ratio	Mitigation (acre)
Permanent Impacts			
Coastal sage scrub	2.1	2:1	4.2
Disturbed coastal sage scrub	3.1	2:1	6.2
Coastal sage scrub-chaparral	<0.1	2:1	0.1
Maritime succulent scrub	<0.1	2:1	0.1
Chaparral	0.6	1:1	0.6
Disturbed chaparral	3.0	1:1	3.0
Southern mixed chaparral	0.2	1:1	0.2
Subtotal	9.0	--	14.4
TOTAL	16.0	--	21.4

The following measures are proposed to minimize impacts to sensitive natural communities during construction.

- All native or sensitive habitats outside the permanent and temporary construction limits would be designated as ESAs on Project maps. ESAs would be temporarily fenced during construction with orange plastic snow fence. No personnel, equipment, or debris would be allowed within the ESAs.
- A qualified biologist would be available for both the pre-construction and construction phases to review grading plans, address protection of special status biological resources, and monitor ongoing work. The biologist would be familiar with the habitats, plants, and wildlife of the Project area, and maintain communications with the resident engineer, to ensure that issues relating to biological resources are appropriately and lawfully managed.
- Cut slopes adjacent to native habitats would be revegetated with native upland habitats with compositions similar to those within the BSA. Fill slopes adjacent to native habitats would be revegetated with appropriate native upland species. The revegetated areas would have temporary irrigation and be planted with native container plants and seeds selected by the biologist. There would be at least three years of plant establishment/maintenance on these slopes to control invasive weeds. Bioswales would be planted with appropriate native species as determined by the biologist and storm water pollution prevention professional.
- Duff from areas with coastal sage scrub and chaparral would be saved to aid in revegetating slopes with native species.
- All temporary impacts to native and sensitive habitats would be revegetated and restored to pre-existing conditions. Plants salvaged from construction areas would be placed on created slopes or in an off-site mitigation area.

Indirect impacts due to adjacency concerns related to fugitive dust, invasive species, and night lighting would be avoided or minimized to acceptable levels through Project design, and implementation of the following avoidance and minimization measures:

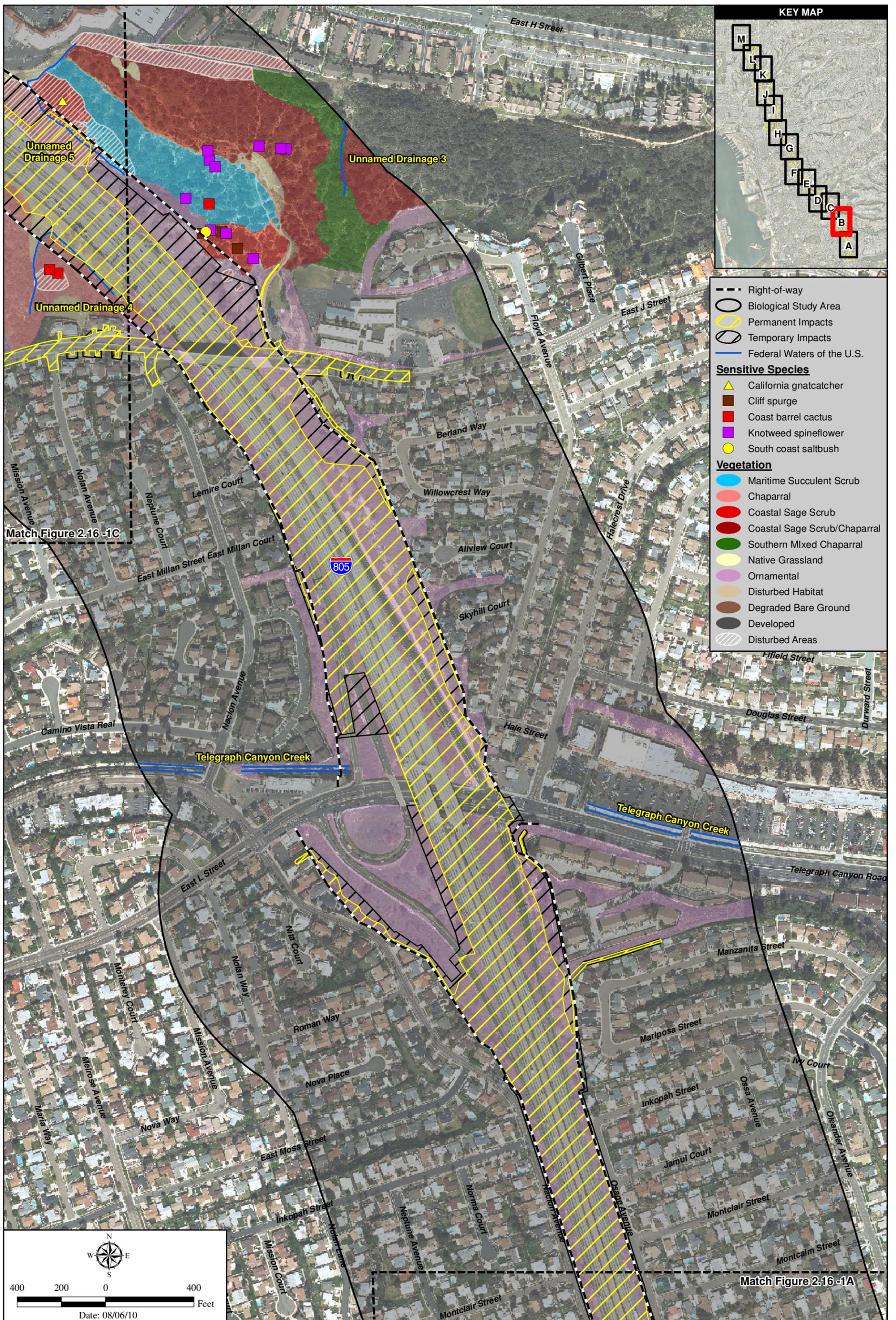
- Fugitive dust would be minimized through the application of water or chemical palliatives to active construction areas and unpaved surfaces.

- Invasive plant species would not be used in Project landscaping.
- Construction or operational night lighting would be shielded and directed away from native habitat.
- Site design BMPs are intended to control construction and post-development runoff, erosion potential, and contaminant generation. Construction-related BMPs would include:
 - Installing erosion and sediment control devices such as silt fences, fiber rolls, bonded fiber matrix, mulching, and gravel bags in appropriate locations
 - Placing temporary filters at storm drain inlets (e.g., gravel bags/filter fabric)
 - Stabilizing construction entrances
 - Designating containment areas for material storage (e.g., covering/berming of soil stockpiles)
 - Providing containment areas for solid waste storage and concrete washout
 - Using energy dissipators in appropriate locations

Proposed post-construction BMPs would include the use of appropriate devices/techniques such as landscaping/revegetation, and vegetated swales/grass strips. Energy dissipators would reduce the velocity and downstream erosion potential of runoff leaving the Project area and would help maintain pre-development velocity rates for runoff. All site design BMPs would reduce long-term urban contaminant generation by minimizing runoff volumes and velocities, removing accumulated contaminants, reducing irrigation requirements, increasing infiltration, and minimizing chemical applications.

No Build Alternative

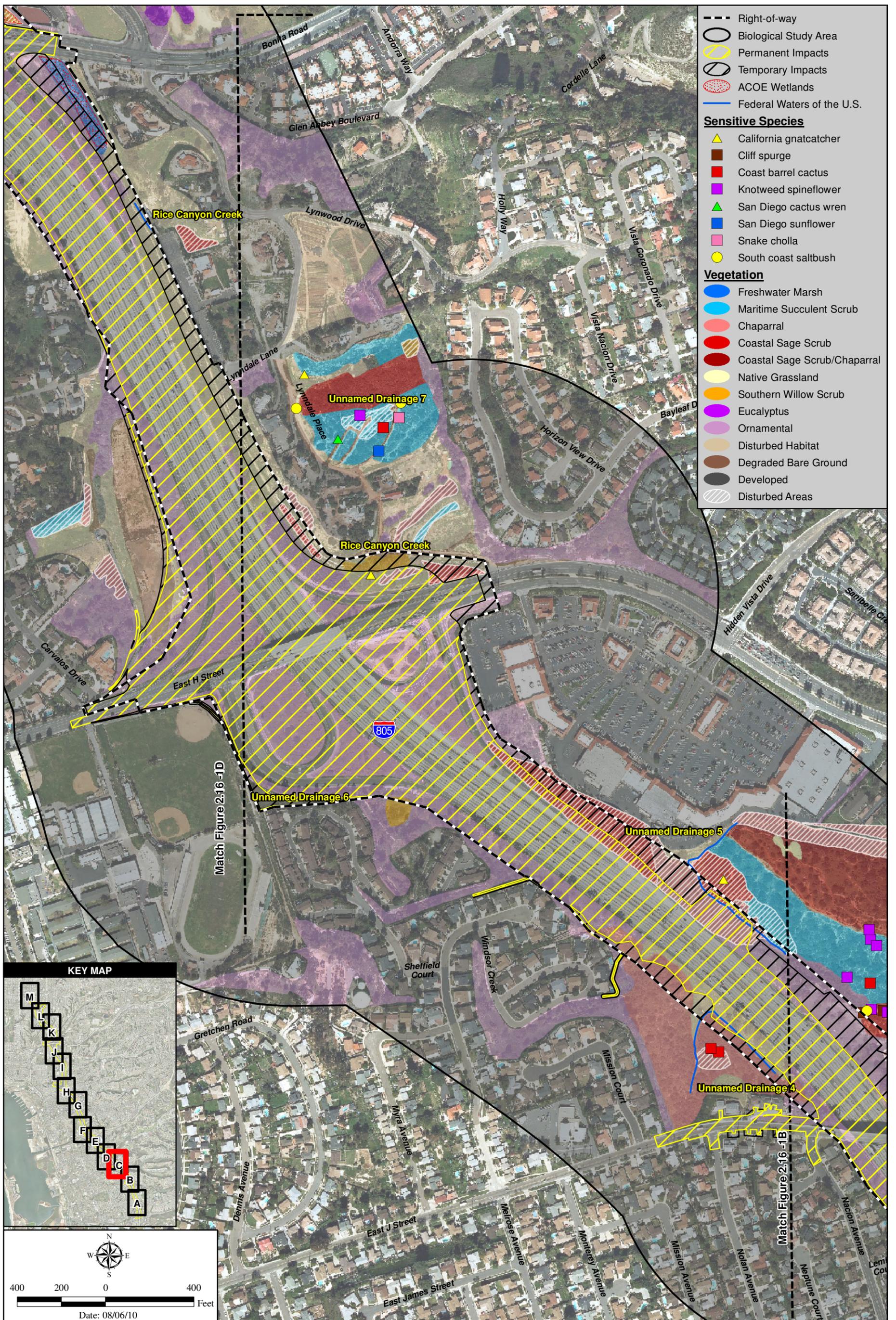
No avoidance, minimization, or mitigation would be required, because no Project-related impacts would occur under the No Build Alternative.



Vegetation, Wetland, and Sensitive Species Impacts

I-805 MANAGED LANES SOUTH PROJECT

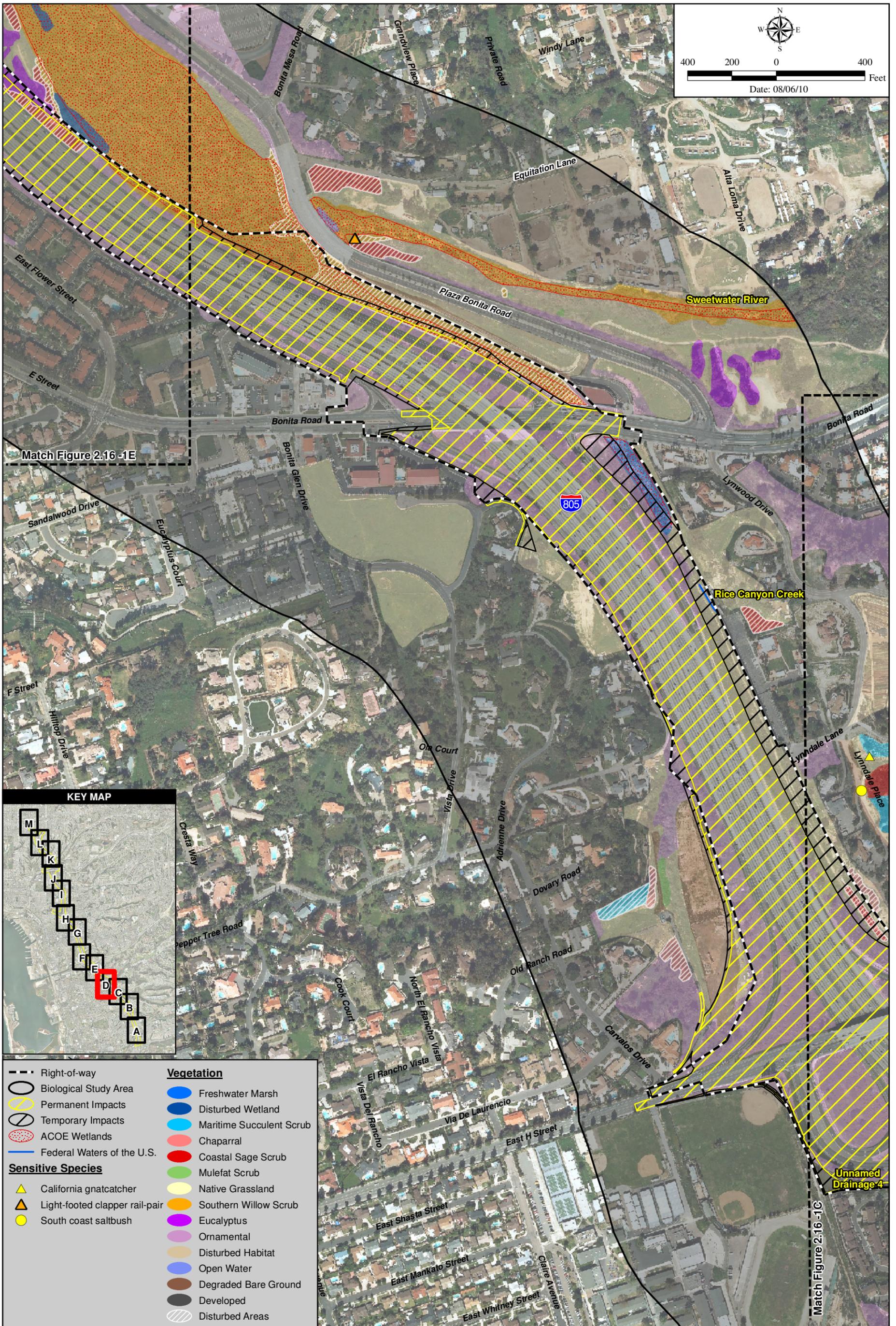
Figure 2.16-1B



Vegetation, Wetland, and Sensitive Species Impacts

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.16-1C

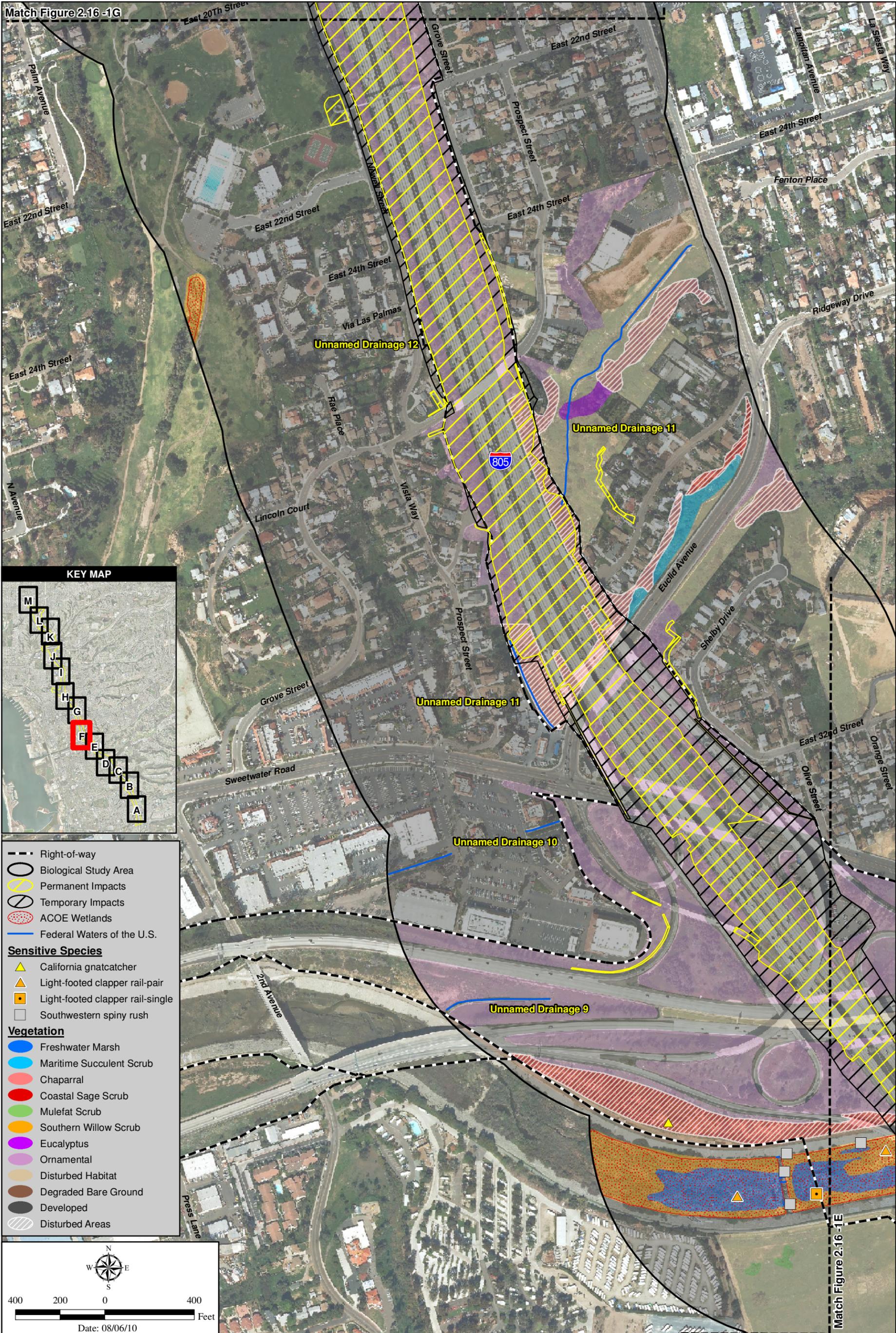


Vegetation, Wetland, and Sensitive Species Impacts

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.16-1D

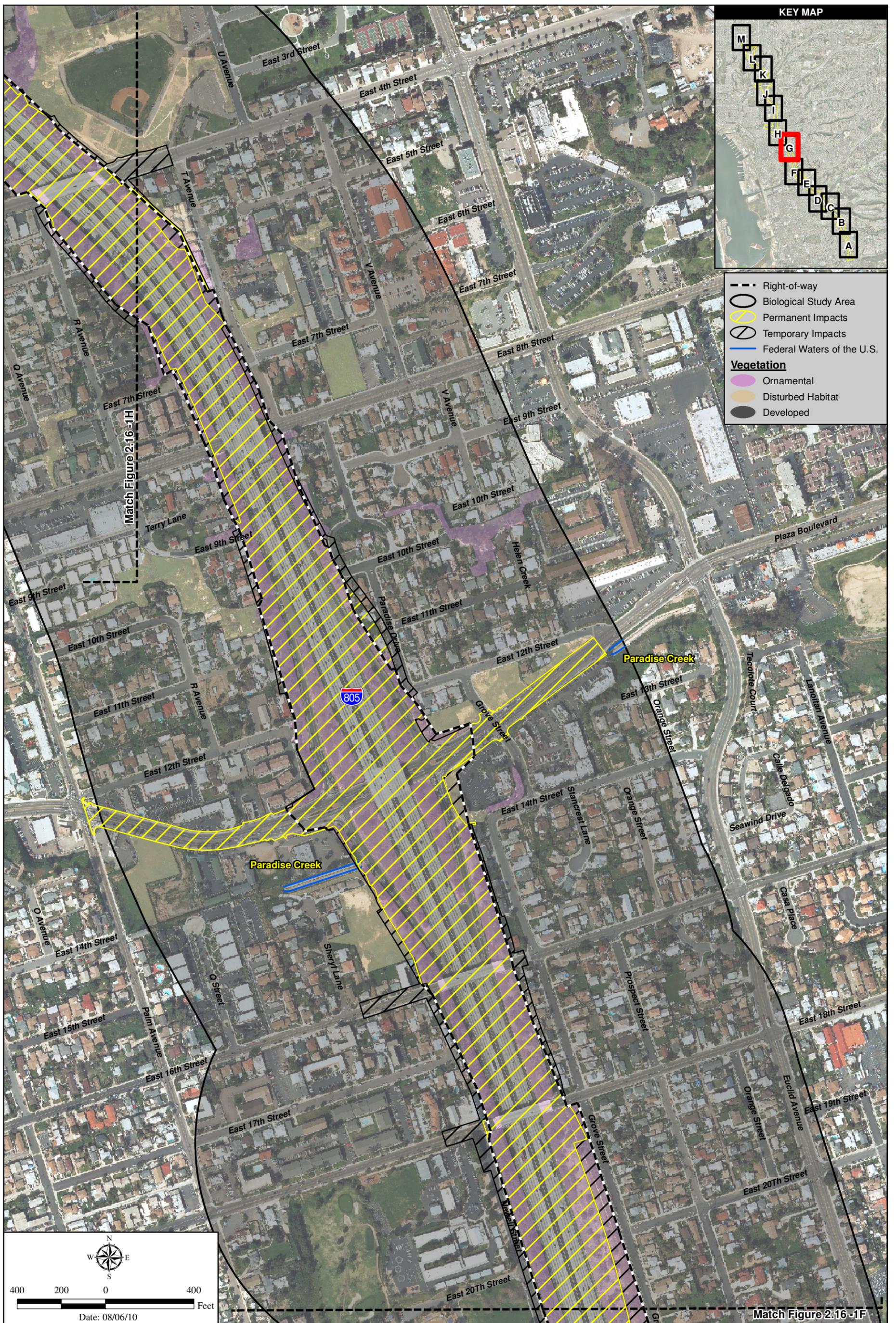
Match Figure 2.16-1G



Vegetation, Wetland, and Sensitive Species Impacts

I-805 MANAGED LANES SOUTH PROJECT

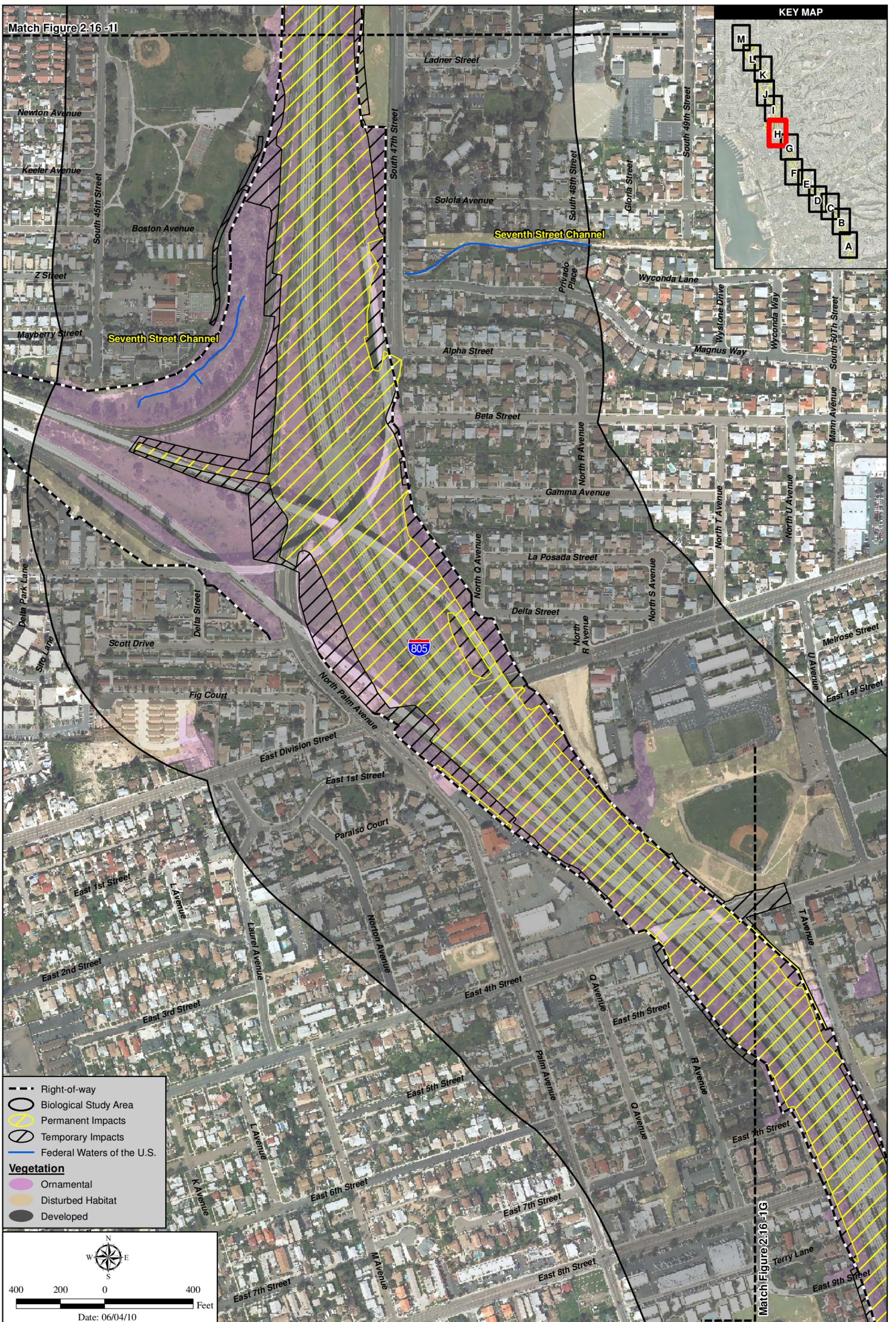
Figure 2.16-1F



Vegetation, Wetland, and Sensitive Species Impacts

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.16-1G

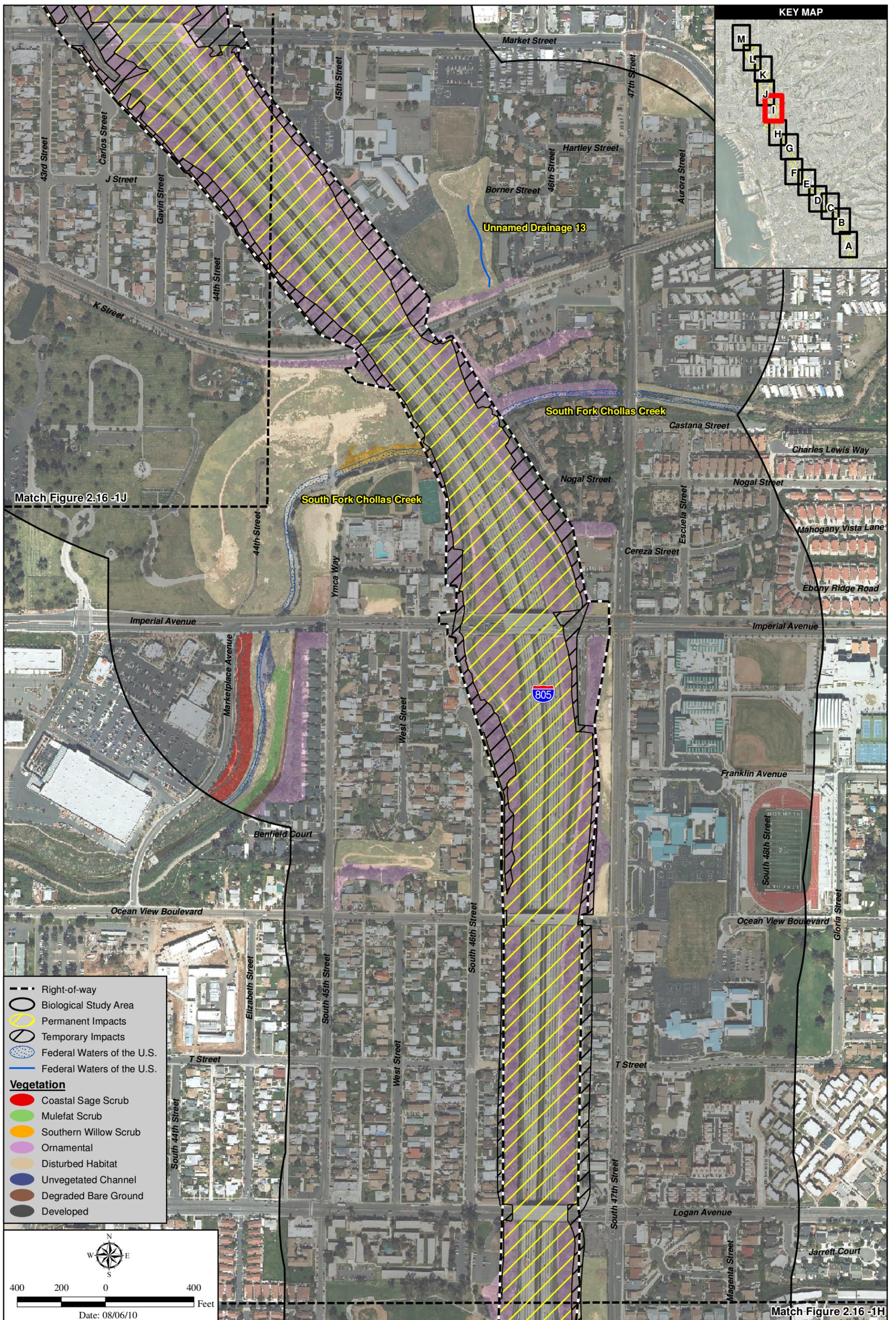


Vegetation, Wetland, and Sensitive Species Impacts

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.16-1H

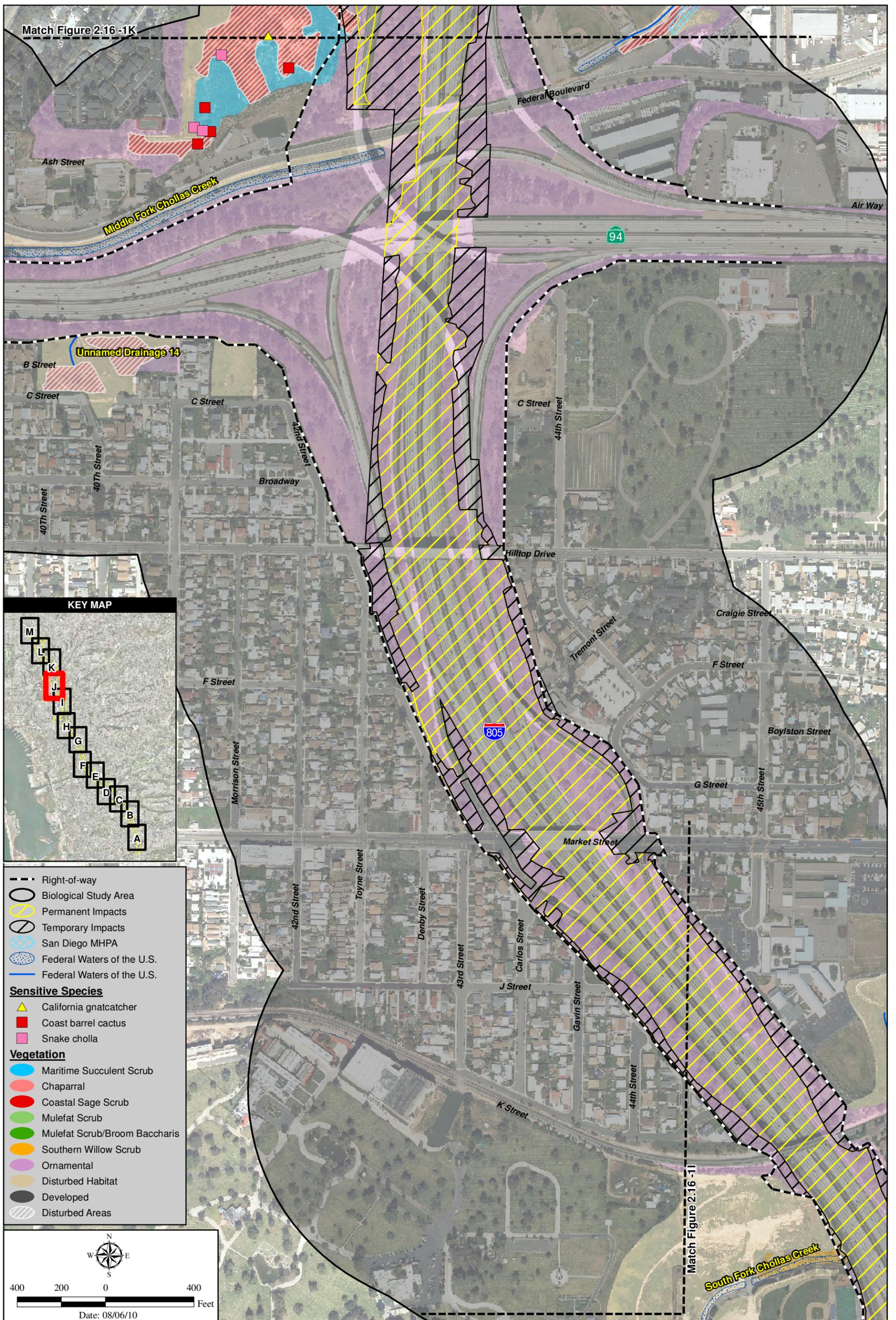
E:\ArcGIS\SD\003-011805\Map\ENV\VEIR_EA\Fig2.16-1H_BioImpacts.mxd -RK



Vegetation, Wetland, and Sensitive Species Impacts

I-805 MANAGED LANES SOUTH PROJECT

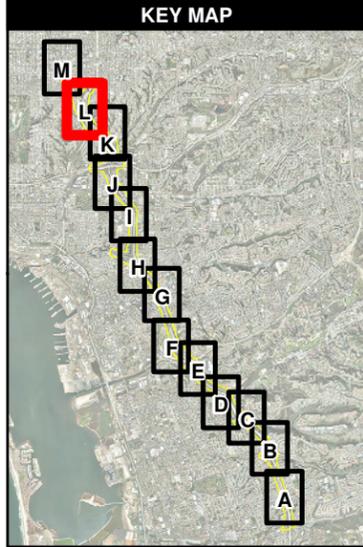
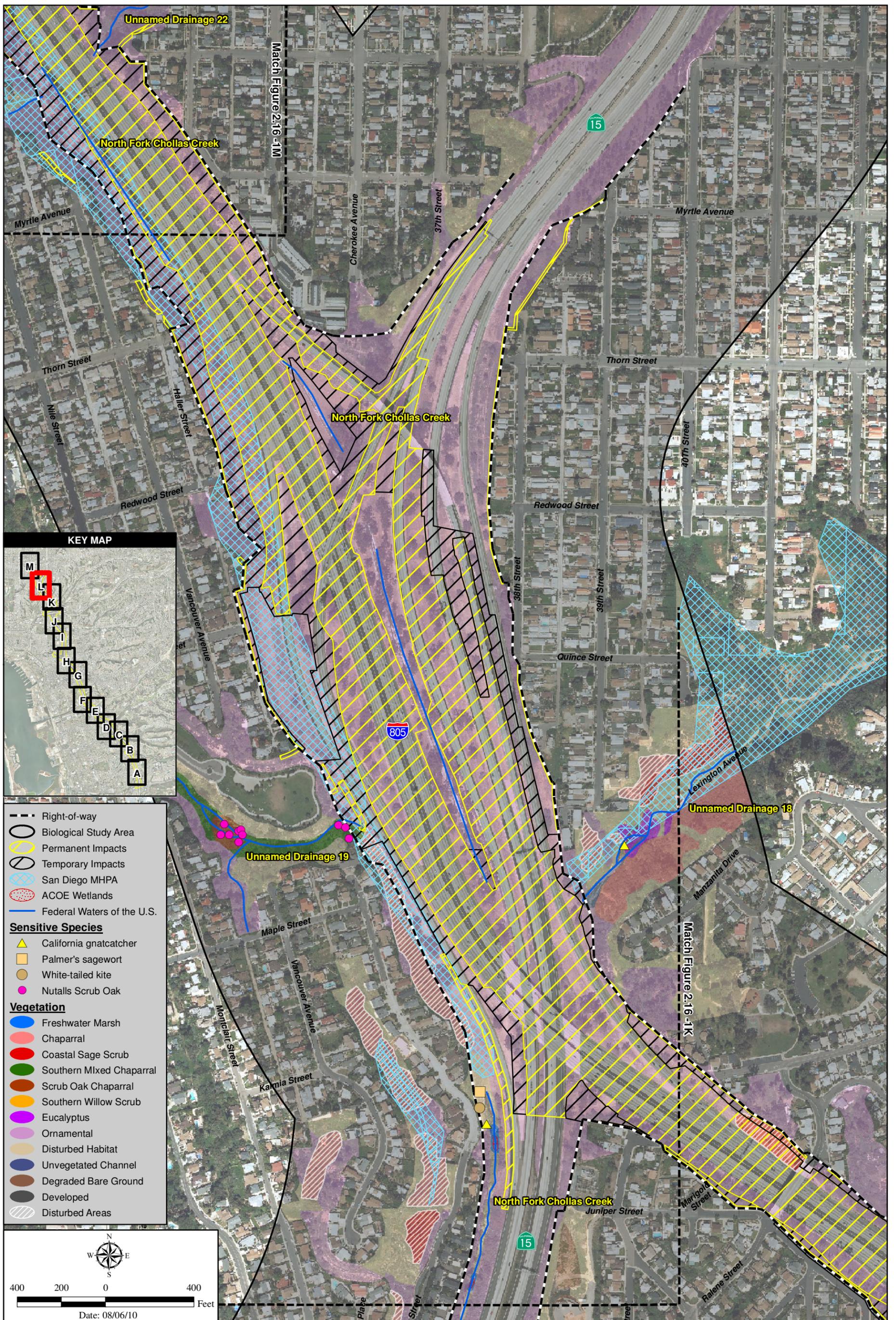
Figure 2.16-11



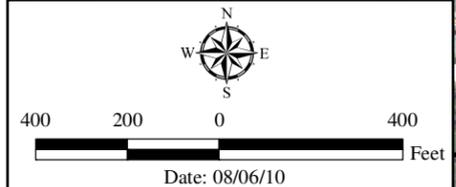
Vegetation, Wetland, and Sensitive Species Impacts

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.16-1J



- Right-of-way
 - Biological Study Area
 - ▭ Permanent Impacts
 - ▭ Temporary Impacts
 - ▭ San Diego MHPA
 - ▭ ACOE Wetlands
 - Federal Waters of the U.S.
- Sensitive Species**
- ▲ California gnatcatcher
 - Palmer's sagewort
 - White-tailed kite
 - Nuttall's Scrub Oak
- Vegetation**
- Freshwater Marsh
 - Chaparral
 - Coastal Sage Scrub
 - Southern Mixed Chaparral
 - Scrub Oak Chaparral
 - Southern Willow Scrub
 - Eucalyptus
 - Ornamental
 - Disturbed Habitat
 - Unvegetated Channel
 - Degraded Bare Ground
 - Developed
 - ▨ Disturbed Areas



Vegetation, Wetland, and Sensitive Species Impacts

I-805 MANAGED LANES SOUTH PROJECT

Figure 2.16-1L

2.17 WETLANDS AND OTHER WATERS

This subchapter summarizes the wetland and riparian habitats and jurisdictional areas within the BSA and assesses potential impacts to these areas associated with the proposed Project.

2.17.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the CWA (33 USC 1344) is the primary law regulating wetlands and waters. The CWA regulates the discharge of dredged or fill material into Waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the ACOE with oversight by the USEPA.

The EO for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as the FHWA, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated by the CDFG, the SWRCB, and the RWQCB. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake, to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement (SAA) will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the ACOE may or may not be included in the area covered by a SAA obtained from the CDFG.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications in compliance with Section 401 of the CWA. Please refer to Subchapter 2.9, Water Quality and Storm Water Runoff, for additional details.

2.17.2 Affected Environment

A NES was prepared for the Project (September 2009) to evaluate the biological resources and potential impacts to such resources within the BSA. In addition, a wetland delineation report was prepared for the Project (*Interstate-805 Managed Lanes South Project Wetland Delineation Report*, July 2007) to evaluate jurisdictional areas, as well as potential impacts. The wetland

report will be used for the preliminary jurisdictional determination. Information presented in the following section is summarized from the NES and wetland delineation report.

The BSA is approximately defined as areas within 1,000 feet from I-805 R/W, with deviations occurring in the vicinity of interchanges, at the I-805/SR 15/SR 94 triangle, and at certain proposed Project components such as park-and-ride lots. There are a few areas where the Project alignment meets or is bisected by canyons or unnamed drainages. The BSA crosses two major drainages; the Sweetwater River and Chollas Creek, and smaller drainages, including Telegraph Canyon Creek, Paradise Creek, and several other unnamed drainages.

Portions of two watersheds occur within the Project area, including the Sweetwater Watershed, and the Pueblo San Diego Watershed. The Sweetwater Watershed encompasses approximately 230 square miles within the cities of San Diego, Chula Vista, and National City. The major water bodies are Sweetwater River, Sweetwater Reservoir, Loveland Reservoir, and the San Diego Bay. Within the BSA, this watershed is contained within the southern portion of the Project to near East 18th Street to the north. Much of this part of the BSA is urban; however, some of the native habitat types within this section include riparian forest and coastal sage scrub. The prominent hydrologic feature in this area is Sweetwater River.

The Pueblo San Diego Watershed occurs in the northern section of the Project area, encompassing approximately 60 square miles within the City of San Diego and National City. The major water bodies in this watershed are Chollas Creek, Paleta Creek, and San Diego Bay. This portion of the BSA along I-805 is between East 18th Street to the south to just north of the I-805/SR 15/SR 94 triangle. The only major water body within this watershed that occurs in the study area is Chollas Creek; however, there are other ephemeral streams from the canyons and other drainages in the area. This watershed is densely populated with approximately 75 percent of the area developed. Much of the water quality issues in the Pueblo San Diego Watershed are related to urban runoff.

Wetland and Riparian Habitats

Wetland and riparian habitats within the BSA include freshwater marsh, southern willow scrub, disturbed southern willow scrub, mule fat scrub, mule fat/broom baccharis scrub, disturbed mule fat scrub, disturbed wetland, unvegetated channel, and open water (refer to Figures 2.16-1A through 2.16-1M and Table 2.17-1). A brief description of these habitat types is provided below.

Habitat Type	Acreage
Freshwater marsh	5.3
Southern willow scrub	44.9
Disturbed southern willow scrub	7.2
Mule fat scrub	1.3
Mule fat/broom baccharis scrub	0.3
Disturbed mule fat scrub	0.3
Disturbed wetland	1.0
Unvegetated channel	4.2
Open water	0.1
TOTAL	64.6

Freshwater Marsh

Freshwater marsh is dominated by perennial, emergent plant species. This vegetation community occurs in wetlands that are permanently flooded by standing fresh water. Within the BSA, monotypic stands of bulrushes (*Scirpus* spp.) or cattails (*Typha* spp.) often characterize this habitat. Freshwater marsh can be found at the intersection of Bonita Road and I-805, within the Sweetwater River channel, and west of SR 15. Approximately 5.3 acres of freshwater marsh occur within the BSA.

Southern Willow Scrub

Southern willow scrub is found on loose, sandy, or fine gravelly alluvium deposited near stream channels during floods, and most stands are too dense to allow much understory to develop. Typical willow species that dominate the habitat include black willow (*Salix gooddingii*), arroyo willow (*S. lasiolepis*), and sandbar willow (*S. exigua*). Southern willow scrub occurs in patches along drainages and the Sweetwater River throughout the BSA. Approximately 44.9 acres of southern willow scrub and 7.2 acres of disturbed southern willow scrub occur within the BSA.

Mule Fat Scrub

Mule fat scrub is characterized as a stunted, non-woody riparian scrub strongly dominated by mule fat (*Baccharis salicifolia*). This community is found within intermittent stream channels with fairly coarse substrate and moderate depth to the water table. Within the BSA, this vegetation type was found in a few patches south of SR 54 and west of I-805, and south of Imperial Avenue on the west side of I-805. Disturbed mule fat scrub can be seen west of I-805 and south of Home Avenue. The estimated acreage of mule fat scrub and disturbed mule fat scrub in the BSA is 1.3 acres and 0.3 acre, respectively.

Mule Fat/Broom Baccharis Scrub

Mule fat/broom baccharis scrub is similar to mule fat scrub, but with a co-dominance (approximately 50 percent cover) of broom baccharis. Approximately 0.3 acre of this vegetation community occurs near the Sweetwater River, south of SR 54.

Disturbed Wetland

Areas mapped as disturbed wetlands include wetland habitats that have been recently cleared or are dominated by herbaceous, non-native plant species that are tolerant of periodic inundation. Disturbed wetlands generally have hydric soils (soils subject to saturation/inundation) and some wetland indicator plant species, including non-native plants. Herbaceous, non-native species typically found in disturbed wetlands in the BSA include cocklebur (*Xanthium strumarium*), curly dock (*Rumex crispus*), giant reed (*Arundo donax*), and pampas grass (*Cortaderia jubata*), among others. Disturbed wetlands cover 1.0 acre of the BSA and occur south of East Palomar Street and west of I-805 and as almost monotypic patches of giant reed and pampas grass in the Sweetwater River channel near Plaza Bonita Mall.

Unvegetated Channel

This habitat consists of unvegetated or sparsely vegetated drainages. The lack of significant vegetative cover in such areas can be attributed to either natural processes, such as flooding, or to human activities, such as vegetation clearing, sand mining, or stream channelization. Areas are designated as disturbed flood channels if the channel has been artificially cleared or disturbed, or if the channel is dominated by non-native trees and lacks any native riparian component. Concrete-lined channels are not included as habitat, only as Waters of the U.S. Within the BSA unvegetated channels cover 4.2 acres and occur south of the SR 15/SR 94 intersection on the western side of the corridor.

Open Water

Open water occurs within the BSA within the Sweetwater River channel near Plaza Bonita Road. Open water areas do not support vegetation due to depth and flow of water. Within the BSA, open water covers 0.1 acre.

Jurisdictional Areas

Jurisdictional delineation fieldwork was conducted between February and November 2006 with some follow-up fieldwork conducted through May 2007. ACOE jurisdictional areas and wetland habitats located within the BSA are depicted in Figures 2.16-1A through 2.16-1M.

Both build alternatives cross two major drainages, Sweetwater River and Chollas Creek. Additional minor drainages found along the BSA include Telegraph Canyon Creek, Paradise Creek, and several other unnamed drainages. All delineated Waters of the U.S. also are Waters of the State, subject to the jurisdiction of the RWQCB. Below is a description of the jurisdictional features within the BSA.

Sweetwater River and Tributaries

ACOE Jurisdictional Areas

Sweetwater River flows along the Project alignment for approximately one mile. Rice Canyon Creek flows parallel to I-805 north of East H Street, under Bonita Road and eventually discharges to the Sweetwater River. The confluence of Rice Canyon Creek and Sweetwater River occurs after the Sweetwater River flows under Plaza Bonita Road. In the vicinity of the I-805 and SR 54 interchange, the Sweetwater River turns abruptly to the west, and flows through a series of two drop structures as it crosses under I-805. The reinforced concrete river channel narrows to approximately 250 feet, as it flows away from the BSA.

Minor tributaries to Sweetwater River include Unnamed Drainages 8, 9, 10, 11, and 12. Drainage 8 is located southeast of the I-805/SR 54 interchange and flows within a natural channel before entering a culvert and connecting to the Sweetwater River. Drainages 9 and 10 consist of concrete-lined channels located northwest of the I-805/SR 54 interchange. Drainage 11 is located near the intersection of Euclid Avenue/Ridgeway Drive on the east side of I-805 and flows within a concrete-lined channel and a natural course into a culvert at I-805. Drainage 12 consists of a pond within the National City Municipal Golf Course.

Upstream of its confluence with Rice Canyon Creek, the ACOE boundary along Sweetwater River generally follows the riparian vegetation boundary and is located within the earthen banks of Sweetwater River. At the confluence of the two streams, the ACOE jurisdictional wetland widens greatly as the river opens into a wide floodplain. Unnamed Drainages 8, 9, 10, and 11 are Waters of the U.S. Unnamed Drainage 12 is suspected to be an ACOE wetland because it supports hydrology and hydrophytic vegetation, although no soil pit was completed due to lack of access.

CDFG Jurisdictional Areas

CDFG jurisdictional areas within Sweetwater River and its tributaries generally parallel the ACOE jurisdictional areas within the BSA. Upstream of the Rice Canyon Creek and Sweetwater River confluence, the CDFG jurisdictional boundary along Sweetwater River extends several feet outside the ACOE boundary because the riparian vegetation exists outside of the ACOE boundary. The riparian habitat associated with Sweetwater River is a patchwork of southern willow scrub and fresh water marsh. Drainages 8, 9, 10, and 11 are intermittent streambeds. Drainage 12 supports southern willow scrub.

Chollas Creek and Tributaries

The Chollas Creek drainage system is found along more than three miles of the BSA and can be described as having three main tributaries within the BSA. The south fork of Chollas Creek crosses under I-805 just north of Imperial Avenue. A minor tributary to the south fork, Drainage 13, flows near the end of Borner Street. The middle fork of Chollas Creek enters the BSA near the intersection of Federal Boulevard and I-805. Two tributaries (Unnamed Drainages 14 and 15) flow into the middle fork of Chollas Creek. Drainage 14 converges with Chollas Creek near the 40th Street/C Street intersection, and Drainage 15 converges with Chollas Creek near the Home Avenue/Federal Boulevard intersection. The north fork of Chollas Creek enters the northern end of the BSA as a 12-foot-wide concrete-lined channel on the west side of I-805. The north fork of Chollas Creek has several tributaries, including Unnamed Drainages 16 through 22, which are briefly described below:

- Drainage 16: converges with Chollas Creek from the west near the north end of Ash Street
- Drainage 17: converges with Chollas Creek from the west near the south end of Haller Street
- Drainage 18: located east of the I-805/SR 15 interchange within an unvegetated rocky stream channel and into a culvert
- Drainages 19 and 20: converge from the west and located near the south end of Nile Street
- Drainage 21: converges with Chollas Creek near Dwight Street on the west side of I-805
- Drainage 22: begins near the Dwight Street/Wilson Avenue intersection on the east side of I-805 and flows into a culvert under I-805 and then converges with Chollas Creek

ACOE Jurisdictional Areas

No ACOE jurisdictional wetlands occur within the south fork of Chollas Creek. Within the south fork of Chollas Creek ACOE jurisdictional Waters of the U.S. occur within Drainage 13.

Within the BSA, the middle fork of Chollas Creek and its tributaries (Drainages 14 and 15) are ACOE jurisdictional Waters of the U.S. ACOE jurisdictional wetlands occur along Unnamed Drainage 15 at three locations.

ACOE jurisdictional wetlands occur at two locations along the upper reaches of the north fork of Chollas Creek (west of I-805 and east of Haller Street) and along Drainage 17 near the Boundary Street/Haller Street intersection. The remaining portions of the north fork of Chollas Creek and its tributaries (Drainages 16, 18 through 22) are considered ACOE jurisdictional non-wetland Waters of the U.S. because they lack hydrophytic vegetation or are concrete-lined/rip-rap lined.

CDFG Jurisdictional Areas

The south fork of Chollas Creek is classified as an intermittent streambed both upstream and downstream of I-805. Exceptions to this occur immediately downstream (west) of I-805, where a patch of southern willow scrub exists. Drainages 13 and 14 are also intermittent streambeds.

Upstream of the concrete-lined flood control channel, the middle fork of Chollas Creek is an intermittent streambed. The streambed downstream of the flood control channel diverges into two channels. This portion is classified as intermittent streambed and southern willow scrub on the streambanks. East of SR 15, Chollas Creek is an intermittent streambed. Drainage 14 is also an intermittent streambed. Drainage 15 supports a patchwork of southern willow scrub with some exceptions. Areas lacking riparian vegetation within the stream are classified as intermittent streambed.

The majority of the north fork of Chollas Creek and its tributaries are intermittent streambeds. Exceptions occur along the north fork of Chollas Creek at two locations in the vicinity of Haller Street where freshwater marsh vegetation exists within the streambed, and along Drainage 17, where southern willow scrub is present.

Additional Jurisdictional Drainages

East Palomar Street Area

ACOE Jurisdictional Areas. Two small unnamed drainages occur near the I-805/East Palomar Street interchange. Drainage 1 is located southwest of the I-805/East Palomar Street interchange, and Drainage 2 is located near the East Palomar Street/Oleander Avenue. The upstream (northern) end of Drainage 1 and the upstream (eastern) portion of Drainage 2 meet the criteria of an ACOE jurisdictional wetland. The downstream portion of Drainage 2 is an ACOE jurisdictional Water of the U.S.

CDFG Jurisdictional Areas. The upstream portion of Drainage 1 supports disturbed wetland vegetation, and the downstream portion is an intermittent streambed, with some small areas of southern willow scrub. Drainage 2 enters the Project area as a large patch of southern willow scrub, and is an intermittent streambed southeast of the East Palomar Street/Oleander Avenue intersection.

Telegraph Canyon

ACOE Jurisdictional Areas. A concrete-lined flood channel flows adjacent to the north side of Telegraph Canyon Road and within a culvert under I-805. This channel is a non-wetland Water of the U.S.

CDFG Jurisdictional Areas. The Telegraph Canyon flood channel is considered an intermittent streambed.

East H Street Area

ACOE Jurisdictional Areas. Rice Canyon Creek and five other small unnamed drainages (Drainages 3, 4, 5, 6, and 7) are located near the I-805/East H Street interchange. Rice Canyon Creek and three of the drainages (Drainages 3, 4, and 5) are considered ACOE non-wetland Waters of the U.S.

CDFG Jurisdictional Areas. Drainages 3, 4, and 5 are considered intermittent streambeds. Drainage 6 supports southern willow scrub, and Drainage 7 supports mule fat scrub and southern willow scrub. Additionally, the patch of riparian vegetation within Rice Canyon Creek near East H Street supports southern willow scrub.

Paradise Creek

ACOE Jurisdictional Areas. Paradise Creek is a concrete-lined flood control channel that flows adjacent to East Plaza Boulevard and within a culvert under I-805. This channel is considered an ACOE jurisdictional Water of the U.S.

CDFG Jurisdictional Areas. Paradise Creek is considered an intermittent streambed.

Seventh Street Channel

ACOE Jurisdictional Areas. A minor drainage located near the 45th Street/Mayberry intersection connects to San Diego Bay via the Seventh Street channel. This drainage flows within a concrete-lined flood control channel on the east side of I-805 and into a culvert under the freeway. On the west side of I-805, this drainage flows within an earthen channel. The Seventh Street channel is considered an ACOE jurisdictional Water of the U.S.

CDFG Jurisdictional Areas. The Seventh Street channel is an intermittent streambed that also supports some patches of southern willow scrub west of I-805.

2.17.3 Environmental Consequences

Jurisdictional areas that would be impacted by both build alternatives are discussed below.

The vegetated wetlands provide wildlife habitat functions such as foraging, nesting, and roosting habitat for riparian species. In addition, the drainages provide water filtration and conveyance functions.

Both build alternatives would occur in the same locations with similar Project footprints. The impacts to wetlands and Waters of the U.S. would be the same for both build alternatives.

Therefore, the evaluation of potential impacts to the wetland and riparian habitats discussed below applies to both build alternatives.

Wetland and Riparian Habitats

Build Alternatives

Permanent impacts to wetland and riparian habitats resulting from implementation of the build alternatives would include 0.6 acre of southern willow scrub and 0.1 acre of disturbed southern willow scrub (Figures 2.16-1A, 2.16-1C through 2.16-1F, and 2.16-1I through 2.16-1L). The build alternatives would temporarily impact 1.5 acres of southern willow scrub, 0.5 acre of disturbed southern willow scrub, 0.4 acre of freshwater marsh, less than 0.1 acre of disturbed wetland, and less than 0.1 acre of unvegetated channel (Figures 2.16-1A, 2.16-1C through 2.16-1F, and 2.16-1I through 2.16-1L; Table 2.17-2). Concrete-lined channels do not exhibit habitat and were only documented as streambed/Waters of the U.S.

Habitat Type	Permanent Impacts	Temporary Impacts
Southern willow scrub	0.6	1.5
Disturbed southern willow scrub	0.1	0.5
Freshwater marsh	0	0.4
Disturbed wetland	0	<0.1
Unvegetated channel	0	<0.1
TOTAL	0.7	2.4

No Build Alternative

Implementation of the No Build Alternative would not result in impacts to wetland and riparian habitats because no improvements are proposed.

Jurisdictional Areas

Build Alternatives

Permanent and temporary impacts to ACOE jurisdictional areas resulting from implementation of the build alternatives total 0.89 acre and 1.82 acres, respectively (Table 2.17-3).

Permanent and temporary impacts to CDFG jurisdictional areas resulting from implementation of the build alternatives total 1.18 acres and 2.69 acres, respectively (Table 2.17-3).

These impacts would require compensatory mitigation and procurement of multiple CWA Section 404 Nationwide permits from the ACOE, a CWA Section 401 Water Quality Certification from the RWQCB, and a 1602 SAA from the CDFG. Refer to Chapter 4.0 for coordination and correspondence of agencies.

Water quality would be affected during construction or operation by potential surface runoff, including sedimentation, fertilizers, and car petroleum products. Decreased water quality may affect vegetation, aquatic animals, and terrestrial wildlife that depend upon these resources.

No Build Alternative

Implementation of the No Build Alternative would not result in direct or indirect project-related impacts to jurisdictional areas because no improvements are proposed.

Table 2.17-3 POTENTIAL WETLANDS AND OTHER JURISDICTIONAL WATERS IMPACTS – BUILD ALTERNATIVES (acres)		
Channel Locations	ACOE Wetland/ Waters of the U.S. Impacts	CDFG Wetland/ Streambed Impacts
PERMANENT IMPACTS		
Sweetwater River and Tributaries		
Sweetwater River (wetland)	0.39	0.63
Unnamed Drainage 10	<0.01	<0.01
Unnamed Drainage 11	<0.01	<0.01
Rice Canyon Creek	0	<0.01
Chollas Creek and Tributaries		
South Fork Chollas Creek	0.02	0.02
Middle Fork Chollas Creek	0.20	0.20
North Fork Chollas Creek	0.24	0.24
Unnamed Drainage 15	0.01	0.02
Unnamed Drainage 20	<0.01	<0.01
Unnamed Drainage 22	<0.01	<0.01
Additional Drainages		
Paradise Creek	0.01	0.01
Unnamed Drainage 3	0.01	0.01
Unnamed Drainage 4	<0.01	<0.01
Unnamed Drainage 5	0.01	0.01
Unnamed Drainage 6	0	0.04
Total Permanent Waters of the U.S. Impacts	0.50	0.50
Total Permanent Wetlands Impacts	0.39	0.68
TOTAL Waters of the U.S.	0.89	1.18
TEMPORARY IMPACTS		
Sweetwater River and Tributaries		
Sweetwater River (wetland)	1.64	2.03
Rice Canyon Creek	0.01	0.46
Unnamed Drainage 10	0.01	0.01
Unnamed Drainage 11	<0.01	<0.01
Chollas Creek and Tributaries		
South Fork Chollas Creek	0.02	0.05
North Fork Chollas Creek	0.10	0.10
Unnamed Drainage 14	<0.01	<0.01
Unnamed Drainage 15	<0.01	<0.01
Unnamed Drainage 18	<0.01	<0.01
Unnamed Drainage 20	0.02	0.02
Unnamed Drainage 22	<0.01	<0.01

Table 2.17-3 (cont.) POTENTIAL WETLANDS AND OTHER JURISDICTIONAL WATERS IMPACTS – BUILD ALTERNATIVES (acres)		
Channel Locations	ACOE Wetland/ Waters of the U.S. Impacts	CDFG Wetland/ Streambed Impacts
Additional Drainages		
Paradise Creek	0.01	0.01
Unnamed Drainage 3	<0.01	<0.01
Unnamed Drainage 4	0.01	0.01
Unnamed Drainage 5	<0.01	<0.01
Unnamed Drainage 6	0	<0.01
Total Temporary Waters of the U.S. Impacts	0.18	0.18
Total Temporary Wetlands Impacts	1.64	2.51
TOTAL Waters of the U.S.	1.82	2.69

2.17.4 Avoidance, Minimization, and/or Mitigation Measures

Wetland impacts would not be completely avoided because I-805 already crosses Sweetwater River and Chollas Creek. However, impacts to wetlands and riparian habitats, as well as jurisdictional areas, have been minimized to the greatest extent practicable by constructing retaining walls and minimizing the grading behind the walls.

It should be noted that discussions with the resource agencies regarding mitigation ratios and the potential location of off-site mitigation have yet to occur. Mitigation ratios within this document are based on mitigation requirements for recent, similar Caltrans projects.

Wetland and Riparian Habitats

Build Alternatives

The build alternatives have been designed to reduce temporary construction-related and permanent erosion, sedimentation, and water pollution impacts to jurisdictional areas (both within and outside of the impact footprint) by constructing retaining walls and minimizing the grading behind the walls. Site design BMPs are intended to control construction and post-development runoff, erosion potential, and contaminant generation. Construction-related and post-construction-related BMPs are discussed in Subchapter 2.9, Water Quality and Storm Water Runoff.

The following are proposed measures to minimize impacts to wetlands and jurisdictional areas during construction.

- All debris from the expansion of bridges would be contained so that it does not fall into rivers and creeks.
- Bioswales would be placed on many of the slopes to treat runoff from the freeway.
- Appropriate BMPs would be used to control erosion and sedimentation. No sediment or debris would be allowed to enter creeks, rivers, or other drainages.
- Fueling of construction equipment would only occur at a designated area at a distance greater than 100 feet from drainages and associated plant communities to preclude

adverse water quality impacts. Fuel cans and fueling of tools would not occur within drainages.

Compensation for permanent direct impacts from implementation of the build alternatives to southern willow scrub, disturbed southern willow scrub, and freshwater marsh is proposed at a 2:1 ratio. Compensation for temporary impacts to wetland habitats is proposed at a 1:1 on-site revegetation ratio and 1:1 off-site creation ratio. Compensation for temporary impacts to unvegetated channel is proposed at a 1:1 ratio of on-site restoration of the channel.

Permanent impacts to wetlands and riparian habitats as well as jurisdictional areas would be mitigated through off-site creation and/or restoration at an approved mitigation site in consultation with the resource agencies. One option for mitigating impacts to wetlands would be to purchase wetland credits from the Rancho Jamul Mitigation Bank.

No Build Alternative

No avoidance, minimization, or mitigation would be required, because no Project-related impacts would occur under the No Build Alternative.

Jurisdictional Areas

Build Alternatives

See avoidance measures addressed above under Wetland and Riparian Habitats as these avoidance measures also apply to jurisdictional areas. Compensation for temporary and permanent impacts to ACOE jurisdictional wetlands and Waters of the U.S. is proposed at ratios of 2:1 and 1:1, respectively, resulting in a total of 4.74 acres of mitigation required (Table 2.17-4).

Compensation for temporary and permanent impacts to CDFG jurisdictional wetlands and streambed is proposed at ratios of 2:1 and 1:1, respectively, resulting in a total of 10.25 acres of compensation required (Table 2.17-4). The mitigation requirements for CDFG jurisdictional impacts also would cover the requirements for ACOE jurisdictional impacts (i.e., the 6.77 acres of ACOE jurisdictional areas would be included as part of the 7.11 acres of CDFG jurisdictional areas).

Table 2.17-4 PROPOSED MITIGATION REQUIREMENTS FOR IMPACTS TO ACOE AND CDFG JURISDICTIONAL AREAS						
Habitat Type	Temporary Impacts			Permanent Impacts		
	Impact (acre)	Mitigation Ratio	Required Mitigation (acre)	Impact (acre)	Mitigation Ratio	Required Mitigation (acre)
ACOE Jurisdictional Areas						
Wetlands	1.64	2:1	3.28	0.39	2:1	0.78
Non-wetlands	0.18	1:1	0.18	0.50	1:1	0.50
TOTAL	1.82	--	3.46	0.89	--	1.28
CDFG Jurisdictional Areas						
Wetlands	2.51	2:1	5.03	0.68	2:1	1.36
Non-wetlands	0.18	1:1	0.18	0.50	1:1	0.50
TOTAL	2.69	--	5.21	1.18	--	1.86

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2.18 PLANT SPECIES

This subchapter discusses the presence of special status plant species within the BSA, and assesses potential impacts associated with the Project alternatives.

2.18.1 Regulatory Setting

The USFWS and CDFG share regulatory responsibility for the protection of special status plant species. "Special status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the federal Endangered Species Act and/or the California Endangered Species Act. Refer to Subchapter 2.20, Threatened and Endangered Species, in this document for detailed information regarding these species.

This subchapter of the document discusses all the other special status plant species, including CDFG fully protected species and species of special concern, USFWS candidate species, and non-listed California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for the federal Endangered Species Act can be found at 16 USC Section 1531, et seq. See also 50 CFR Part 402. The regulatory requirements for the California Endangered Species Act can be found at California Fish and Game Code, Section 2050, et seq. Caltrans projects also are subject to the Native Plant Protection Act, found at Fish and Game Code Section 1900-1913, and CEQA, PRC Sections 2100-21177.

2.18.2 Affected Environment

A NES (September 2009) was prepared to evaluate the biological resources and potential impacts (permanent and temporary) to special status plant species within the BSA for the Project. Information presented in this subchapter is summarized from the NES.

Nine plant species listed as sensitive by the CNPS were observed within the BSA and are discussed below. The locations of these sensitive plant species are identified in Figures 2.16-1A through 2.16-1M. CNPS maintains an inventory of rare, threatened, and endangered plants within California and has created five lists to categorize degrees of concern, including List 1A (Plants Presumed Extinct in California), List 1B (Plants Rare, Threatened, and Endangered in California and Elsewhere), List 2 (Plants Rare, Threatened, and Endangered in California, But More Common Elsewhere), List 3 (Plants About Which We Need More Information), and List 4 (Plants of Limited Distribution). Plants also are assigned a threat code extension of either .1 (seriously endangered in California: over 80 percent of occurrences threatened/high degree and immediacy of threat), .2 (fairly endangered in California: 20 to 80 percent of occurrences threatened), or .3 (Not very endangered in California: less than 20 percent of occurrences threatened or no current threats known).

Palmer's Sagewort (*Artemisia palmeri*; CNPS List 4.2)

Palmer's sagewort is a summer-blooming (May-September) deciduous shrub that occurs in chaparral, coastal scrub, riparian forest, scrubs, and woodlands in southwestern San Diego County and northern Baja California. It is primarily found along creeks and drainages near the

coast; inland it may occur in mesic (moist) chaparral conditions. Within the BSA, Palmer's sagewort was found south of the I-805 and SR 15 merge on the western side of the freeway.

South Coast Saltbush (*Atriplex pacifica*; CNPS List 1B.2)

South coast saltbush is an herbaceous annual found in southern San Diego County and Baja, Mexico that blooms between March through October. It is known from several locations around San Diego including Rice Canyon, Salt Creek in Otay Mesa, and near the mouth of the Tijuana River near Imperial Beach. This species occurs within coastal bluff scrub, coastal dunes, coastal scrub, and playas at elevations of 0 to 460 feet above MSL. The primary threats to the species are foot traffic and development. South coast saltbush was found within maritime succulent scrub and in disturbed habitat areas north of East J Street. It was also found in open space areas north of East H Street.

Knotweed Spineflower (*Chorizanthe polygonoides* var. *longispina*; CNPS List 1B.2)

This small annual is typically found on clay lenses mostly devoid of shrubs and occurs within chaparral, coastal scrub, meadows and seeps, and valley and foothill grasslands. This species blooms between April and July and can be found in San Diego County, Riverside County, Santa Barbara County, and Baja California, Mexico, and is currently threatened by development. Knotweed spineflower was found in maritime succulent scrub, coastal sage scrub, and coastal sage chaparral scrub north of East J Street, and in the open space between north of East H Street.

Cliff Spurge (*Euphorbia misera*; CNPS List 2.2)

This irregularly branched shrub occurs on sea bluffs in coastal bluff scrub, coastal sage scrub, and Mojavean desert scrub. Cliff spurge is found in San Diego County, Riverside County, and Baja California, Mexico and blooms from December through August. Cliff spurge was found in maritime succulent scrub, north of East J Street.

Coast Barrel Cactus (*Ferocactus viridescens*; CNPS List 2.1)

Coast barrel cactus is typically found within chaparral, coastal scrub, valley and foothill grassland, vernal pools, and areas of mima mound (uniformly distributed mounds of soil) topography. This species occurs within San Diego County and Baja California, Mexico and blooms between May through June. Coast barrel cactus was found in coastal sage scrub, chamise chaparral, maritime succulent scrub, disturbed maritime succulent scrub, disturbed coastal sage scrub, and disturbed native grassland within the BSA. Specifically, this species was observed north of East Palomar Street and east of I-805, north of East J Street and also in the open space north of East H Street. It was also found north of the I-805 and SR 94 intersection and north of Federal Boulevard and west of I-805.

Southwestern Spiny Rush (*Juncus acutus* var. *leopoldii*; CNPS List 4.2)

Southwestern spiny rush is a relatively common plant associated with coastal dunes, meadows and alkaline seeps and coastal salt marshes and swamps. This species occurs in San Diego County and Baja California, Mexico. The sensitivity of this plant is due to the decline in wetland habitats throughout the County of San Diego. It was observed in the open space between I-805 and Plaza Bonita Road, and in Sweetwater River channel south of the SR 54 intersection on the east and west sides of the freeway.

Snake Cholla (*Opuntia californica* var. *californica*; CNPS List 1B.1)

Snake cholla is a prostrate to sub-erect cane type cactus found in chaparral and open Diegan coastal sage scrub on xeric (dry) hillsides with sandy loamy soils. This species is known from scattered shrubs in Florida Canyon at Balboa Park to the U.S./Mexico border. Often not protected in areas of development, this species is becoming quite rare. Snake cholla was found in maritime succulent scrub habitat within the open space north of East H Street. It also was observed at the intersection of I-805 and SR 94 and in a few locations north of SR 94.

Nuttall's Scrub Oak (*Quercus dumosa*; CNPS List 1B.1)

Nuttall's scrub oak is an evergreen shrub found in sandy, clay loam soils within chaparral, coastal scrub, and closed-cone coniferous forest, typically within a few miles of the coast in San Diego County and Baja California, Mexico. This coastal shrub is considered by a number of recent taxonomists to represent a distinct species from the more common inland scrub oak (*Quercus berberidifolia*). It often has an overall rounded, almost "pruned" aspect which is quite different from the more erect growing, inland species. Within the BSA, this species was observed at the I-805 and SR 15 merge on the western side of the freeway.

San Diego Sunflower (*Viguiera laciniata*; CNPS List 4.2)

San Diego sunflower is an upright, woody shrub in the sunflower family that occurs in coastal sage scrub and chaparral. It blooms from February through June. Its current range is limited to coastal hills of Orange County, San Diego County, northern Baja California, and Sonora Mexico. San Diego sunflower was observed in maritime succulent scrub and disturbed habitat, and in the open space north of East H Street. It also was observed in the open space between I-805 and Plaza Bonita Road.

2.18.3 Environmental Consequences

Both build alternatives have similar Project footprints. All impacts to sensitive plant species would occur at the DAR location, which is the same for both build alternatives. Therefore, the evaluation of potential impacts to plant species applies to both build alternatives.

Build Alternatives

Implementation of the build alternatives would only impact two sensitive plant species, including one individual of coast barrel cactus and one individual of San Diego sunflower. These individual plants are located on the east side of I-805, just north of the East Palomar Street overcrossing.

No Build Alternative

Under the No Build Alternative, no effects would occur to special status plant species because no improvements are proposed.

2.18.4 Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

The following are proposed measures to minimize impacts to special status plant species prior to, during, and after construction, as appropriate.

- All native or sensitive habitats outside the permanent and temporary construction limits would be designated as ESAs on Project maps. ESAs would be temporarily fenced during construction with orange plastic snow fence. No personnel, equipment, or debris would be allowed within the ESAs.
- The coast barrel cactus may be salvaged and replanted within the R/W or at a mitigation site.
- All temporary impacts to native and sensitive habitats would be revegetated and restored to pre-existing conditions. Plants salvaged from construction areas may be placed on created slopes or in an off-site mitigation area.
- Seeds from the San Diego sunflower removed during construction may be collected prior to brushing activities for use in revegetation efforts.

No Build Alternative

No avoidance, minimization, or mitigation would be required, because no project-related impacts would occur under the No Build Alternative.

2.19 ANIMAL SPECIES

This subchapter discusses the presence of special status animal species within the BSA, and assesses potential impacts associated with the Project alternatives.

2.19.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The USFWS, National Oceanic and Atmospheric Administration (NOAA) Fisheries, and the CDFG are responsible for implementing these laws. This subchapter discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the state or federal Endangered Species Acts. Species listed or proposed for listing as threatened or endangered are discussed in Subchapter 2.20, Threatened and Endangered Species. All other special status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600-1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

2.19.2 Affected Environment

The NES prepared for the Project in September 2009 evaluates the wildlife and potential impacts to such resources within the Project BSA. Information presented in this subchapter is summarized from the NES.

Five sensitive species (all birds) were observed or detected within the BSA during surveys (Figures 2.16-1A through 2.16-1M) and are discussed below. These species are designated by CDFG as either fully protected (FP) or State species of concern (SSC).

Cooper's Hawk (*Accipiter cooperii*; SSC)

Cooper's hawk breeds from late March through June, and nests primarily in oak woodlands and occasionally in willows or eucalyptus. Outside of the breeding season, it disperses widely from southern Canada to northern Mexico. It has declined as a breeding species in California because of destruction of riparian woodland (and possibly contamination with pesticides). One Cooper's hawk was detected flying overhead in 2006 south of Home Avenue and west of I-805.

San Diego Cactus wren (*Campylorhynchus brunneicapillus sandiegensis*; SSC)

The coastal southern California populations of San Diego cactus wren are threatened by development. This subpopulation of San Diego cactus wren is found in coastal sage scrub with extensive stands of tall prickly pear or cholla cacti. Once widespread in San Diego County, by

1990 it had been reduced to fewer than 400 pairs in about 55 colonies. Most of these are threatened by proposed developments, and most are not expected to be viable, as they consist of only one to four pairs. The long-term viability of almost all other colonies is questionable due to habitat fragmentation and relative isolation by distance between occupied colonies. One San Diego cactus wren was detected in 2006 north of East H Street on the east side of I-805.

Yellow Warbler (*Dendroica petechia brewsteri*; SSC)

Yellow warbler is a summer visitor that, in California, nests only in mature riparian woodland. It is a frequent victim of nest parasitism by the brown-headed cowbird. In San Diego County, this species is uncommon and localized as a breeding species, but is still common and widespread as a migrant. Yellow warblers were frequently encountered during 2006 and 2007 surveys. Yellow warbler location information was noted for areas around Sweetwater River, but no point locations were mapped.

White-Tailed Kite (*Elanus leucurus*; FP)

In North America, the white-tailed kite is distributed along the Pacific Coast from Washington south to Baja California, Mexico. In California, kites are found along the coast and in the Central Valley. The white-tailed kite is a fairly common resident of San Diego County. This species nests in riparian or oak woodland adjacent to grassland or open fields where it hunts rodents. A white-tailed kite was observed flying overhead in 2006 south of the I-805 and SR 15 merge on the western side of the freeway.

Yellow-breasted chat (*Icteria virens*; SSC [breeding populations])

Yellow-breasted chat is another species restricted to riparian woodland, where it frequents dense undergrowth. The yellow-breasted chat is a summer visitor to California, arriving in early April. Yellow-breasted chat territories were identified along Sweetwater River in 2006 and 2007.

2.19.3 Environmental Consequences

The BSA is the same under both build alternatives. Therefore, the evaluation of potential impacts to animal species applies to both build alternatives.

Build Alternatives

The Project would avoid impacts to locations where Cooper's hawk, San Diego cactus wren, yellow warbler, white-tailed kite, and yellow-breasted chat were observed. The Project would impact suitable nesting or foraging upland and riparian habitats, as discussed in Subchapter 2.16, Natural Communities, and Subchapter 2.17, Wetlands and Other Waters. In addition, individuals and breeding territories in the Project vicinity would potentially be indirectly affected by long-term noise increases or operational lighting.

The Project also may impact swallows, swifts, or other birds during construction if these animals are present within structures proposed to be modified or replaced. Although these birds are not special status animals, they are protected under the Migratory Bird Treaty Act. In addition, although no bat sign was detected, bats may be impacted if present within structures proposed to be modified or replaced.

No Build Alternative

Implementation of the No Build Alternative would not result in impacts to special status animal species because no improvements are proposed.

2.19.4 Avoidance, Minimization, and/or Mitigation Measures

Locations of special status animal species and their habitats have been identified and avoided to the maximum extent practicable by constructing retaining walls and minimizing the grading behind the walls.

Build Alternatives

The following are proposed measures to minimize impacts to special status animal species during construction:

- All native vegetation and non-native shrubs and trees within the impact areas would be removed outside of the breeding season (February 15 to August 31) to avoid impacts to nesting birds. Otherwise, a qualified biologist would thoroughly survey all vegetation prior to removal during the breeding season to ensure there are no nesting birds within the impact area. If nesting birds are identified within the impact area, vegetation removal would be delayed until the nest no longer supports eggs or chicks.
- Exclusion devices would be installed on bridge drain holes and ledges during the non-breeding season (September 1 to February 15) to prevent swallows, swifts, and any other birds or bats from nesting on or within bridges to be expanded.
- Lighting used at night for construction would be shielded away from ESAs.

Avoidance and minimization measures for impacts to habitats would occur as discussed in Subchapters 2.16, 2.17, and 2.20.

No Build Alternative

No avoidance, minimization, or mitigation would be required, because no project-related impacts would occur under the No Build Alternative.

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2.20 THREATENED AND ENDANGERED SPECIES

2.20.1 Regulatory Setting

The primary federal law protecting threatened and endangered species is the federal Endangered Species Act: 16 USC Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the FHWA, are required to consult with USFWS and the NOAA Fisheries to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 (if required) is a Biological Opinion or an Incidental Take statement. Section 3 of the federal Endangered Species Act defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt at such conduct.”

California has enacted a similar law at the state level, the California Endangered Species Act, California Fish and Game Code, Section 2050, et seq. The California Endangered Species Act emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The CDFG is the agency responsible for implementing the California Endangered Species Act. Section 2081 of the Fish and Game Code prohibits “take” of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For projects requiring a Biological Opinion under Section 7 of the federal Endangered Species Act, CDFG may also authorize impacts to the California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

2.20.2 Affected Environment

A NES (September 2009) was prepared to evaluate the biological resources and potential impacts (permanent and temporary) to federal and state-listed threatened and endangered species within the BSA. Information presented in this subchapter is summarized from the NES.

The USFWS provided a species list in 2006 and confirmed the list in October 2009 (contained in Appendix H of this document) that identified threatened and endangered plant and animal species with the potential to occur within the BSA, including Otay tarplant (*Deinandra conjugens*), San Diego thorn-mint (*Acanthomintha ilicifolia*), San Diego ambrosia (*Ambrosia pumila*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), spreading navarretia (*Navarretia fossalis*), coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), light-footed clapper rail (*Rallus longirostris levipes*), southwestern willow flycatcher (*Empidonax traillii extimus*), and San Diego fairy shrimp (*Branchinecta sandiegonensis*). These species are designated either as federally listed as endangered (FE) or federally listed as threatened (FT), and some are also designated as state endangered (SE), FP, SSC, or CNPS sensitive. These threatened and endangered species and their presence or absence within the BSA are discussed below.

No federal or state-listed threatened or endangered plant species were observed within the BSA during general surveys or rare plant surveys. Three federally or state-listed threatened or endangered animal species occur within the BSA: light-footed clapper rail, coastal California gnatcatcher, and least Bell's vireo.

Plants

Otay tarplant (*Deinandra conjugens*; CNPS List 1B.1, FT, SE)

This late spring-blooming (May-June) annual herb occurs only in southern San Diego County and northwestern Baja California, Mexico. Within the County, Otay tarplant is found in scattered localities on clay soils and in swales from the vicinity of Sweetwater Reservoir south to the border. It is apparently equally uncommon in Mexico. The primary threat to this species is development of its habitat. This species has the potential to occur within coastal sage scrub habitat within the BSA, but was not observed during surveys.

San Diego thornmint (*Acanthomintha ilicifolia*; CNPS List 1B.1, FT, SE)

San Diego thornmint is restricted to San Diego County and Baja California, Mexico. This spring-blooming (April-May) annual plant occurs in clay depressions on mesas and slopes and is associated with coastal sage scrub, chaparral, and grassland. In San Diego County, the species is known from Encinitas and San Marcos south to Sweetwater and Otay Lakes and from higher elevations on McGinty Mountain. This species has the potential to occur in chaparral and coastal sage scrub habitats within the BSA, but was not observed during surveys.

San Diego ambrosia (*Ambrosia pumila*; CNPS List 1B.1, FE)

San Diego ambrosia is an herbaceous species that occurs in valleys or disturbed areas in southwestern San Diego County and northern Baja California, Mexico. This summer-blooming (May-October) species is reported from San Luis Rey, Bonsall, Lake Hodges, Bostonia, Santee, El Cajon, Padre Dam, Spring Valley, Mission Valley, National City, Sweetwater Dam, and Otay Valley. This species has the potential to occur within chaparral, coastal sage scrub, and native grassland habitat within the BSA, but it was not observed during surveys.

San Diego button celery (*Eryngium aristulatum* var. *parishii*; CNPS 1B.1, FE, SE)

San Diego button-celery is a prostrate biennial or perennial species that occurs in or near vernal pools in Riverside and San Diego counties and in northern Baja California, Mexico. San Diego County locations include Camp Pendleton, San Marcos, Miramar Naval Air Station, Clairemont Mesa, College Park, East San Diego, and Otay Mesa. This species blooms from March through July. There are no vernal pools within the BSA and this species was not observed during surveys.

Spreading navarretia (*Navarretia fossalis*; CNPS List 1B.1, FT)

This diminutive, white-flowered annual occurs in western Riverside and southwestern San Diego counties, as well as in northwestern Baja California, Mexico. The species generally occurs in vernal pools or roadside depressions and can be locally common. Historically, spreading navarretia occurred in relatively few of the San Diego County vernal pools. This species is known from just a few areas within the County (San Marcos, Miramar, National City, and Otay Mesa) and probably survives only at Otay Mesa, if at all. The primary threats to

spreading navarretia are loss of habitat due to agriculture and urbanization. There is limited potentially suitable habitat for this species in the BSA. It was not observed during field surveys and is not expected to occur within the BSA.

Animals

Light-footed clapper rail (*Rallus longirostris levipes*; FE, SE)

The light-footed clapper rail is a slender, tawny-breasted bird that is a permanent resident of coastal salt marsh traversed by tidal sloughs, usually characterized by cordgrass (*Spartina foliosa*) and pickleweed (*Salicornia* sp.). They also utilize freshwater marsh habitat dominated by cattail and bulrush near the coast. Light-footed clapper rail occurred historically along the coast of southern California from Carpenteria Marsh in Santa Barbara County south to San Quintin, Baja California, Mexico. Populations of light-footed clapper rails have undergone a decline in the U.S. due to the rail's limited distribution and destruction and degradation of coastal salt marsh habitat. Recent census data, however, show that the population of clapper rails is increasing. The light-footed clapper rail is federally listed both federally and by the state as endangered.

Two pairs of light-footed clapper rails were detected in 2006 along Sweetwater River downstream of I-805 in cattail and bulrush freshwater marsh (Figures 2.16-1E and 2.16-1F). A single advertising "keking" male clapper rail also was detected during four of the six surveys. Advertising males typically wander, but this individual seemed to be confined to the cattail marsh on the south side of the river, between the two territories of the downstream pairs. A third pair was detected approximately 400 feet upstream of the I-805 bridge over the Sweetwater River (Figure 2.16-1D).

Coastal California gnatcatcher (*Polioptila californica californica*; FT, SSC)

The coastal California gnatcatcher is a small, insectivorous bird that was listed as a federally threatened species in 1993. The coastal California gnatcatcher occurs almost exclusively in coastal sage scrub communities, but occasionally can be found using chaparral adjacent to sage scrub. The historic range of the species is restricted to Baja California, Mexico and the coastal plain areas of southern California, including Ventura, Los Angeles, Orange, San Bernardino, Riverside, and San Diego counties. Breeding territories are often aligned with landscape features, such as ridge lines, trails, and breaks in plant communities and vary from 2 to 45 acres, tending to be larger in the drier, sparser inland areas and smaller near the coast. During the winter, a pair's home range area may expand by 70 percent.

A total of 19 coastal California gnatcatcher territories was identified in the Project BSA during 2006 and 2007. Nearly every patch of suitable habitat larger than 10 acres was occupied, including several areas near dense urbanization or the existing freeway R/W. Coastal California gnatcatcher territories (i.e., calling males or pairs of birds) identified during protocol surveys are displayed on Figures 2.16-1B, C, D, E, F, J, K, and L. Incidental sightings of gnatcatchers during other surveys of the Project BSA were recorded and are displayed on these figures as well as results of protocol surveys. A summary of identified sightings is outlined below:

- One coastal California gnatcatcher was identified south of East H Street in Rice Canyon near the Terra Nova shopping center.
- Two coastal California gnatcatchers were identified north of East H Street and east of I-805.

- Four coastal California gnatcatchers were identified near Sweetwater River. One was identified in broom baccharis-dominated coastal sage scrub west of I-805 near the south bank of the river. A second was identified west of I-805 on a slope covered with coastal sage scrub adjacent to an agricultural field. Two were identified east of I-805 in broom baccharis-dominated coastal sage scrub along the southwest bank of Sweetwater River.
- Four coastal California gnatcatchers were identified east of I-805 and north of SR 94. Three were identified in the Chollas Creek drainage south of Ridge View Drive. One was identified in a coastal sage scrub slope near a gas station adjacent to Home Avenue and I-805.
- One coastal California gnatcatcher was detected south of Home Avenue to the northwest of the I-805/SR 94 interchange.
- Six coastal California gnatcatchers were identified on the west side of SR 15. Five were detected on a slope generally between SR 15 and Pentucket Avenue. A single male was identified to the north near the SR 15/I-805 merge.
- One coastal California gnatcatcher was identified north of Manzanita Drive and east of I-805.

Least Bell's vireo (*Vireo bellii pusillus*; FE, SE)

Historically, this subspecies was a common summer visitor to riparian habitat throughout much of California. Currently, least Bell's vireo is found only in riparian scrub woodlands in southern California, with the majority of breeding pairs in San Diego, Santa Barbara, and Riverside counties. Substantial vireo populations are currently found on five rivers in San Diego County: Tijuana, Sweetwater, San Diego, San Luis Rey, and Santa Margarita, with smaller populations on other drainages. Least Bell's vireo is restricted to riparian habitat and is most frequent in areas that combine an understory of dense young willows or mule fat with a canopy of tall willows. The least Bell's vireo arrives in San Diego County in late March and early April and leaves for its wintering ground in September.

The vireo's listing has been attributed to loss, degradation, and fragmentation of riparian habitat combined with nest parasitism by the brown-headed cowbird. Recent conservation efforts, including intensive cowbird trapping on many major rivers in the County, has led to a resurgence of least Bell's vireo populations in San Diego County in the past few years. In 2006, the USFWS conducted a five-year review of the species, and has recommended that the vireo be downgraded from endangered to threatened.

One vagrant least Bell's vireo was observed in 2006 along Sweetwater River, southwest of Plaza Bonita shopping center (Figure 2.16-1E).

Southwestern willow flycatcher (*Epidonax trailii extimus*; FE, SE)

This subspecies of willow flycatcher is a summer breeding resident in riparian habitats in southern California, southern Nevada, southern Utah, Arizona, New Mexico, western Texas, southwestern Colorado, and northwestern Mexico. It is generally restricted to dense riparian woodlands of willow, or other deciduous shrubs and trees. In general, the riparian habitat of this species tends to be rare, isolated, small and/or linear patches, separated by vast expanses of arid lands. The southwestern willow flycatcher was listed as endangered by the USFWS in February 1995 because of extensive loss of riparian breeding habitat, brood parasitism by the brown-headed cowbird, and lack of adequate protective regulations. This subspecies was

previously listed as endangered by the CDFG in December 1990. The population of southwestern willow flycatcher in southern California was estimated to be less than 80 pairs in the early 1980s. In San Diego County, only two substantial breeding populations are known to remain, along the Santa Margarita River and the upper San Luis Rey River.

Spring migration of the endangered subspecies is relatively late, beginning in early May and extending through June. Another subspecies which breeds to the north in the northern Sierra Nevada Mountains and the Cascade Range (*E. t. brewsteri*) migrates through San Diego between mid May and mid June. There is a period of overlapping occurrence in San Diego County riparian habitats for these two very similar looking subspecies during spring and fall migration. Fall migration of both subspecies occurs rather early, from August through mid October. Egg laying by the endangered southwestern willow flycatcher occurs in San Diego County from the end of May through the end of June. Dense willow thickets are required for nesting, and nests are often near standing water. Willow flycatchers hunt for insects from low exposed perches, flying out to catch the insects in mid-air.

Protocol surveys for the southwestern willow flycatcher were performed in 2006 within suitable habitat along Sweetwater River. This species was not detected within the BSA.

San Diego fairy shrimp (*Branchinecta sandiegonensis*; FE, SE)

The San Diego fairy shrimp occurs in temporary pools, including pools that are of short ponding duration and commonly within small, artificial habitats that pond seasonally. This species is distributed in the coastal mesa systems of Orange and San Diego counties and northern Baja del Norte, Mexico. The San Diego fairy shrimp is federally listed as endangered, and is morphologically similar to the versatile fairy shrimp (*Branchinecta lindahli*), with which it has been known to hybridize with on occasion. No vernal pools or other suitable habitat for this species were detected within the BSA; therefore, no San Diego fairy shrimp are expected to occur within the BSA.

Critical Habitat

Designated critical habitat for the coastal California gnatcatcher occurs within the BSA, in Rice Canyon between East J Street and East H Street on the east side of I-805. No designated critical habitat for other threatened and endangered species occurs within the BSA.

2.20.3 Environmental Consequences

The build alternatives would occur in the same locations with similar Project footprints. The BSA is the same under both build alternatives. Therefore, the evaluation of potential impacts to threatened and endangered species applies to both build alternatives.

Build Alternatives

There will be no effect to Otay tarplant, San Diego thornmint, San Diego ambrosia, San Diego button celery, spreading navarretia, southwestern willow flycatcher, or San Diego fairy shrimp.

Light-footed clapper rail

Two pair and one solitary male clapper rail were observed between approximately 100 and 750 feet downstream from the Project impact area in the Sweetwater River. An additional pair of

light-footed clapper rail was detected approximately 400 feet upstream of the impact area. The Sweetwater River is considered an important freshwater breeding site for light-footed clapper rails and they have been documented occupying the freshwater marshes near I-805 since 1997. Approximately 0.36 acre of temporary impacts to freshwater marsh associated with the Sweetwater River, presumed to be used by clapper rail, would occur with implementation of both build alternatives.

Increased levels of noise have the potential to affect behavioral and physiological responses in noise sensitive wildlife receptors. Adverse responses to increased noise may include hearing loss or the temporary masking of vocalizations used in communication during the breeding season, nest abandonment, and decreased predator awareness, thereby resulting in a decrease in the reproductive and overall fitness of certain animal species. Increased noise from roadway traffic has the potential to create a situation of long-term hearing loss in wildlife species, while the periodic, point-source noise impacts typically associated with construction activities would result in short-term effects to wildlife species.

Construction noise is considered a direct impact to wildlife. Long-term increases in noise from implementation of both build alternatives are considered indirect effects that may affect wildlife species and; therefore, would be considered an adverse effect on special status wildlife species. It should be noted, however, that the BSA is already relatively noisy due to the multiple lanes of traffic on I-805 and local traffic.

Noise studies for the Project identified the existing range of ambient noise from 54 to 80 dBA L_{eq} . The majority of the monitoring sites were within the 60 to 70 dBA range with ambient conditions. The modeled noise levels predict an increase of 0 to 1 dBA near human receptors. Long-term noise effects are likely to be minimal; however, construction noise may have a short-term adverse effect on selected sensitive species. Although light-footed clapper rail occurs at least 100 feet from the permanent and temporary impact areas associated with the Sweetwater River, noise-related impacts have the potential to occur.

It is anticipated that the Project build alternatives may affect, but are not likely to adversely affect, the light-footed clapper rail.

Coastal California gnatcatcher

One documented California gnatcatcher territory occurs within the permanent impact footprint north of East H Street on the east side of I-805. A gnatcatcher pair was documented at this location during 2006 protocol surveys. An additional gnatcatcher territory was identified immediately outside the temporary impact footprint north of East J Street on the east side of I-805. Coastal sage scrub would be impacted in this area that likely provides a portion of the gnatcatchers territory. Breeding gnatcatchers in San Diego County have territory sizes ranging from approximately 2.5 acres to approximately 22 acres. Therefore, permanent and temporary impacts to suitable nesting and foraging habitat that occur near a documented gnatcatcher observation would potentially affect its territory. Other California gnatcatchers identified in the vicinity of the impact footprint are southeast of the SR 54/I-805 interchange, south of Home Avenue on the east side of I-805, and southwest of the SR 15/I-805 interchange. These additional gnatcatcher locations are in patches of habitat that is not impacted by the Project alternatives. However, these gnatcatchers may be indirectly impacted by the Project.

Construction of either build alternative would result in temporary impacts to 0.13 acre of gnatcatcher critical habitat and permanent impacts to 0.03 acre of critical habitat in Rice Canyon near the California gnatcatcher territory north of East J Street.

As discussed above, construction noise is considered a direct impact to wildlife. Long-term increases in noise from implementation of both build alternatives may adversely affect some wildlife species. Given the existing ambient noise from the roadway, construction noise is not anticipated to result in a substantial adverse impact since the increase during construction is intermittent and not permanent. It should be noted that coastal California gnatcatchers have frequently been documented to successfully breed within the state R/W. This species is considered to be very tolerant of highway noise.

It is anticipated that the Project build alternatives may affect and are likely to adversely affect the California gnatcatcher and its critical habitat.

Least Bell's vireo

One vagrant least Bell's vireo was identified within the Project BSA along the Sweetwater River approximately 300 feet from the impact area (pers. comm. P. Famarlo Sweetwater Authority). No individual vireo observations occurred within the permanent or temporary impact areas. Long-term studies of least Bell's vireo along the Sweetwater River have rarely detected breeding vireo in this reach of the River. Approximately 2.66 acres (0.63 acre of permanent impacts and 2.03 acres of temporary impacts) of wetlands associated with the Sweetwater River that may be used by the least Bell's vireo would be impacted by both build alternatives.

As discussed above, construction noise is considered a direct impact to wildlife. Long-term increases in noise from implementation of the build alternatives adversely affect some wildlife species. Although least Bell's vireo occur at least 100 feet from the permanent and temporary impact areas associated with the Sweetwater River, noise-related impacts would potentially occur to this species.

It is anticipated that the Project build alternatives may affect, but are not likely to adversely affect the least Bell's vireo.

No Build Alternative

Implementation of the No Build Alternative would not result in impacts to federally- or state-listed threatened or endangered species because no improvements are proposed.

2.20.4 Avoidance, Minimization, and/or Mitigation Measures

Locations of federally- or state-listed threatened or endangered species and their habitat have been identified and avoided to the maximum extent practicable by constructing retaining walls and minimizing the grading behind the walls.

Build Alternatives

The following are proposed measures to minimize impacts to federal- or state-listed threatened or endangered species during construction.

- All native vegetation and non-native shrubs and trees within the impact areas would be removed outside of the breeding season (February 15 to August 31) to avoid impacts to nesting birds. Otherwise, a qualified biologist would thoroughly survey all vegetation prior to removal during the breeding season to ensure there are no nesting birds within the impact area. If nesting birds are identified within the impact area, vegetation removal would be delayed until the nest no longer supports eggs or chicks.
- All pile driving along the Sweetwater River would be completed outside the breeding season of listed birds (March 15 to September 15) to minimize construction noise impacts to light-footed clapper rail and least Bell's vireo.
- Lighting used at night for construction would be shielded away from ESAs.

Impacts to coastal California gnatcatcher habitat and critical habitat would be minimized by off-site habitat preservation at Anderprise Mitigation Site at Otay Mesa. The Anderprise Mitigation Site includes canyons containing good quality coastal sage scrub and maritime succulent scrub habitat that supports coastal California gnatcatcher. Refer to Subchapter 2.16, Natural Communities, for additional details.

Impacts to habitat supporting least Bell's vireo and light-footed clapper rail (refer to Table 2.17-2) would be minimized through off-site creation and/or restoration of habitat, as discussed in Subchapter 2.17, Wetlands and Other Waters.

No Build Alternative

No avoidance, minimization, or mitigation would be required, because no Project-related impacts would occur under the No Build Alternative.

2.21 INVASIVE SPECIES

2.21.1 Regulatory Setting

On February 3, 1999, President Clinton signed EO 13112 requiring federal agencies to combat the introduction or spread of invasive species in the U.S. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” FHWA guidance issued August 10, 1999 directs the use of the state’s noxious weed list to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project.

2.21.2 Affected Environment

The NES prepared for the Project (September 2009) evaluates the biological resources and potential effects from invasive species within the BSA. Information presented in this subchapter is summarized from the NES.

Invasive, non-native plant species are frequently found growing in most of the habitat types located within the BSA, especially in regions that are directly adjacent to developed or disturbed areas or that have experienced frequent, heavy disturbance. For instance, areas labeled as disturbed habitat are primarily composed of invasive, non-native species such as mustards and various other leafy forbs and non-native grasses. Most invasive, non-native species encountered in San Diego County originated in southern Europe and Africa and were brought to California during colonial exploration and westward U.S. expansion. Many of those species have established within native habitats and become naturalized as part of the local flora. Non-native grasslands, for instance, typically establish within native habitats after disturbance or repeated fires (both natural and induced), creating a fragmented mosaic of native and non-native habitats. Most invasive species occur near developed areas and along highways.

Tamarisk (*Tamarix* spp.) species are a group of particularly invasive, deep-rooted shrubs that obtain water from permanent groundwater supplies or from the water table. Tamarisk can easily absorb large amounts of groundwater in disturbed riparian corridors and coastal marshes, and effectively alter the water regime in areas where it dominates. Tamarisk shrubs are also highly salt-tolerant and can survive extreme conditions of both drought and inundation and can thus establish quickly in riparian areas and overtake native growth. This species is considered one of the most aggressively invasive and prolific plant species in California and is extremely difficult to remove once established.

Giant reed (*Arundo donax*) is another highly invasive plant species that occurs along waterways and in wetland areas throughout the area. This species was introduced into California in the late 1800s and forms dense stands of growth that can reduce or replace native vegetation. Giant reed occurs along one of the tributaries to Sweetwater River, and along the south fork of Chollas Creek within the BSA.

Two species of invasive pampas grass occur in California. Frequently observed in coastal sage brush habitats, members of this genus can dominate an area, particularly if some other form of disturbance is present. Pampas grass was observed along Sweetwater River, downstream from the Plaza Bonita Road bridge.

Argentine ants (*Iridomyrmex humilis*) are also present in the BSA. These non-native insects were first brought to the U.S. on cargo ships carrying coffee from South America. The species quickly spread across the country where cool, moist conditions prevail, such as irrigated backyards. Argentine ants displace the native harvester ants (*Pogonomyrmex* sp.), posing a potential threat to wildlife that feeds on the native species. For example, the coast horned lizard feeds primarily on harvester ants and not the invasive Argentine ants. Both species of ants are present throughout the BSA.

Invasive amphibians can also impact populations of native aquatic plants and wildlife. The introduced bullfrog (*Rana catesbeiana*) is particularly destructive due to its voracious appetite and high reproductive rate. Because it has few natural predators, this species can quickly become established in a pond or stream and out-compete native species. Another successful introduced amphibian found in local watercourses is the African clawed frog (*Xenopus laevis*). This species also competes with native wildlife and can be detrimental to other amphibian species. Both of the above species were documented within the BSA.

Several non-native bird species have become naturalized in San Diego County. These species often thrive in urban environments and can compete with native species for nesting and foraging resources. Non-native bird species observed in the survey area include European starling (*Sturnus vulgaris*) and house sparrow (*Passer domesticus*).

2.21.3 Environmental Consequences

The build alternatives would occur in the same locations with similar Project footprints. The BSA is the same under both build alternatives. Therefore, the evaluation of potential impacts related to invasive species applies to both build alternatives.

Build Alternatives

The build alternatives would comply with the requirements of EO 13112. Any proposed landscaping would not include invasive plant species. Additionally, none of the species on the California list of noxious weeds is currently used by Caltrans for erosion control or landscaping.

There are already a number of aggressive invasive plant and animal species both on the slopes of I-805 and in the wetland habitats. Construction of the build alternatives presents the opportunity for these invasive species to spread. Ground disturbance during construction provides new opportunities for weeds to germinate. If minimization measures listed below are implemented and partnerships are formed with people working outside of the construction area, the growth of invasive species may be reduced. The construction of the build alternatives provides an opportunity to control some of the invasive plant species on the slopes of the Project. Through careful handling of the soil and equipment that works the soil, the invasive plants currently within the impact area can be controlled. Revegetation of the slopes would require maintenance to keep weed species from reinvading the new slopes.

Argentine ants have the potential to be imported to the site via proposed planting material. In addition, the availability of water from landscape any proposed irrigation systems also may encourage the invasion of Argentine ants. Irrigation water runoff into native habitat (existing or restored) can introduce Argentine ants into sensitive habitat where they can displace the native ants. Any bullfrogs within the survey area may be incidentally affected during clearing and grading. However, given that this species has a high reproductive rate its population may expand again following on-site restoration. The on-site restoration areas would be monitored for

these and other non-native animal species. Timing for eradication programs would depend on the pest species present and field conditions.

No Build Alternative

Under the No Build Alternative, no Project-related changes in invasive species would occur because no improvements are proposed.

2.21.4 Avoidance, Minimization, and/or Mitigation Measures

The following are proposed measures to minimize impacts from invasive species during construction.

Build Alternatives

There are several invasive weed species already growing within the R/W along I-805.

- Special care would be taken when transporting, using, and disposing of soils with invasive weed seeds.
- All heavy equipment would be washed and cleaned of debris prior to entering a riparian area, to minimize spread of invasive weeds.
- Plant material to be used for the Project would be inspected to ensure that no Argentine ants are imported with the plants.

No Build Alternative

No avoidance, minimization, or mitigation would be required, because no Project-related impacts would occur under the No Build Alternative.

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2.22 CUMULATIVE IMPACTS

2.22.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this Project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial, impacts taking place over a period of time.

Cumulative impacts to resources in the Project area may result from residential, commercial, industrial, institutional, transit, and highway development. These land use activities can degrade biological habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They also can contribute to potential community impacts identified for the Project, such as changes in community character, traffic patterns, noise, air quality, housing availability, and employment.

CEQA Guidelines, Section 15130, describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under NEPA can be found in 40 CFR, Section 1508.7 of the CEQ Regulations.

2.22.2 Affected Environment

Determination of which resources to include in the cumulative analysis is based on the analysis in Chapter 2.0 of this Draft EIR/ EA, which documents the degree of impact for each resource area per NEPA and CEQA guidance. Pursuant to the Caltrans guidance, the cumulative impact analysis should focus only on: “(1) those resources significantly impacted by the project; and (2) resources currently in poor or declining health or at risk even if project impacts are relatively small (less than significant).” The analysis of cumulative impacts for this Project includes Visual/Aesthetics, Natural Communities, and Wetlands and Other Waters.

Current and reasonably foreseeable projects in the Resource Study Areas (RSAs) are identified in Table 2.22-1. Although the Project length is approximately 11.4 miles, only six proposed cumulative projects were identified, because the vast majority of the RSAs are already built out.¹ The cumulative projects that are analyzed within this section include three new retail/commercial buildings and four single-family residences within the City of San Diego, two freeway improvement projects, and two transit projects.

¹ Although the Project CIA (*Interstate 805 Managed Lanes South Project Community Impact Assessment*, March 2010) identified several projects within the jurisdictions that the Project site traverses, most of them consist of tenant improvements (e.g., water heater replacements), minor additions, remodels, and signage. This is indicative of the urbanized and built out nature of the Project area.

Table 2.22-1 CUMULATIVE PROJECTS		
Name/Location	Project Description	Status
3201, 3223, and 3245 University Avenue, City of San Diego	Three new retail/commercial buildings	Permits Issued
4904, 4908, 4912, and 4920 Nogal Street, City of San Diego	Four new single-family residences, each with four bedrooms, three bathrooms, and two-car garage	Permits Issued
Mid-City Rapid Bus, City of San Diego	A 10-mile BRT line between San Diego State University and downtown San Diego Along El Cajon and Park Boulevards	Preliminary Engineering and Environmental Complete
I-805 Southbound Auxiliary Lane Project, City of Chula Vista	Two SB auxiliary lanes along I-805 between SR 54 and Bonita Road	Under construction
South Bay BRT, County of San Diego and cities of Chula Vista, National City, and San Diego	A 21-mile BRT line between Otay Mesa Port of Entry and downtown San Diego via Chula Vista, I-805, and SR 94	Preliminary Engineering and Environmental Phase
SR 94 High Occupancy Vehicle Lanes, City of San Diego	Construct two HOV lanes between I-5 and I-805	Preliminary Engineering and Environmental Phase

2.22.3 Environmental Consequences

The build alternatives would occur in the same locations with similar Project footprints, and the RSAs are therefore the same under both build alternatives. The following discussion addresses cumulative effects to Visual/Aesthetics, Natural Communities, and Wetlands and Other Waters associated with both build alternatives and the No Build Alternative in conjunction with the cumulative projects listed above.

Visual/Aesthetics

Build Alternatives

The Project site is located in a developed area characterized by urban development comprised of various land uses (i.e., residential, commercial, industrial), as well as numerous roadways, overcrossings, undercrossings, and freeway interchanges. The RSA for visual/aesthetics encompasses the Project viewshed. Visual resources in the viewshed are few and include finger canyons, hillsides, areas of native vegetation, the Sweetwater River valley, and other drainages.

Three of the cumulative projects are located within the viewshed of the I-805 freeway, including the I-805 Southbound Auxiliary Lane Project, the South Bay BRT, and the SR 94 HOV Lanes. The I-805 Southbound Auxiliary Lane Project and the South Bay BRT projects entail implementation of roadway and transit improvements and would not introduce new dominant features into the visual environment. The other transportation project, SR 94 HOV Lanes, would result in similar features as the Project, including HOV lanes in the freeway median, an HOV direct connector ramp, and possible retaining walls and noise barriers. These features would be

dominant visual elements along the SR 94 corridor, including the area near the I-805/SR 94 interchange.

The Project, would change the visual character of I-805 south corridor in that it would become noticeably more urbanized, and existing open views from the freeway would be severely diminished due to the expansion of the paved width of the freeway, construction of numerous retaining walls and noise barriers along the corridor, and the removal of most of the existing freeway landscaping. Views from the freeway would encompass expanded pavement, new walls, new and widened structures, and associated freeway appurtenances (e.g., gantries, signage, and lighting). These additional features, in combination with the features introduced by the cumulative projects, would add dominant visual elements to the built environment resulting in an intensification of the urbanized area. The Project therefore would contribute to cumulative visual effects.

No Build Alternative

Under the No Build Alternative, the Project would not be constructed and the proposed visual elements would not be introduced into the overall visual environment. The No Build Alternative, therefore, would not contribute to cumulative visual impacts.

Natural Communities

Build Alternatives

Development over time throughout the south San Diego County has reduced the amount of native habitat and species in the region. The regional decline in native habitats and the plant and wildlife species they support has resulted in countywide conservation efforts. The San Diego MSCP was developed as a regional plan to provide for the long-term preservation of sensitive plant and animal species and natural vegetation within the San Diego County, while allowing for continued economic development within the region. Implementation of the MSCP is intended to improve the declining health of this resource.

The Project area is largely built out with open spaces limited to finger canyons between residential neighborhoods, the Sweetwater River corridor, Chollas Creek, and other minor drainages. This urbanized development pattern continues west and east of the Project site. The RSA for natural communities is therefore inland south San Diego County bounded by 30th Street and I-5 (south of 30th Street) to the west, I-8 to the north, SR 125 to the east, and East Orange Street/Olympic Parkway to the south. This RSA encompasses the Project site and surrounding urbanized development.

Development along the I-805 corridor has impacted native habitat within the RSA for natural communities. The Project would impact a total of 16 acres of sensitive upland habitat (including permanent impacts to 9 acres and temporary impacts to 7 acres) and sensitive species associated with that habitat, as described in Subchapters 2.16. The Project would also impact territories of the coastal California gnatcatcher within the already constrained habitats along the I-805 south corridor. The cumulative projects could incrementally add to the loss of natural communities within the RSA, although the magnitude of impacts is expected to be similar to the Project given the mostly urbanized nature of the RSA. Project impacts to natural communities, combined with the incremental impacts of cumulative projects, would be cumulatively considerable.

No Build Alternative

Under the No Build Alternative, the Project would not be constructed and sensitive habitat and associated sensitive species would not be impacted. No regional loss of habitat would occur. The No Build Alternative, therefore, would not contribute to cumulative impacts to natural communities.

Wetlands and Other Waters

Build Alternatives

Development over time throughout the south San Diego County has reduced wetlands in the region, resulting in a general decline of wetland resources. Within the urbanized Project area, wetlands are limited to Sweetwater River, Chollas Creek, associated tributaries, and other minor drainages between developed neighborhoods. These wetland and riparian areas are fed by Sweetwater River and Chollas Creek, which are the major water bodies along the Project corridor. Therefore, for the purposes of this cumulative discussion, the RSA is defined as the watersheds associated with these water bodies, including the Sweetwater Watershed and the Pueblo San Diego Watershed. The Sweetwater Watershed encompasses approximately 230 square miles within the cities of San Diego, Chula Vista, and National City. Within the Project site, this watershed is contained within the southern portion of the Project to near East 18th Street to the north. The Pueblo San Diego Watershed occurs in the northern section of the Project area, encompassing approximately 60 square miles within the City of San Diego and National City. These watersheds are mostly developed with some areas of native habitat.

As discussed in Subchapter 2.17, the Project would impact 3.1 acres of wetland and riparian habitats, 2.71 acres of ACOE jurisdictional areas, and 3.87 acres of CDFG jurisdictional areas. Project impacts would occur along portions of Sweetwater River and Chollas Creek and their tributaries, as well as several other minor drainages. Development of some of the cumulative projects could result in similar impacts to wetlands and jurisdictional areas, such as the SR 94 HOV Lanes and South Bay BRT projects. Project impacts to wetlands and jurisdictional areas, combined with the incremental impacts of cumulative projects, would be cumulatively considerable.

No Build Alternative

Under the No Build Alternative, the Project would not be constructed and wetlands and jurisdictional areas would not be impacted. No regional loss of these resources would occur. The No Build Alternative, therefore, would not contribute to cumulative impacts to wetlands and other waters.

2.22.4 Avoidance, Minimization, and/or Mitigation Measures

Build Alternatives

Visual/Aesthetics

Visual mitigation for the Project's contribution to cumulative visual effects would consist of implementation of applicable landscape design guidelines in consultation with the District 11 Landscape Architect. Specific elements and recommendations of the landscape design guidelines are identified in Subchapter 2.6, Visual/Aesthetics.

Natural Communities

Avoidance and minimization measures for cumulatively considerable impacts to natural communities are listed in Subchapter 2.16.

Wetlands and Other Waters

Avoidance and minimization measures for cumulatively considerable impacts to wetlands and other waters are listed in Subchapter 2.17.

No Build Alternative

No avoidance, minimization, or mitigation measures would be required because no improvements are proposed under the No Build Alternative.

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CHAPTER 3.0

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) EVALUATION

CHAPTER 3.0 – CALIFORNIA ENVIRONMENTAL QUALITY ACT EVALUATION

3.1 DETERMINING SIGNIFICANCE UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

The Project is a joint project by Caltrans and the FHWA and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both CEQA and NEPA. FHWA's responsibility for environmental review, consultation, and any other action required in accordance with NEPA and other applicable federal laws for the Project is being, or has been, carried out by Caltrans, under its assumption of responsibility pursuant to 23 USC 327. Caltrans is the lead agency under CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or some lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the Project, and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of mandatory findings of significance, which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of the Project and CEQA significance.

3.2 DISCUSSION OF SIGNIFICANCE OF IMPACTS

3.2.1 Less Than Significant Effects of the Project

As discussed in Chapter 2.0, the Project would have no adverse potential significant impacts on the following resources:

- Coastal Zone
- Wild and Scenic Rivers
- Farmlands/Timberlands
- Land Use
- Growth
- Community Impacts
- Utilities/Emergency Services
- Cultural Resources
- Hydrology and Floodplain

- Water Quality and Storm Water Runoff
- Geology/Soils/Seismic/Topography
- Paleontology
- Hazard Waste/Materials
- Air Quality
- Natural Communities
- Wetlands and Other Waters
- Plant Species
- Animal Species
- Threatened and Endangered Species
- Invasive Species

Please refer to the respective subchapters in Chapter 2.0 for a detailed discussion of these issues.

Noise

When determining whether a noise impact is significant under CEQA, a comparison is made between the baseline noise level and the build noise level. The CEQA noise analysis is completely independent of the NEPA analysis discussed in Subchapter 2.14, Noise, which focuses on noise abatement criteria. Under CEQA, the assessment entails establishing the baseline (existing) noise environment and then determining how large or perceptible Project-related noise increases would be in the given area. Key considerations include the uniqueness of the setting, the sensitive nature of the noise receptors, the magnitude of the noise increase, the number of residents affected, and the absolute noise level. The following CEQA noise analysis is based on the noise data contained in the NSR prepared for the Project (*Noise Study Report, Interstate 805 Managed Lanes South Project, 11-SD-805, PM4.4/15.7, EA: 11-08161, September 2009*).

The NSR assesses the potential noise impacts associated with the Project. Noise impacts are presented in Subchapter 2.14, where tables for each segment show the existing traffic noise levels and predicted noise levels for the build alternatives. The proposed build alternatives would increase noise levels between 1 and 5 dBA in most locations by 2030, with a few areas potentially experiencing an increase between 6 and 12 dBA. Soundwalls are recommended at various locations to abate for highway traffic noise. Implementation of proposed noise abatement would reduce noise impacts to less than significant.

3.2.2 Significant Environmental Effects of the Proposed Project

Traffic/Transportation/Pedestrian and Bicycle Facilities

Potential traffic impacts of the Project were evaluated in two traffic reports prepared for the Project (*Interstate 805 Managed Lanes South Project – Final Existing Conditions and Traffic Operations Analysis Report, July 2009*; and *Interstate 805 Managed Lanes South Project – East Palomar Direct Access Ramp and East Palomar, H Street and Plaza Boulevard Park-and-Rides Local Circulation System Traffic Study, June 2009*). Refer to Subchapter 2.5, Traffic and Transportation/Bicycle and Pedestrian Facilities, and the two reports for more detailed traffic data. The analysis and conclusions in this section are based on traffic data contained in these reports.

Freeway Segments

The Project would improve the overall efficiency of the transportation network in the Project area, including I-805. Proposed transit/transportation facilities in the Project area include in-line transit stations at the East H Street overcrossing and at the East Plaza Boulevard undercrossing, a DAR at the East Palomar Street overcrossing, a HOV/transit direct connector ramp at SR 15, and a Managed Lanes facility. The DAR at East Palomar Street would serve to increase access and transfer needs for existing local and express bus routes and would accommodate planned BRT services. Together with the I-805 Managed Lanes Facility, augmented transit service would be provided in the Project vicinity. The Managed Lanes would improve capacity for both HOV, and transit users. In addition, the new Managed and HOV/transit lanes would redirect traffic trips from the general purpose lanes to the Managed and HOV/transit lanes. This modal shift would result in travel time savings along I-805 south. Refer to Tables 2.5-9 and 2.5-10.

General Purpose Lanes

The Project would degrade the LOS to E or F in the general purpose lanes of five freeway segments along SR 94 and one freeway segment along I-805 in the 2015 and 2030 build conditions (refer to Table 2.5-6). These freeway segments include:

WB SR 94 (AM peak period)

- Euclid Avenue NB off-ramp to Euclid Avenue SB on-ramp (2015)
- I-805 NB on-ramp to Home Avenue on-ramp (2030)
- SR 15 SB off-ramp to SR 15 SB on-ramp (2015)
- SR 15 SB on-ramp to 32nd Street off-ramp (2015 and 2030)
- 32nd Street off-ramp to 32nd Street on-ramp (2015 and 2030)
- 32nd Street on-ramp to 28th Street off-ramp (2015 and 2030)
- 28th Street off-ramp to 28th Street on-ramp (2030)

NB I-805 (AM peak period)

- East H Street off-ramp to East H Street EB on-ramp (2030)

Mitigation measures are identified in Section 3.4 of this chapter that would help reduce congestion on freeway segments.

Managed and High Occupancy Vehicle/Transit Lanes

Both build alternatives would include construction of two HOV/transit lanes (one in each direction) within the freeway median along the Project site in 2015. These lanes are projected to operate at or better than LOS C (refer to Table 2.5-7) for all segments.

Under 2030 with Project conditions, four Managed Lanes (two in each direction) or two HOV/transit lanes (one in each direction) would be constructed along most of I-805 south. As shown in Table 2.5-7, these lanes are projected to operate at LOS C or better, with the exception of the segment of I-805 SB from the SR 15 SB on-connector to the SR 94 EB on-connector during the PM peak period. This segment is forecasted to have 1,615 vehicles per hour, which is only 15 trips above the 1,600-vehicles per hour (LOS C) capacity assigned to the Managed and HOV/transit lanes. While the additional 15 trips on this HOV/transit lane segment would cause it to slip into operating at LOS D, the difference from LOS C would not be

substantial enough to result in a significant impact. Accordingly, impacts to Managed and HOV/transit lane segments are assessed as less than significant overall.

Roadway Segments

The Project would not cause any roadway segments to degrade to LOS E or F (refer to Table 2.5-13). Traffic volumes along two roadway segments that would operate at LOS E or F with or without the Project would slightly increase as a result of the Project. Traffic volumes along the segment of 43rd Street between Delta Street and the I-805 ramps would marginally increase by 70 daily trips, and traffic volumes along the segment of Telegraph Canyon Road between Nacion Avenue and the I-805 SB ramps would increase with the Project only by 1,450 ADT. These slight increases represent a less than one percent increase on the segment of 43rd Street and only a three-percent increase on the Telegraph canyon road segment, which would not be substantial.

Under 2030 build conditions, the Project would not cause any roadway segments to degrade to LOS E or F. Traffic volumes along two roadway segments that would operate at LOS E or F with or without the Project would increase slightly as a result of the Project. Specifically, the Project would add 570 ADT (one-percent increase) to East Plaza Boulevard from the I-805 NB ramps to Grove Street and 120 ADT (less than one percent) to 43rd Street from Delta Street to the I-805 SB ramps. These slight increases in ADT would not substantially affect traffic flows.

Intersections

Due to the new freeway access point created by the DAR at East Palomar Street, some traffic trips would be diverted from their original routes to East Palomar Street. Additionally, the new transit stations and park-and-ride lots also would divert trips to East H Street and East Plaza Boulevard. The diversion of trips created by the DAR, transit stations, and park-and-ride lots would result in the degradation of LOS at 6 intersections during the AM peak period and 10 during the PM peak period (refer to Table 2.5-14). Mitigation measures are identified in Section 3.4 of this chapter that would reduce significant traffic impacts to intersections.

Transit Operations

The build alternatives would facilitate planned BRT and regional transit operations along I-805 south, where there are currently no Managed or HOV/transit lanes. The proposed Managed and HOV/transit lanes would provide modal choices by constructing dedicated facilities for transit vehicles, allowing them to bypass the general purpose lanes, resulting in beneficial effects on the regional transit system. No impacts to transit operations would occur.

Pedestrian and Bicycle Facilities

Implementation of the build alternatives would not result in long-term effects on existing pedestrian and bicycle circulation patterns in the Project area. Project implementation would not permanently remove existing sidewalks or bicycle lanes on roadways along the I-805 south overcrossings and undercrossings. Sidewalks and bikeways impacted during widening/realignment of some of the freeway overcrossings and undercrossings would be replaced, and therefore not permanently impacted. Temporary disruptions may occur during construction activities, but alternate routes or detours would be provided. Any temporary impacts would be minimized by implementation of a TMP, as addressed below under the discussion of construction-related traffic impacts.

Construction Impacts

While the Project would generally result in beneficial impacts to traffic and transportation, temporary impacts would result during construction due to planned freeway and ramp closures. During Project construction, it is possible that some freeway segments would be closed in one direction in the nighttime. In addition, it may be necessary to temporarily close some of the entrance and exit ramps at interchanges within the Project area. Temporary detours may be required along some roadway segments as well. Temporary roadway, freeway, and ramp closures would result in diversion of through traffic to alternate routes; however, impacts would be minimized by scheduling construction during nighttime or early morning hours and through the implementation of a TMP. Given the temporary nature of the closures, the availability of alternate routes, and the implementation of a TMP, construction impacts to traffic and transportation would be less than significant.

Visual/Aesthetics

Potential visual impacts of the Project build alternatives were evaluated in a VIA prepared for the Project (February 2010). The analysis and conclusions in this section are based on the VIA, as well as on analysis contained in Subchapter 2.6, Visual/Aesthetics. The build alternatives would occur in the same locations with similar Project footprints and the Project viewshed would be the same for either build alternative. Therefore, the following analysis of visual/aesthetics impacts applies to both Build Alternative 1 and 2.

Seven key views were identified to illustrate typical views of the Project and surrounding area from locations accessible to the public, and how the proposed Project features would relate to the surrounding area (refer to Figures 2.6-2 through 2.6-8). Detailed descriptions of existing visual resources (in terms of visual character and visual quality) and resulting change to the visual character and quality are contained in Subchapter 2.6, Visual/Aesthetics. The build alternatives would result in varying levels of change to I-805 and the surrounding local streets, as summarized below.

Key View 1 – I-805 Looking South to the East Palomar Street Overcrossing

The proposed widening of I-805, elevated DAR structure, retaining walls, and noise barriers would introduce large-scale visual elements commonly associated with highly urbanized areas and would strongly contrast with the existing suburban parkway character of the freeway. Tall barriers at each edge of I-805 would restrict travelers' sense of space and confine their views to a substantially increased volume of paved surfaces and moving traffic. Loss of most non-paved areas for landscaping would severely limit the ability to replace landscaping and provide viewers with visual relief within the proposed facility. The resulting high level of change in the visual environment would result in significant visual impacts. Mitigation measures are identified in Section 3.4 of this chapter that would reduce these significant visual impacts.

Key View 2 – Looking Northeast from Nacion Avenue Near Theresa Way

Proposed retaining walls and noise barriers would introduce dominant features that would severely contrast with the character of the neighborhood. The spatial relationship of these features to the residences also would create an undesirable visual condition. The change to visual character would be high, resulting in significant visual impacts. Mitigation measures are identified in Section 3.4 of this chapter that would reduce these significant visual impacts.

Key View 3 – Looking West on East Plaza Boulevard Near the Northbound I-805 Off-ramp

The removal of freeway and street landscaping would lower visual unity, and large-scale elements (i.e., the freeway undercrossing and the roadway) would become even larger and lose a great deal of their visual buffering. Street widening would increase emphasis on the automobile and decrease the relative importance of the pedestrian realm (i.e., sidewalks and streetscape). The combined effect of these changes would create an urban character that would contrast substantially with the suburban character that now exists. The change to visual character would be high, resulting in significant visual impacts. Mitigation measures are identified in Section 3.4 of this chapter that would reduce these significant visual impacts.

Key View 4 – I-805 Looking North to the East 4th Street Overcrossing

The proposed widening of the freeway and construction of a retaining wall and noise barriers would bring an urban character to the viewshed. These large visual elements would contrast with the existing character of the freeway. In addition, visual quality would be reduced due to the addition of more paved surface areas, construction of a retaining wall, and removal of mature vegetation. The natural-appearing landform would be reduced to a much smaller and more obvious manufactured slope and the area would become more urban in character. The change to visual character would be high, resulting in significant visual impacts. Mitigation measures are identified in Section 3.4 of this chapter that would reduce these significant visual impacts.

Key View 5 – I-805 Looking East Near 47th Street

Two freeway widening options are proposed in this area. Both would have reconfigured ramps and surface streets. Under one option, the flyover ramps to NB I-805 would be replaced. The second option would remove the structures and revise the 47th Street/Palm Avenue interchange to provide access to the freeway from 43rd Street.

Removal of the flyovers would dramatically change the quality and character of the area. An already open area would become more open spatially by eliminating the structure that currently severs the continuity of the distant viewshed. Even with the additional pavement and road improvements, removing the dominant ramp structure would improve overall visual quality. No visual impacts would occur.

Replacement of the flyovers would result in very little change to the visual character and quality of the area since the existing structures would be replaced with new structures. The new structures would be more aesthetically pleasing than the existing ones in that they would incorporate design features consistent with other new and modified structures along the Project site. As a result, this option would slightly improve visual quality. No visual impacts would occur.

Key View 6 – I-805 Looking South to the Logan Avenue Overcrossing

The Project would remove existing roadside landscaping and retaining walls would be constructed. This change would cause a severe contrast to the existing visual character, and the viewshed would become more urban. Mitigation measures are identified in Section 3.4 of this chapter that would reduce these significant visual impacts.

Key View 7 – I-805 Looking North Adjacent to the Home Avenue Northbound On-ramp

The Project would replace natural forms and surfaces with horizontal and vertical concrete surfaces, changing existing visual character to one more urban. The loss of mature landscaping and introduction of dominant structures would contrast with the existing visual character. The resulting high level of change in the visual environment would result in significant visual impacts. Mitigation measures are identified in Section 3.4 of this chapter that would reduce these significant visual impacts.

Community Entry Points

At some freeway interchanges, the Project would include new visual elements that would be incompatible with existing visual character. Existing ornamental freeway landscaping would be reduced or replaced by drought-tolerant and/or native plant species. Storm water detention basins would be located at most interchange loop ramps. Standard features of such basins include maintenance vehicle roads, rock rip-rap slopes, concrete headwalls, standpipes, and chain-link fencing. These features would contrast with the existing visual character at most community entry points and would further reduce available landscape areas. The resulting visual impact would be significant. Mitigation measures are identified in Section 3.4 of this chapter that would reduce these significant visual impacts.

Proposed Transit Centers

Locating BRT platforms in the freeway median at East H Street in Chula Vista and East Plaza Boulevard in National City would affect the visual experience of transit riders. Transit users would negotiate their way towards their destination while encountering the realm of the automobile in increasing intensity from park-and-ride lot, to busy street, to freeway median. Five-foot wide sidewalks and street crossings on busy arterials, would combine to create significant visual impacts to pedestrians and transit users. Mitigation measures are identified in Section 3.4 of this chapter that would reduce these significant visual impacts.

The proposed East Palomar Street BRT facility would result in significant visual impacts to the adjacent neighborhood. The proposed DAR with adjacent street widening would introduce a freeway interchange environment to a residential street. Adjacent residential front and side yards would be reduced in size. Portions of the existing linear utility corridor would be developed with park-and-ride lots. Mitigation measures are identified in Section 3.4 of this chapter that would reduce these significant visual impacts.

Construction-related Impacts

The Project would result in temporary visual impacts during construction. The visual construction elements and staging areas would highly contrast with the existing visual environment surrounding the Project site. The elements would be large in scale and high in diversity, but not continuous or harmonious. They also would reduce the visual quality of the area creating low vividness, intactness, and unity. While they would be major changes to the visual environment, the visual impacts caused by construction would be temporary in nature, as discussed above. Most visual disruptions (i.e., construction staging) would be removed upon completion of construction in the area. Temporary construction-related visual impacts therefore would be less than significant.

3.3 CLIMATE CHANGE

3.3.1 Regulatory Setting

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. These efforts are primarily concerned with the emissions of GHG related to human activity that include carbon dioxide (CO₂), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with greenhouse gas emissions and climate change at the state level. AB 1493 requires the California Air Resources Board (CARB) to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year; however, in order to enact the standards California needed a waiver from the USEPA. The waiver was denied by Environmental Protection Agency in December 2007 and efforts to overturn the decision had been unsuccessful (see *California v. Environmental Protection Agency*, 9th Cir. Jul. 25, 2008, No. 08-70011). However, on January 26, 2009, it was announced that USEPA would reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a 35.5 mpg fuel economy standard for automobiles and light duty trucks which will take effect in 2012. On June 30, 2009 USEPA granted California the waiver. California is expected to enforce its standards for 2009 to 2011 and then look to the federal government to implement equivalent standards for 2012 to 2016. The granting of the waiver will also allow California to implement even stronger standards in the future. The state is expected to start developing new standards for the post-2016 model years later this year.

On June 1, 2005, Governor Arnold Schwarzenegger signed EO S-3-05. The goal of this EO is to reduce California's GHG emissions to: (1) 2000 levels by 2010, (2) 1990 levels by the 2020, and (3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of AB 32, the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." EO S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

With EO S-01-07, Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change. California, in conjunction with several environmental organizations and several other states, sued to force the USEPA to regulate GHG as a pollutant under the Clean Air Act (*Massachusetts vs. Environmental Protection Agency et al.*, 549 U.S. 497 (2007)). The court ruled that GHG does fit within the Clean Air Act's definition of a pollutant,

and that the USEPA does have the authority to regulate GHG. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting GHG emissions.

On December 7, 2009, the USEPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)--in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the USEPA's *Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles*, which was published on September 15, 2009¹. On May 7, 2010 the final *Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards* was published in the Federal Register².

The final combined USEPA and National Highway Traffic Safety Administration standards that make up the first phase of this National Program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon (MPG) if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards will cut greenhouse gas emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

According to *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), an individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines sections 15064(i)(1) and 15130. To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

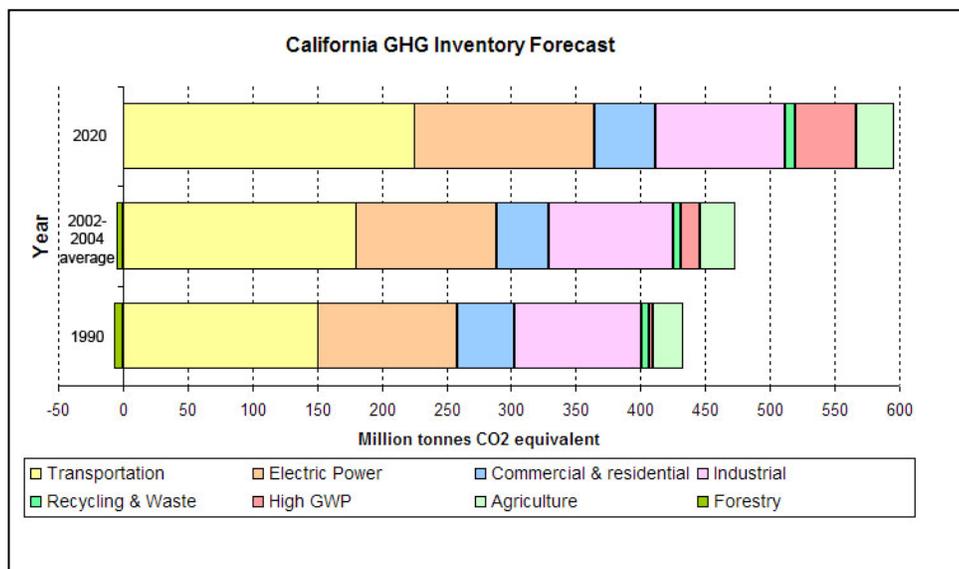
As part of its supporting documentation for the Draft Scoping Plan, CARB recently released an updated version of the GHG inventory for California (June 26, 2008). Shown below is a graph

¹ <http://www.epa.gov/climatechange/endangerment.html>

² <http://www.regulations.gov/search/Regs/contentStreamer?objectId=0900006480a5e7f1&disposition=attachment&contentType=pdf>

from that update that shows the total GHG emissions for California for 1990, 2002-2004 average, and 2020 projected if no action is taken.

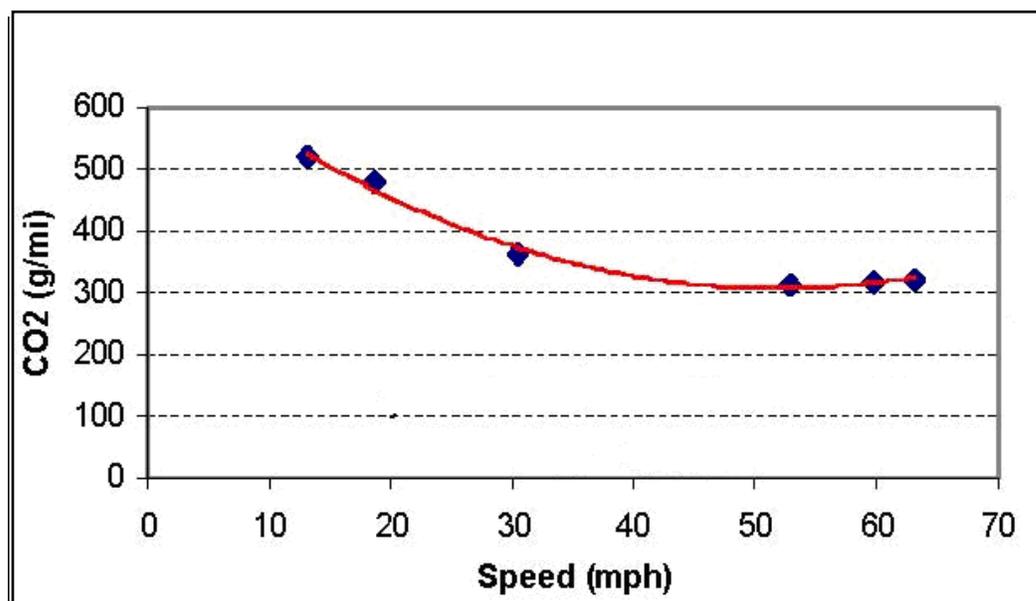
Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California’s GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation (Caltrans, 2006b), Caltrans has created and is implementing the *Climate Action Program at Caltrans* that was published in December 2006.



CALIFORNIA GHG INVENTORY
Figure 3-1

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California’s GHG emissions are from the burning of fossil fuels and 40 percent of all human-made GHG emissions are from transportation, Caltrans has created and is implementing the *Climate Action Program at Caltrans* (December 2006).

One of the main strategies in Caltrans’ Climate Action Program to reduce GHG emissions is to make California’s transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 mph; the most severe emissions occur from 0-25 miles per hour (see Figure 3-2 below). Relieving congestion by enhancing operations and improving travel times in high congestion travel corridors would lead to an overall reduction in GHG emissions.



FLEET CO₂ EMISSIONS VERSUS SPEED (HIGHWAY)
Figure 3-2

3.3.2 Project Analysis

GHG emissions associated with the Project are attributable to emissions from operations and construction. During operations, the Project would provide additional access to the I-805 and would alter traffic patterns in the Project area. The Project itself would not result in an increase in vehicular emissions within the air basin; however, as overall on-road vehicle trips would occur regardless of whether the Project is constructed. Refer to Subchapter 2.5 for additional discussion of the traffic impacts.

The Project would improve the overall efficiency of the transportation network in the Project area as compared to the No Build Alternative. Proposed transit/transportation facilities in the Project area include in-line transit stations at the East H Street overcrossing and at the East Plaza Boulevard undercrossing, a DAR at the East Palomar Street overcrossing, an HOV/transit direct connector ramp at SR 15, and a Managed Lanes facility. The DAR at East Palomar Street would serve to increase access and transfer needs for existing local and express bus routes and would accommodate planned BRT services. Together with the I-805 Managed Lanes, augmented transit service would be provided in the Project vicinity. The Managed Lanes would improve capacity for both HOV and transit users. In addition, the new Managed and HOV/transit lanes would redirect traffic trips from the general purpose lanes to the Managed and HOV/transit lanes. This modal shift would result in travel time savings along I-805 south. Refer to Tables 2.5-9 and 2.5-10.

The Project would be consistent with the 2030 RTP's flexible highway system concept and the identified regional managed/HOV lanes network. The 2030 RTP envisions a flexible highway system in which transit vehicles share lanes with carpools, vanpools, and toll-paying SOVs. The 2030 RTP also includes an extensive network of managed/HOV lanes, which are designed to operate at free-flow speeds and improve travel times for transit, HOVs, and in some cases

SOVs (for those paying a toll). The 2030 RTP recommends development of more than 200 miles of a Managed Lanes/HOV network along regional freeways, including I-805.

The Project also would accommodate existing transit and planned BRT operations along I-805 south. The planned BRT system would be connected to the managed and HOV/transit lanes via DARs, which allow BRT buses, HOVs and toll-paying SOVs to bypass existing freeway interchanges. In addition to the proposed Managed and HOV/transit lanes, the Project proposes to construct three transit stations, park-and-ride lots, and a DAR that would provide a direct link to the proposed Managed and HOV/transit lanes.

Quantitative Analysis

It is important to note that the CO₂ emissions numbers are only useful for a comparison between alternatives. The numbers are not necessarily an accurate reflection of what the true CO₂ emissions will be because CO₂ emissions are dependent on other factors that are not part of the model such as the fuel mix (EMFAC model emission rates are only for direct engine-out CO₂ emissions not full fuel cycle; fuel cycle emission rates can vary dramatically depending on the amount of additives like ethanol and the source of the fuel components), rate of acceleration, and the aerodynamics and efficiency of the vehicles.

As discussed in Chapter 1, projected population and commercial growth in the San Diego region will result in additional travel demand on the I-805 south corridor. As discussed in Section 2.5, Table 2.5-7, traffic volumes are expected to increase substantially along this corridor. Although traffic volumes will increase in the projected 2015 as well as the 2030 Build scenarios (Table 2.5-7) as a result of increased demand, the proposed additional managed lanes and the multi-modal options are not the causes of the increased demand but rather a means to accommodate the additional demand that will occur regardless of whether the Project is built or not. In 2015 and 2030, both the no build condition and the with Project condition are projected to have more vehicle hours travelled and greater traffic volumes than the existing condition. However, with the Project, future travel times (as shown in table 2.5-8 to 2.5-10 in this document) and future LOS (see Table 2.5-6) along this corridor will improve when compared to the future no build condition. Because the Project will result in less congestion and vehicle hours travelled when compared to the no build future condition, the Project is anticipated to result in lower GHG emissions when compared to the no build condition. As discussed below, this is also shown in the CO₂ modeling results for the project.

To estimate the potential effect of the proposed Project on San Diego regional GHG levels, the California ARB EMFAC 2007 vehicle emissions model for the San Diego Air Basin was used to calculate CO₂ emissions for the San Diego metropolitan area with and without the proposed Project. The results of the regional CO₂ emissions models are shown in Table 3-1.

Compared to the No Build Alternative, implementation of the build alternatives is estimated to reduce the 2015 and 2030 CO₂ emissions in the San Diego region by up to 140 and 70 tons per day (respectively). These decreases would be due to the decreased congestion along the corridor and improved travel times along the corridor.

**Table 3-1
AVERAGE DIFFERENCE IN REGIONAL CO₂ EMISSIONS**

Description	Regional CO ₂ Annual Avg. Emissions (tons/day)	Efficiency CO ₂ Savings (tons/day)
2015 No Build	53,580	--
2015 Build	53,440	140
2030 No Build	63,370	--
2030 Build	63,300	70

Note: EMFAC2007 model reporting limit = 10 tons/day

There are numerous key GHG variables that are likely to change dramatically during the design life of the Project and result in decreases in GHG emissions.

First, vehicle fuel economy is increasing. The USEPA's annual report, *Light-Duty Automotive Technology and Fuel Economy Trends: 1975 through 2008*, which provides data on the fuel economy and technology characteristics of new light-duty vehicles including cars, minivans, sport utility vehicles, and pickup trucks, confirms that average fuel economy has improved each year beginning in 2005, and is now the highest since 1993. Most of the increase since 2004 is due to higher fuel economy for light trucks, following a long-term trend of slightly declining overall fuel economy that peaked in 1987. These vehicles also have a slightly lower market share, peaking at 52 percent in 2004 with projections at 48 percent in 2008.

Second, near zero carbon vehicles would come into the market during the design life of this project. According to a March 2008 report released by University of California Davis (UC Davis), Institute of Transportation Studies:

Large advancements have occurred in fuel cell vehicle and hydrogen infrastructure technology over the past 15 years. Fuel cell technology has progressed substantially resulting in power density, efficiency, range, cost, and durability all improving each year. A number of the U.S. Department of Energy 2010 milestones for fuel cell vehicles development and commercialization are expected to be met by 2010. Accounting for a five to six year production development cycle, the scenarios developed by the U.S. DOE suggest that 10,000s of vehicles per year from 2015 to 2017 would be possible in a federal demonstration program, assuming large cost share grants by the government and industry are available to reduce the cost of production vehicles.

Third, and as previously stated, California has recently adopted a low-carbon transportation fuel standard. ARB is scheduled to come out with draft regulations for low carbon fuels in late 2008 with implementation of the standard to begin in 2010.

Fourth, driver behavior has been changing as the U.S. economy and oil prices have changed. In its January 2008 report, *Effects of Gasoline Prices on Driving Behavior and Vehicle Market*, the Congressional Budget Office found the following results based on data collected from California: (1) freeway motorists have adjusted to higher gas prices by making fewer trips and driving more slowly; (2) the market share of sports utility vehicles is declining; and (3) the average prices for

larger, less-fuel-efficient models have declined over the past five years as average prices for the most-fuel-efficient automobiles have risen, showing an increase in demand for the more fuel-efficient vehicles.

Construction Emissions

Construction GHG emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved TMPs, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

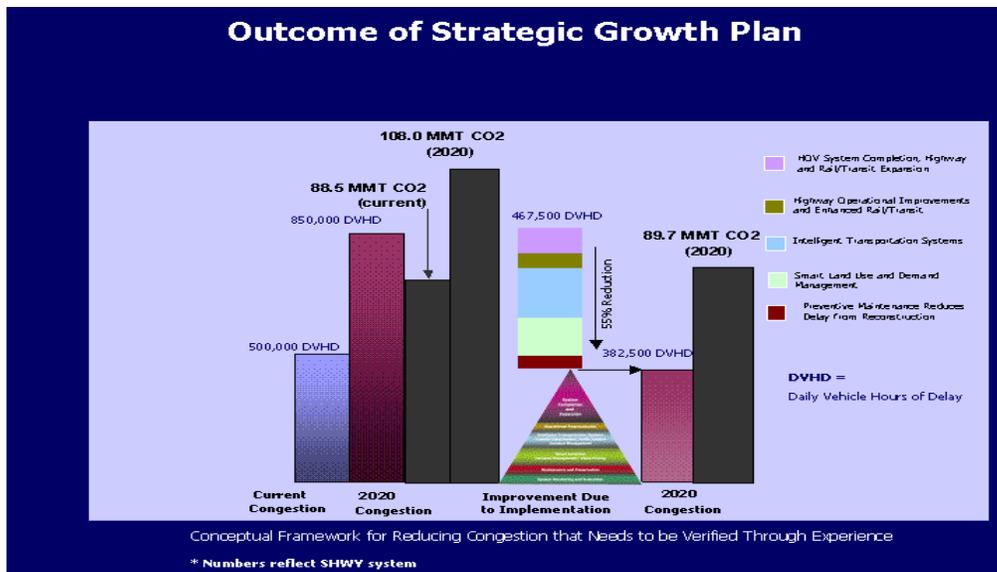
3.3.3 CEQA Conclusion

Caltrans does not anticipate any increase in GHG emissions with the Project when compared to the future No Build conditions. Nonetheless, Caltrans is taking further measures to help reduce energy consumption and GHG emissions. These measures are outlined in Table 3-2 in the following section. It is Caltrans' determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a determination regarding the Project's direct impact and its contribution on the cumulative scale to climate change.

3.3.4 AB 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as California ARB works to implement AB 1493 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year.

Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a \$222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including \$107 billion in transportation funding during the next decade. As shown Figure 3-3, the Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that together yield the promised reduction in congestion. The Strategic Growth Plan relies on a complete systems approach of a variety of strategies: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements.



OUTCOME OF STRATEGIC GROWTH PLAN
Figure 3-3

As part of the *Climate Action Program at Caltrans*, Caltrans is supporting planning jurisdiction efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies such as job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. Although Caltrans does not have the authority jurisdiction to make final local land use planning decisions, Caltrans is working closely with local jurisdictions on planning activities. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks. Caltrans is doing this by supporting ongoing research efforts at universities, by supporting legislation efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by the USEPA and California ARB. Lastly, the use of alternative fuels is also being considered; Caltrans is participating in funding for alternative fuel research at the University of California Davis.

Table 3-2 summarizes Caltrans and statewide efforts that Caltrans is implementing in order to reduce GHG emissions. For more detailed information about each strategy, please see *Climate Action Program at Caltrans*; it is available at <http://www.dot.ca.gov/docs/ClimateReport.pdf>.

**Table 3-2
CLIMATE CHANGE STRATEGIES**

Strategy	Program	Partnership		Method/Process	Estimated CO ₂ Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies and other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements and Intelligent Transportation Systems (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	0.007	2.17
Mainstream Energy and Greenhouse Gas into Plans and Projects	Office of Policy Analysis and Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational and Information Program	Office of Policy Analysis and Research	Interdepartmental, California Environmental Protection Agency (CalEPA), California Air Resources Board (ARB), California Energy Commission		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening and Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.45 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix	1.2 0.36	3.6
Goods Movement	Office of Goods Movement	CalEPA; California ARB; Business, Transportation, and Housing Agency; Metropolitan Planning Organizations		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.67

MMT = million metric tons

To the extent that it is applicable or feasible for the Project, and through coordination with the Project Development Team (PDT), the following measures would also be included in the Project to reduce the GHG emissions and potential climate change impacts resulting from the Project:

- The proposed Project would be designed to minimize removal of existing trees, especially mature trees.
- Caltrans and the California Highway Patrol are working with regional agencies to implement ITS to help manage the efficiency of the existing highway system. ITS is commonly referred to as electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.
- In addition, Caltrans and SANDAG provide ridesharing services and park-and-ride facilities to help manage the growth in demand for highway capacity.

The following "green" practices and materials would be used in the project as part of highway planting and erosion control work:

- Compost and soil amendments derived from sewage sludge and green waste materials
- Fiber produced from recycled pulp such as newspaper, chipboard, cardboard
- Wood mulch made from green waste and/or clean manufactured wood or natural wood

The State of California maintains several websites, which provide public information on measures to improve renewable energy use, energy efficiency, water conservation and efficiency, land use and landscape maintenance, solid waste measures, and transportation alternatives.

3.3.5 Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

Climate change adaption must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, Governor Schwarzenegger signed EO S-13-08, which directed a number of state agencies to address California's vulnerability to sea-level rise caused by climate change.

The Natural Resources Agency (previously known as the California Resources Agency), through the interagency Climate Action Team, was directed to coordinate with local, regional, state, and federal public and private entities to develop a state Climate Adaptation Strategy. The Climate Adaptation Strategy will summarize the best known science on climate change impacts to California, assess California's vulnerability to the identified impacts and then outline solutions that can be implemented within and across state agencies to promote resiliency.

As part of its development of the Climate Adaptation Strategy, the Natural Resources Agency was directed to request the National Academy of Science to prepare a Sea-level rise Assessment Report by December 2010 to advise how California should plan for this future anticipated event. The report is to include:

- Relative sea-level rise projections for California, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates;
- The range of uncertainty in selected sea-level rise projections;
- A synthesis of existing information on projected sea-level rise impacts to state infrastructure (such as roads, public facilities, and beaches), natural areas, and coastal and marine ecosystems; and
- A discussion of future research needs regarding sea-level rise for California.

Furthermore, EO S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level affecting safety, maintenance and operational improvements of the system and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea-level rise.

Prior to the release of the final Sea-level rise Assessment Report, all state agencies that are planning to construct projects in areas vulnerable to future sea-level rise were directed to consider a range of sea-level rise scenarios for 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea-level rise. However, all projects that have filed a Notice of Preparation, and/or are programmed for construction funding the next five years (through 2013), or are routine maintenance projects as of the date of EO S-13-08 may, but are not required to, consider these planning guidelines. Sea-level rise estimates also should be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge, and storm wave data. (EO S-13-08 allows some exceptions to this planning requirement). The NOP for the proposed Project was issued by the State Clearinghouse on May 30, 2007. It is exempt at this time from the requirements to analyze the impacts of sea level rise as directed in EO S-13-08.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted as part of Governor's Schwarzenegger's EO on Sea-level rise and is mobilizing to be able to respond to the National Academy of Science report on *Sea-level rise Assessment*, which is due to be released by December 2010. Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea-level rise and other climate change impacts, Caltrans has not been able to determine what change, if any, may be made to its design standards for its

transportation facilities. Once statewide planning scenarios become available, Caltrans will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea-level rise.

3.4 MITIGATION MEASURES FOR SIGNIFICANT IMPACTS UNDER CEQA

3.4.1 Traffic and Transportation/Pedestrian and Bicycle Facilities

A comprehensive TMP would be developed for the Project following selection of the preferred alternative, but prior to the start of construction. The objective of a TMP is to maintain the safe movement of vehicles through the construction zone, as well as to provide the highest level of traffic flow and access during construction periods. The Project TMP would implemented prior to, and throughout the construction period. Elements within the Project TMP would include the following:

- A public awareness program would notify the public about the Project and its potential effects through brochures, press releases, advertising, public meetings, construction bulletins, and Caltrans (District 11) website (<http://www.dot.dot.ca.gov/dist11/>).
- Motorist information strategies would include changeable message signs, ground-mounted signs, and the use of web cameras. These strategies would provide current road conditions and would enable motorists to make informed decisions about their own travel plans and options available for alternative routes.
- Incident management elements would include COZEEP, the FSP, and the TMT. Implementation of these elements would identify incidents that occur within the construction area and provide corrective action in a timely manner.

COZEEP provides CHP assistance and surveillance within construction areas, which can allow enforcement of speed limits and provide emergency response support within the work zones.

The FSP provides towing service and assistance to motorists during vehicles breakdowns.

The TMT would be involved in the planning and coordinating of major lane or freeway closures and can help evaluate signs for detours and provide advance warning to motorists in case of an accident or non-recurring congestion.

- Demand management techniques intended to reduce traffic volumes within the construction zones, including promoting variable work hours to vary peak travel times, installing temporary ramp meters and/or modifying existing ramp meters to control the volumes entering the freeway within the construction zones.

Ramp meters would be installed on all entrance ramps, which would allow for the control of volumes entering the freeway.

Affected intersections and roadways would be signalized and/or re-stripped, as required.

3.4.2 Visual/Aesthetics

Visual mitigation for cumulative visual effects would consist of implementation of applicable landscape design guidelines in consultation with the District 11 Landscape Architect. Specific elements and recommendations of the landscape design guidelines are identified in Subchapter 2.6, Visual/Aesthetics.

CHAPTER 4.0

COMMENTS AND COORDINATION

CHAPTER 4.0 – COMMENTS AND COORDINATION

4.1 INTRODUCTION

Early and continuing coordination with the general public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts, mitigation measures, and related environmental requirements. Agency consultation and public participation for the Project have been accomplished through a variety of formal and informal methods, including PDT meetings and interagency coordination. This chapter summarizes the results of Caltrans' efforts to fully identify, address, and resolve Project-related issues through early and continuing consultation.

4.2 PUBLIC SCOPING PROCESS

4.2.1 Notice of Preparation

Pursuant to CEQA, a Notice of Preparation (NOP) was prepared for the Project. The NOP was issued by the State Clearinghouse on May 30, 2007, and the review was completed on June 28, 2007. The State Clearinghouse number for the Project is 2007051150.

Comments on the NOP were received from the CDFG, Region 5; Native American Heritage Commission (NAHC); CHP, and DTSC.

4.3 CONSULTATION AND COORDINATION WITH PUBLIC AGENCIES

Caltrans and SANDAG held three open houses in April 2004 for the *I-805/I-5 Corridor Study*. The purpose of the open houses was to provide information to the public on the study and obtain the public's input on the proposed transportation improvement alternatives identified in the *I-805/I-5 Corridor Study*. Approximately 50 people attended the open houses in Chula Vista and the communities of City Heights and University City in the City of San Diego. Comments were received via email and at the workshops from 18 people and included suggestions regarding the various proposed alternatives and meeting locations and general comments about traffic, transit, and highways in the San Diego Region. Presentations were made at meetings of Community Planning Groups of the City of San Diego and the County of San Diego in September and October 2004.

Caltrans initiated the Projects Problems Options Plan process (P-O-P) in late 2006 and early 2007 to identify the scope of work and infrastructure needed to match the Managed Lanes concept outlined in the *I-805/I-5 Corridor Study* with the budget set forth in the Revenue Constrained Plan portion of the 2030 RTP. Six meetings were held between November 2006 and February 2007 with key stakeholders, including representatives from Caltrans; SANDAG; the FHWA; the cities of San Diego, National City, and Chula Vista; the San Diego MTS, and PDT members.

The PDT has met at applicable times since Project inception to facilitate coordination and keep an open dialogue between the Project team members, which includes Caltrans engineering and environmental staff, engineering consultants, and environmental consultants. The meetings have addressed engineering design, traffic considerations, and environmental issues.

Caltrans consulted with the USFWS on biological resources issues. The USFWS provided a list of federally listed or candidate species which occur or may occur in the Project study area; the list was confirmed in October 2009 (Appendix H). Agencies that may grant permits for the Project, including USFWS, CDFG, ACOE, and RWQCB will be further contacted as the Project progresses.

The NAHC was contacted for a records search of their Sacred Lands files. The results of the search indicated that no sacred lands are recorded in the Project area. Consultation with local Native American tribes was recommended, and a list of Native American contacts was provided. Letters describing the Project and a map of the study area were mailed to local Native American representatives in August and September 2009, and follow-up telephone calls were made in September 2009.

The HPSR and accompanying technical studies were sent to the SHPO on October 2, 2009, to: (1) document Native American consultation efforts; (2) identify cultural resources within the project APE; (3) seek its concurrence on NRHP/CRHR eligibility determinations; and (4) identify project effects to eligible resources. Caltrans requested that SHPO concur with the eligibility determinations and the Finding of No Adverse Effect with Standard Conditions [according to stipulations VIII.C.3 and X.B.2.a(ii) of the 106 PA]. On November 25, 2009, SHPO wrote that they did concur with the determinations and findings as presented in the HPSR. These letters are included at the end of this section.

4.4 PUBLIC PARTICIPATION

In July 2010, public community outreach meetings were held for the following community groups:

- City Heights Community Planning Group (July 5, 2010)
- Sweetwater Community Planning Group (July 6, 2010)
- Southeastern Community Planning Group (July 12, 2010)
- Eastern Area Community Planning Group (July 13, 2010)
- Otay Nestor Community Planning Group (July 14, 2010)
- Crossroads II (July 15, 2010)
- San Ysidro Community Planning Group (July 19, 2010)
- Otay Mesa Planning Group (July 21, 2010)
- Chula Vista Chamber of Commerce – Economic Development Committee (July 27, 2010)

At each public outreach meeting, a presentation was made to the community group board and members of the general public to describe the Project and receive questions. Questions primarily concerned the purpose of the Project, Project design and features, location of Project elements, trip reduction, property acquisition, soundwall placement and design, construction timeline, use of the new facilities, and funding.

SHPO Concurrence Request

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL DIVISION, MS-242
4050 TAYLOR STREET
SAN DIEGO, CA 92110
PHONE (619) 688-0187 / FAX (619) 688-4237

ARNOLD SCHWARZENEGGER, Governor



Flex your power! Be energy efficient!

Mr. Milford Wayne Donaldson
State Historic Preservation Officer (SHPO)
Office of Historic Preservation
P.O. Box 942896
Sacramento, CA 94296-0001
ATTN: Susan Stratton

Date: 10/01/2009

File: 11-SD-805
PM 4.4-15.7
EA 081610

Subject: *Historic Property Survey Report (HPSR)* Submitted Pursuant to the Section 106 PA; Determinations of Ineligibility; and Determinations of Eligibility.

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), is initiating consultation with the State Historic Preservation Officer (SHPO) regarding the South I-805 HOV Project. Enclosed please find the above referenced document, being submitted under stipulations of the Section 106 *Programmatic Agreement (PA)*, which became effective on January 1, 2004. The HPSR is intended to fulfill four of Caltrans' responsibilities under Section 106 of the Historic Preservation Act: determination of the Area of Potential Effects (APE); identification of potential historic properties within the APE; evaluation of identified resources for eligibility to the National Register of Historic Places (NRHP); and application of the Criteria of Adverse Effect. Under the PA, Caltrans is responsible for ensuring the appropriateness of the APE (Stipulation VIII.A), the adequacy of historic property identification efforts (Stipulation VIII.B), and evaluation of historic properties (Stipulation VIII.C). All of the above efforts culminated in the avoidance of impacts as resources were identified and evaluated. Caltrans has determined a **Finding of No Adverse Effect with Standard Conditions - ESAs**, according to Stipulation X.B(2) of the PA and 36 CFR 800.5(b), is appropriate for this undertaking, and is hereby notifying the SHPO of this finding.

The I-805 Managed Lanes South Project is located in southern San Diego County, from just south of East Palomar Street (PM 4.4), in the City of Chula Vista, continuing north through the I-805/SR-15 Freeway Interchange to Landis Street Overcrossing in the City of San Diego (PM 15.7) (Exhibit 1 of the HPSR). The project proposes to construct buffer separated HOV/Transit lanes in the freeway median with auxiliary lanes at various points along the freeway. Several transit areas and lane connectors are also proposed to be included in this project. The project covers a distance of approximately 11.4 miles (see Exhibits 2 and 3 of the HPSR). The proposed project will require easements and right of way takes. Although the majority of these impacts occur in sliver areas paralleling the freeway, there are six full right of way takes and two large parcels being acquired for park and ride lots. The APEs (both archaeological and built environment) are depicted in Exhibit 3 of the HPSR (Sheets 1-18).

Consultation and identification efforts for the South I-805 HOV Project (summarized in pages 2-13 of the attached HPSR) resulted in the identification of 5 archaeological resources and 102



— HPSR

Page 1 of 2

built environment properties that are at least fifty years old within or adjacent to the APE. One of these properties, **Granger Music Hall located at 1615 E. 4th Street** (Map Reference No. 3, Exhibit 3 – Sheet 9), which was previously listed or determined eligible for inclusion in the National Register of Historic Places, is present within the Project Built Environment APE.

Pursuant to Stipulation VIII.C.5 of the PA, Caltrans is requesting your concurrence with the following NRHP eligibility determinations for those properties within the Built Environment APE but immediately adjacent to the Area of Direct Impact (ADI):

1) Two built environment resources (architectural properties) are eligible to the NRHP: **4395 Beta Street** (Map Reference No. 1, Exhibit 3 – Sheet 8) and **Mausoleum, Holy Cross Cemetery located at 4471 Hilltop Drive** (Map Reference No. 2, Exhibit 3 – Sheet 5).

In addition, pursuant to Stipulation VIII.C.3, Caltrans is assuming that the following archaeological site is eligible for the purposes of this undertaking only: **CA-SDI-19463** (Exhibit 3 – Sheets 9 & 10). An Environmentally Sensitive Area (ESA) designation will be delineated at and around this site to ensure that the project will avoid this resource.

This enclosed HPSR documents Caltrans' Section 106 responsibilities and by applying the criteria of adverse effect, as described in 36 CFR 800.5, proposes a No Adverse Effect finding by imposing the Standard Conditions set forth in Stipulation X.B.2 of the PA.

We look forward to receiving your response regarding this HPSR within 30 days of your receipt of this submittal, in accordance with Stipulation VIII.C.5.a of the PA. If you need any additional information, please do not hesitate to contact Deb Dominici at (619) 688-0187 or Debra.Dominici@dot.ca.gov. Thank you for your assistance with this undertaking.



Kim T. Smith, Chief
Environmental Resource Studies

C: MRosen/D-11 HRC
DNagy/D-11 Environmental Files
JHupp/HQ Section 106 Coordinator
South Coastal Information Center-SDSU



– HPSR

Page 2 of 2

SHPO Concurrence Letter

STATE OF CALIFORNIA – THE RESOURCES AGENCY

ARNOLD SCHWARZENEGGER, Governor

**OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION**

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November 25, 2009

Reply To: FHWA091005A

Kim T. Smith, Chief
Environmental Resource Studies
Caltrans District 11
4050 Taylor Street
San Diego, CA 92110

Re: Determinations of Eligibility for the Proposed I-805 Managed Lanes South Project, south of East Palomar Street (PM 4.4), Chula Vista, CA

Dear Ms. Smith:

Thank you for consulting with me about the subject undertaking in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California (PA)*.

The California Department of Transportation (Caltrans) is requesting my concurrence that the archeological and built environment properties listed on pages 6-10 of the Historic Property Survey Report are not eligible for the National Register of Historic Places (NRHP). **I concur.**

Caltrans is also requesting my concurrence that the following properties are eligible for the NRHP for the following reasons:

- 4395 Beta Street is eligible for the NRHP under Criterion C at the local level of significance as the last and best example of the Queen Anne style in this area of San Diego. The period of significance is 1908.
- The Mausoleum at the Holy Cross Cemetery, located at 4471 Hilltop Drive, is eligible for the NRHP under Criterion C at the local level of significance as the work of a Master, Frank L. Hope, a famed San Diego architect.

Caltrans is also assuming that CA-SDI-19463 is eligible for the NRHP for the purposes of the project. An Environmentally Sensitive Area will be delineated at and around this site to ensure that the project will avoid this resource. Caltrans is therefore notifying me of the proposed finding of No Adverse Effect with Standard Conditions.

Based on my review of the submitted documentation, I concur with the above determinations/findings.

Ms. Smith
November 25, 2009
Page 2 of 2

Thank you for considering historic properties as part of your project planning. If you have any questions, please contact Natalie Lindquist of my staff at your earliest convenience at (916) 654-0631 or e-mail at nlindquist@parks.ca.gov.

Sincerely,

Susan H Stratton for

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

CHAPTER 5.0

LIST OF PREPARERS

CHAPTER 5.0 – LIST OF PREPARERS

This Draft EIR/EA was prepared by HELIX Environmental Planning, Inc. for Caltrans. The following persons participated in preparation of the Draft EIR/EA:

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HELIX Environmental Planning, Inc.

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- State Senate 39th District
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Attn: Jim Varnadore
- Encanto Neighborhoods Community
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- North Park Planning Committee
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San Diego, CA 92104
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- Otay Mesa Nestor Community
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Daniel Wagner, Chair
2277 Conifer Avenue
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- Otay Mesa Planning Group
Rob Hixon, Chair
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San Diego, CA 92101
- San Ysidro Community Planning Group
Michael Cather, Chair
3078 Wittman Way
San Ysidro, CA 92173-3114
- Southwest Chula Vista Civic Association
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- San Diego County Library
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- Chula Vista Elementary School District
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- National School District
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National City, CA 91950
- Willie Henderson Sport Complex
1035 South 45th Street
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- Sweetwater Union High School District
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- San Diego Unified School District
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- Jackie Robinson YMCA
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San Diego, CA 92102
- Holy Cross Cemetery
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CHAPTER 7.0

REFERENCES

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- 2009m Preliminary Foundation Report, I-805 Managed Lanes South Project - Unit 4, Home Avenue On-Ramp UC. July 22.
- 2009n Preliminary Foundation Report, I-805 Managed Lanes South Project - Unit 4, Home Avenue UC. July 22.
- 2009o Preliminary Foundation Report, I-805 Managed Lanes South Project - Unit 4, I-805/Route 15 HOV. July 22.
- 2009p Preliminary Foundation Report, I-805 Managed Lanes South Project - Unit 4, I-805/Route 94 HOV. July 22.
- 2009q Preliminary Foundation Report, I-805 Managed Lanes South Project - Unit 4, Market Street Off-Ramp OC. July 22.
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- 2009t Preliminary Foundation Report, I-805 Managed Lanes South Project - Unit 4, Ralene Street OC. July 22.
- 2009u Preliminary Foundation Report, I-805 Managed Lanes South Project - Unit 4, SB I-805/EB Route 94 Connector OC. July 22.
- 2009v Preliminary Foundation Report, I-805 Managed Lanes South Project - Unit 4, SB I-805/Route Separation. July 22.
- 2009w Preliminary Foundation Report, I-805 Managed Lanes South Project - Unit 4, SB Route 15/SB I-805 Connector OC. July 22.
- 2009x Preliminary Foundation Report, I-805 Managed Lanes South Project - Unit 4, Chollas Creek Bridge. July 31.
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APPENDIX A

CEQA CHECKLIST

CEQA Environmental Checklist

District 11 – SD – 805

PM 4.4/15.8

11-081610

Dist.-Co.-Rte.

P.M/P.M.

E.A.

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IV. BIOLOGICAL RESOURCES: Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VII. GREENHOUSE GAS EMISSIONS: Would the project:

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

An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

X. LAND USE AND PLANNING: Would the project:

a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

XI. MINERAL RESOURCES: Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XII. NOISE: Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIII. POPULATION AND HOUSING: Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

XIV. PUBLIC SERVICES:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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XV. RECREATION:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

XVI. TRANSPORTATION/TRAFFIC: Would the project:

- | | | | | |
|---|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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APPENDIX B

RESOURCES EVALUATED RELATIVE TO THE
REQUIREMENTS OF SECTION 4(F)

Appendix B:
Resources Evaluated Relative to the
Requirements of Section 4(f)
For the Interstate 805 Managed Lanes South Project
San Diego, California

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CHAPTER 1: INTRODUCTION

The following discusses existing properties adjacent to the proposed Interstate 805 Managed Lanes South Project (Project) that may warrant protection under Section 4(f) of the U.S. Department of Transportation Act of 1966. The discussion is prepared in support of the Draft Environmental Impact Report/Environmental Assessment (EIR/EA) being prepared for the Project. Figure 1 shows the locations of the potential 4(f) resources evaluated in this document. The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this Project is being or has been carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

Section 4(f) of the U.S. Department of Transportation Act of 1966, codified in federal law as 49 U.S.C. 303, declares that “[it] is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

Section 4(f) specifies that “the Secretary [of Transportation] may approve a transportation program or project...requiring the use of any publicly owned land from a public park, recreation area, wildlife and waterfowl refuge of national, State or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State or local officials having jurisdiction over the park, area, refuge, or site) only if:

1. There is no prudent and feasible alternative to using that land; and
2. The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from such use.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Department of Agriculture and the Department of Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

This evaluation is organized into three chapters: Chapter 1 provides an introduction and addresses regulatory language, Chapter 2 provides a brief description of the Project alternatives, and Chapter 3 identifies all potential Section 4(f) resources within a half mile radius of the Project and discusses potential impacts as related to Section 4(f).

CHAPTER 2: PROJECT ALTERNATIVES

Two build alternatives and one no build alternative are under consideration for the Project. These alternatives are briefly described below. Please refer to Chapter 1 of the Draft EIR/EA for a detailed description of the Project alternatives.

Build Alternative 1

The Project site is located approximately 1,700 feet south of the East Palomar Street overcrossing in the City of Chula Vista (post mile [PM] 4.4) to the Landis Street overcrossing in the City of San Diego (PM 15.8). The Project covers a distance of approximately 11.4 miles.

Build Alternative 1 proposes to construct four buffer-separated Managed Lanes between East Palomar Street and State Route (SR) 94, and two high occupancy vehicle (HOV)/transit lanes between SR 94 and Landis Street, all in the freeway median. Intermediate Access Points (IAPs) for vehicles to enter/leave the Managed Lanes are proposed at various points within the Project limits. The Project also includes an HOV/transit direct connector ramp to SR 15. Additional proposed transit features would include in-line transit stations at the East H Street overcrossing and at the East Plaza Boulevard undercrossing, a north-facing direct access ramp (DAR) at the East Palomar Street overcrossing, a transit station on East Palomar Street adjacent to the proposed DAR, and park-and-ride lots near the proposed transit stations and DAR. The proposed Managed Lanes facility would require minimal widening of the freeway right-of-way (R/W) along I-805 south. The Project also would require modification or replacement of some existing overcrossing and undercrossing structures within the Project limits. Retaining and noise walls would be constructed at various locations.

Build Alternative 2

Build Alternative 2 would be identical to Build Alternative 1, except that two HOV/transit lanes would be constructed in the southern portion of the Project site, between East Palomar Street and Telegraph Canyon Road. These lanes would be constructed instead of the four Managed Lanes planned within the freeway median between these two streets in Build Alternative 1. All other proposed features described above for Build Alternative 1 would be the same for Build Alternative 2.

No Build Alternative

The No Build Alternative is included to provide a basis against which the impacts from the build alternatives are compared and also to satisfy federal requirements for analyzing “no action” under NEPA. The No Build Alternative assumes that no Managed Lanes or HOV/transit lanes, transit stations, DAR, or other associated improvements would be constructed along I-805 south.

CHAPTER 3: DISCUSSION OF PROPERTIES

To create a comprehensive list of resources that could potentially be subject to evaluation under Section 4(f), Google Earth aerials and applicable General Plans and parks and recreation websites of the cities in which the resources are located were reviewed. In addition, the Project Historic Property Survey Report was reviewed to identify potential historic properties protected by Section 4(f). Potential Section 4(f) resources within 0.5 mile of the build alternatives are identified in Table 1 (from south to north) and their locations are shown in Figure 1. The identified properties were then researched to determine if they met the criteria for eligibility as Section 4(f) properties. Properties that are located over a half-mile from the Project site are not included in the analysis.

**Table 1
POTENTIAL SECTION 4(F) RESOURCES AND DISTANCE FROM THE PROJECT SITE**

Resource	Jurisdiction	Type	Distance From Project Site
Palomar Park	City of Chula Vista	Neighborhood Park	240 feet
Parkview Elementary	City of Chula Vista	Public School	0.3 mile
Palomar Elementary	City of Chula Vista	Public School	0.3 mile
Greg Rogers Park	City of Chula Vista	Community Park	0.25 mile
Kellogg Elementary	City of Chula Vista	Public School	0.4 mile
Rogers Elementary	City of Chula Vista	Public School	0.25 mile
Halecrest Elementary	City of Chula Vista	Public School	0.1 mile
Halecrest Park (Gayle L. McCandliss Park)	City of Chula Vista	Neighborhood Park	145 feet
Hilltop High	City of Chula Vista	Public School	130 feet
Sweetwater Regional Park	County of San Diego	Regional Park	45 feet
Rosebank Elementary	City of Chula Vista	Public School	0.25 mile
Lincoln Acres County Park	County of San Diego	Neighborhood Park	0.5 mile
Lincoln Acres Elementary	City of National City	Public School	0.3 mile
Las Palmas Park	City of National City	Public Park	110 feet
Granger Junior High	City of National City	Public School	0.5 mile
Las Palmas Elementary	City of National City	Public School	300 feet
Palmer Way Elementary	City of National City	Public School	0.5 mile
Granger Music Hall	City of National City	Historical Property	550 feet
El Toyon Park and Recreation Center	City of National City	Park and Recreational Facility	55 feet
Rancho La Nacion Elementary	City of National City	Public School	500 feet
El Toyon Elementary	City of National City	Public School	0.2 mile
National City Armory	City of National City	Armory and Military Police Facility	225 feet
Beta Street Residence	City of San Diego	Historical Property	200 feet
Willie Henderson Sports Complex and Fieldhouse	City of San Diego	Recreational Facility	95 feet
Knox Elementary	City of San Diego	Public School	0.2 mile
Walter Porter Elementary	City of San Diego	Public School	375 feet
South Crest Park and Recreation Center	City of San Diego	Park and Recreational Facility	0.5 mile

**Table 1 (cont.)
POTENTIAL SECTION 4(F) RESOURCES AND DISTANCE FROM THE PROJECT SITE**

Resource	Jurisdiction	Type	Distance From Project Site
Kennedy Elementary	City of San Diego	Public School	250 feet
John F. Kennedy Park	City of San Diego	Community Park	930 feet
Lincoln High	City of San Diego	Public School	0.15 mile
Chollas Mead Elementary School	City of San Diego	Public School	0.1 mile
Holy Cross Cemetery Mausoleum	City of San Diego	Historical Property	1,000 feet
Dennis V. Allen Park (Allen Park)	City of San Diego	Neighborhood Park	0.5 mile
Sunshine Berardini Field Park	City of San Diego	Neighborhood Park	315 feet
Rowan Elementary	City of San Diego	Public School	0.5 mile
Hollywood Park	City of San Diego	Neighborhood Park	80 feet
Azalea Park and Fieldhouse	City of San Diego	Neighborhood Park	85 feet
McKinley Elementary	City of San Diego	Public School	0.3 mile
Montclair Park	City of San Diego	Neighborhood Park	255 feet
Park De La Cruz	City of San Diego	Neighborhood Park	0.3 mile
Cherokee Point Elementary	City of San Diego	Public School	0.4 mile
Wabash Park	City of San Diego	Mini Park	530 feet
Edison Elementary	City of San Diego	Public School	0.3 mile

3.1 RESOURCES NOT PROTECTED BY SECTION 4(f)

Of the properties that were identified as potential Section 4(f) resources, 24 were determined not to be protected by Section 4(f) due to the fact they did not meet the definition of a Section 4(f) protected property.

Of those properties not protected by Section 4(f), 21 were public schools which are located within 0.5 mile of the Project. The schools are located in the San Diego, National City, Chula Vista, and Sweetwater School Districts. These facilities are not open to the public after school hours so they do not meet the definition of a Section 4(f) protected property.

The National City Armory is located at 303 Palm Avenue in the City of National City. The building was constructed in 1949 in a functional military style as an armory. Alterations to the property took place in 1960, 1963, and 1965. The facility has continuously been used as an armory and military police facility from the time of its construction to the present. It is not a Section 4(f) resource because it is not eligible for listing on the National Register of Historic Properties (NRHP). Therefore, it does not meet the criterion of an eligible historic property under Section 4(f). Refer to Subchapter 2.7, Cultural Resources in the Draft EIR/EA for additional details.

Sunshine Berardini Field Park is a park owned by the City of San Diego but leased to the Sunshine Little League, which provides youth t-ball, baseball, and girls softball. The park is located directly north of Federal Boulevard in the Chollas Creek area of San Diego, approximately 100 feet east of the I-805 project alignment. The park is closed to the public except for the hours of operation for the Sunshine Little League, for this reason it does not meet the criteria of a Section 4(f) property.

3.2 SECTION 4(F) RESOURCES ASSESSMENT PER TEMPORARY OCCUPANCY CONSIDERATIONS

Special consideration is given to the temporary occupancy of Section 4(f) land. If the following five conditions set forth in 23 CFR 774.13(d) can be satisfied, Section 4(f) will not apply:

- Duration of occupancy must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
- Scope of the work must be minor, i.e., both the nature and magnitude of the changes to the 4(f) resource must be minimal;
- There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities or purposes of the resource, on either a temporary or permanent basis;
- The land being used must be fully restored, i.e., the resource must be returned to a condition which is at least as good as that which existed prior to the project, and
- There must be documented agreement of the appropriate Federal, State, or local officials having jurisdiction over the resource regarding the above conditions.

The following discussion covers the property where the above five conditions have been met and it is determined that potential impacts constituted temporary occupancy and Section 4(f) is not triggered.

Halecrest Park

Halecrest Park, also known as Gayle L. McCandliss Park, is a neighborhood park leased by Caltrans to the City of Chula Vista. The park is located immediately west of Halecrest Elementary School (475 East J Street) on East J Street in Chula Vista, approximately 145 feet east of the I-805. The park contains barbecue facilities, open green space, a picnic area, and playground equipment. Primary park access is via East J Street. Given the public ownership and access of the park, Halecrest Park is a 4(f) resource.

Halecrest Park directly abuts the I-805 alignment along its western boundary and is marked by a vegetation covered chain link fence. I-805 was constructed below grade of the surrounding topography. Park facilities are set back from the Project boundary, and are located outside of the I-805 R/W, such that any activities occurring within the I-805 R/W would not be visible from most areas of the park.

The Project proposes a retaining wall adjacent to the bridge abutment in the vicinity to the park, along the eastern side of the I-805 alignment, within the I-805 R/W. The Project also proposes

local roadway improvements along East J Street and the Halecrest Park driveway. Improvements along East J Street and construction of the retaining wall could result in temporary park access impacts during construction. The work would include tying in the East J Street improvements with the park's driveway. Storage of material would not be permitted in the park and work on the street and driveway would be scheduled when street lane closures are permitted (typically night time hours). During the design phase of the Project, special provisions would be put in place to limit the work at the driveway to reduce access impacts to the park's driveway.

The duration of the occupancy of Halecrest Park for construction and access will be temporary and no change in ownership of the land would occur. The nature of the work would be minimal and would not cause permanent adverse physical impacts, nor would it interfere with the activities or purpose of the resource either on a temporary or permanent basis. The land being used would be fully restored after the temporary occupancy has occurred. Post-construction, roadway improvements, including park driveway improvements are anticipated to result in a beneficial effect to park access. Since the five conditions set forth in 23 CFR 774.13(d) can be satisfied, Section 4(f) will not apply to the work proposed at Halecrest Park. The appropriate local official having jurisdiction over this resource has been contacted and will be asked to concur on the above conditions and will be coordinated with through this Project's environmental and design process, as necessary.

Willie Henderson Sports Complex and Fieldhouse

The Willie Henderson Sports Complex and Fieldhouse is a recreational facility that is owned by the City of San Diego. The park is located at 1035 South 45th Street in San Diego, and is approximately 95 feet west of the I-805 Project alignment at the intersection of I-805 and Logan Avenue. Park amenities include four ball fields (one baseball field, two softball fields and one youth ball field), three multi-purpose fields for soccer and football, two outdoor multi-purpose courts for basketball and volleyball, two tot lots, picnic areas and a field house offering two meeting rooms, a kitchen, and restrooms. Access to the facility is from Logan Avenue. Given the public ownership and access to the park, Willie Henderson Sports Complex is a 4(f) resource.

Willie Henderson Sports Complex is located directly adjacent to the I-805, and is separated from the I-805 alignment by a vegetated slope. The Project would potentially construct a soundwall within the R/W that abuts the Willie Henderson Sports Complex and Fieldhouse. If the soundwall is constructed, a temporary construction easement could be required within the recreational complex. The construction easement, if required, would occur along the eastern edge of the facility and would not affect the use or function of the facility. The size of land needed for the temporary construction easement in the sports complex would be a minimal 0.05 acres. Implementation of the soundwall would not result in any permanent changes to the recreational area. Should the soundwall be constructed, it may result in a beneficial effect to noise levels at the sports complex. Since the five conditions set forth in 23 CFR 774.13(d) can be satisfied, Section 4(f) will not apply. The appropriate local official having jurisdiction over this resource has been contacted and will be asked to concur on the above conditions and will be coordinated with through this project's environmental and design process as necessary.

Azalea Park and Fieldhouse

The 9.0-acre Azalea Park and Fieldhouse is a designated neighborhood park located at 2596 Violet Street in the Azalea Park neighborhood, in the City Heights community of the City of San

Diego. Azalea Park is located 85 feet east of I-805, adjacent to the northbound on ramp from I-805 to I-15. The park includes a recreation center, basketball courts, children's play area, picnic tables, and open grass. Primary access to the park is via Poplar Street. Given the public ownership and access to the park, Azalea Park is a Section 4(f) resource.

Azalea Park is separated from the I-805 Project alignment by a vegetated buffer within the I-805 R/W, as well as by topography, as the I-805 alignment runs above the park elevation. Park built amenities, such as the children's play area and basketball courts, are set back at least 400 feet from I-805, separated by a lower-elevation, open green space area, and ringed with mature trees.

The Project would potentially construct a soundwall along the R/W that is adjacent to Azalea Park. The soundwall would not encroach into the park but a temporary construction easement could be required within the park for associated grading. Construction activities would not preclude the use of park facilities and amenities. The construction easement, if required, would occur along the western edge of the park located in an unusable area currently occupied by mounds of gardening mulch and would not affect the use or function of the facility. The temporary occupancy area within the park would be approximately 0.2 acres in size and would be required for approximately 3 months. Implementation of the soundwall would not result in any permanent changes to the recreational area. Should the soundwall be constructed, it may result in a beneficial effect to noise levels at the park. Since the five conditions set forth in 23 CFR 774.13(d) can be satisfied, Section 4(f) will not apply. The appropriate local official having jurisdiction over this resource has been contacted and will be asked to concur on the above conditions and will be coordinated with through this Project's environmental and design process as necessary.

Las Palmas Park

Las Palmas Park is an approximately 30-acre park owned by National City. The park houses the Luis Camacho Recreation Center, the National City Municipal Pool, ballfields, a snackbar, tennis courts, picnic areas, and playground equipment. The park is located at 1810 East 22nd Street in National City, approximately 110 feet west of I-805 off Newell Street. The western boundary of the park is adjacent to the National City Municipal Golf Course. Primary access to the park is provided off of Newell Street. Given the public ownership of the park and access of the park, Las Palmas Park is a 4(f) resource.

Las Palmas Park is separated from the I-805 alignment by a vegetated buffer located along the I-805 right-of way, and Newell Street, which runs parallel to the park's eastern boundary and the I-805 alignment. This portion of I-805 was constructed below the area's existing grade which shields the view of the roadway from the park. The Project would replace the existing 22nd Street pedestrian overcrossing (POC) that currently lands within Las Palmas Park. Replacement of the POC would require a temporary construction easement within the park, but would be limited to a small area (0.2 acre) at the new overcrossing landing location at the eastern edge of the park adjacent to I-805. The estimated time to demolish the existing POC and replace with a new one is six months. The remainder of the park would not be affected, and the active and passive park areas would remain functional throughout the construction period. Since the five conditions set forth in 23 CFR 774.13(d) can be satisfied, Section 4(f) will not apply.

In order to minimize the length of time the 22nd Street POC would be closed during demolition and construction, the new structure would be constructed adjacent to the existing POC if

practicable. During this time the existing POC would remain open the majority of the time for public use and upon completion of the new POC, pedestrian travel would be switched to the new POC with minimal closure during the switch. If during the design phase of this Project it is determined to be impracticable to construct an adjacent POC, then the residents in the immediate area would be notified of the dates and duration of the POC closure and alternate routes that are available to cross I-805.

The Project also proposes a possible soundwall along I-805 R/W and adjacent to Newell Street. Given the separation of park with I-805 R/W by Newell Street, indirect impacts are not anticipated to occur as a result of proposed soundwall. The park is situated in a highly urbanized area and already abuts up against a major regional transportation corridor. The potential construction of the soundwall would not introduce a visual element inconsistent with the area's visual environment. The construction of the soundwall will not impact any of the park's activities, features or attributes and would not cause a constructive use of Las Palmas Park due to proximity impacts. The appropriate local official having jurisdiction over this resource has been contacted and will be asked to concur on the above conditions and will be coordinated with through this Project's environmental and design process as necessary.

3.3 SECTION 4(f) RESOURCES EVALUATED FOR PROXIMITY IMPACTS

Constructive use (23 CFR 774.15) involves the evaluation of indirect or "proximity impacts" to a Section 4(f) resource. No actual use or "take" is involved. A constructive use occurs when the project's proximity impacts are so severe that the protected activities, features, or attributes that affords the resource for protection under Section 4(f) are "substantially impaired." Substantial impairment occurs only when the projected activities, features, or attributes are substantially diminished by the proposed project.

All historical properties, public and publicly accessed parks, recreational facilities, and wildlife refuges within approximately 0.5 mile of the Project site have been identified. The attributes contributing to the Section 4(f) resources have been inventoried and the effects of the Project on access, visual, noise, vegetation, wildlife, air quality, and water quality have been considered. It is has been determined that the Project would not result in a constructive use due to the Project's proximity to these resources. A brief discussion of these Section 4(f) resources is provided below.

Palomar Park

Palomar Park is a neighborhood park owned by the City of Chula Vista. It is located at 1359 Park Drive in Chula Vista, approximately 240 feet west of I-805, and southwest of the I-805 and East Palomar Street intersection. Palomar Park includes barbeque facilities, gazebos, picnic areas and open green space. Primary access to Palomar Park is off of Park Drive. Given the public ownership and access of the park, Palomar Park is a 4(f) resource.

Palomar Park is separated from the I-805 alignment by built-out residential land uses, Nacion Avenue, and a utility easement corridor directly south of and adjacent to the park, running in a southwest – northeast direction. The topography of the park and surrounding area along with the location of this segment of the I-805, shields the views of the interstate from the park. The Project does not propose work directly adjacent or within the park. The Project does propose a retaining wall along the western side of this portion of the Project alignment, within the I-805 alignment, and east of Nacion Avenue. The Project would not result in any direct or indirect impacts. Due to the existing visual setting between the park and the Project area, the park

would be shielded from any visual effect. Vegetation, wildlife, air quality, and water quality would remain similar to existing conditions. The Project would not impact any of the park's activities, features, or attributes and would not cause a constructive use of Palomar Park due to proximity impacts.

Greg Rogers Park

Greg Rogers Park is a community park owned by the City of Chula Vista. The park is located at 1189 Oleander Avenue, approximately 0.25 mile east of I-805, south of the I-805/East Naples Street intersection. The park houses a multi-use, maintenance, restroom, barbeque and covered picnic facilities, and four ball fields. The remainder of the park is open green space. Primary park access is via Oleander Avenue, into a gravel parking lot area. Given the public ownership and access of the park, Greg Rogers Park is a 4(f) resource. There would be no use as defined by Section 4(f) of any portion of the park, nor would its public access be affected.

The Project proposes a retaining wall and possible soundwall along the eastern side of the project alignment, extending north and south of the East Palomar Street and I-805 interchange. Greg Rogers Park is separated from the I-805 alignment by four city blocks of primarily residential development, plus a vegetated buffer area along the I-805 R/W. As such, no Project activities would result in a direct impact to the park. Due to the existing visual setting between the park and the Project area, the park would be shielded from any visual affect due to the Project and no other indirect impacts would occur. Vegetation, wildlife, air quality, and water quality would remain similar to existing conditions. The Project would not impact any of the park's activities, features, or attributes and would not cause a constructive use of Greg Rogers Park due to proximity impacts.

Sweetwater Regional Park

The Sweetwater Regional Park is a 540-acre regional park that is owned by the County of San Diego. The park is located in the unincorporated community of Bonita, stretching from east of the Sweetwater Reservoir, to the I-805 on the west, along jurisdictional boundaries of the City of Chula Vista, National City, and County of San Diego. The westernmost boundary of the park falls approximately 45 feet east of the I-805 Project alignment, at the southeast corner of the I-805 and SR-54 interchange. Park amenities include equestrian, hiking and biking trails; picnic areas; camping areas; greenbelt areas, and the Sweetwater River.

Away from the Project limits at the eastern section of the park is the Summit Site, atop a hill overlooking the Sweetwater Valley. It offers campsites, including some with corrals for equestrians. Below the summit is streamside vegetation, grassland, and open areas that provide a variety of habitats for hikers, horseback riders, and mountain bikers. Campers, trailers, motor homes, and tent camping are all options at the sites, all of which have water and electricity. Camp sites can accommodate trailers as long as 45 feet. Hot showers are available for all campers. One of the major attractions at the park is the pavilion. This covered structure and its kitchen facilities are especially suited for group campers. Given the public ownership and access of the park, Sweetwater Regional Park is a 4(f) resource.

The westernmost section of the Sweetwater Regional Park is adjacent to the I-805 northbound to SR-54 eastbound ramp, and separated by a landscaped slope. That connector would be realigned and the shoulders would be widened. The area within the park adjacent to the proposed Project work is a dense grove of *arundo donax* reeds that have grown around an existing park stormdrain. The portion of the ramp to be realigned is located within the R/W and

would not encroach into the park or the Sweetwater River. A retaining wall also is proposed along this connector to avoid grading into the adjacent park. The Project does not propose any actions within the park area. Given the disturbed invasive habitat of arundo reeds within the park adjacent to the Project improvements and the publically unusable drainage feature that precludes access to that section of the park, the proposed ramp realignment in Caltrans R/W would result in no visual or other indirect impacts. Vegetation, wildlife, air quality, and water quality would remain similar to existing conditions. The Project would not impact any of the park's activities, features, or attributes and would not cause a constructive use of Sweetwater Regional Park due to proximity impacts.

Lincoln Acres County Park

Lincoln Acres County Park is a 0.47-acre neighborhood day use park owned by the County of San Diego. It is located at 2717 Granger Avenue in National City, approximately 0.50 mile east of I-805 and north of SR 54, off of Ridgeway Drive. The park includes a children's playground, restrooms, and a community building. Access to the park is off of Granger Avenue. Given the public ownership and access of the park, Lincoln Acres County Park is a 4(f) resource.

Lincoln Acres County Park is separated from the I-805 alignment by approximately 0.5 mile of mostly built-out, primarily residential development on uneven hilly terrain. The Project does not propose any actions within or adjacent to the park area. Given the distance, development type and topography between Lincoln Acres Park and the Project alignment, no visual or other indirect impacts would occur. Vegetation, wildlife, air quality, and water quality would remain similar to existing conditions. The Project would not impact any of the park's activities, features, or attributes and would not cause a constructive use of Lincoln Acres County Park due to proximity impacts.

Granger Music Hall

The Granger Music Hall, located at 1615 East 4th Street in National City approximately 550 feet west of the Project site is named after Ralph Granger, the miner who commissioned it. Mr. Granger acquired a large collection of stringed instruments and commissioned the music hall near his family home in National City. The music hall was designed by famed architect Irving Gill and was listed on the NRHP in 1975. The Project does not propose any activities within or adjacent to the music hall. Given the distance and high density mixed urban development type between the music hall and the Project alignment, no indirect impacts are anticipated to occur as a result of proposed project implementation. The Project would not impact any of the hall's activities, features, or attributes that made it eligible on the NRHP and would not cause a constructive use due to proximity impacts.

El Toyon Recreation, Park, and Sports Facility

The El Toyon Park and Recreation Center is an approximately 25-acre recreational facility owned by National City. El Toyon Park houses a recreation center, basketball courts, tennis courts, baseball and football fields, picnic areas, playground equipment, and a horseshoe pit. The park is located at 2005 East 4th Street in National City, approximately 55 feet east of the I-805 project site, immediately north of East 4th Street. The section of the park that is adjacent to the Project alignment is a non park related utility corridor, vegetated slope and baseball field. Given the public ownership and access of the park, El Toyon Park is a 4(f) resource.

The Project would construct a retaining wall, a possible soundwall, and lane and shoulder widening within the R/W and adjacent to El Toyon Park. The Project does not propose any activities within the park. Given the location of the utility corridor and steep vegetated slope not usable for recreational purposes and the inability to see I-805 from the park, no visual or other indirect impacts would occur. The Project would not impact any of the park's activities, features or attributes and would not cause a constructive use of The El Toyon Park and Recreation Center due to proximity impacts.

The Project also proposes local roadway improvements to East 4th Street, located on the southern boundary of El Toyon Park. The construction activities would not directly impact the park and would occur adjacent to an unusable section of the park, which is a vegetated slope. Vegetation, wildlife, air quality, and water quality would remain similar to existing conditions. Local roadway improvements would not impact any of the park's activities, features, or attributes and would not cause a constructive use due to proximity impacts.

Beta Street Residence

The Beta Street Residence consists of a 2½-story house located at 4395 Beta Street approximately 200 feet west of the Project site. This house is representative of the Queen Ann style architectural style and appears to be eligible for listing on the NRHP. The Project does not propose any activities within or adjacent to the residence. Given the distance and dense mixed use urban development type between the residence and the Project alignment, no indirect impacts are anticipated to occur as a result of the proposed Project. The Project would not impact any of the residence's activities, features or attributes that make it eligible on the NRHP and would not cause a constructive use due to proximity impacts.

South Crest Park and Recreation Center

South Crest Park and Recreation Center is an approximately 10-acre park owned by the City of San Diego. The park is located at 4149 Newton Street in San Diego, and is approximately 0.5 mile west of the I-805 Project alignment, and south of the I-805 and Logan Avenue intersection. Park amenities include outdoor and indoor basketball courts, a tot lot, weight room, and community center. Access to the park is off of South 43rd Street and Newton Avenue. Given the public ownership and access to the park, South Crest Park is a 4(f) resource.

South Crest Park is separated from the I-805 alignment by approximately 0.5 mile of built environment consisting of primarily residential land uses. The Project does not propose any activities within or adjacent to the park. Given the distance, development type and topography between South Crest Park and the Project alignment, no visual or other indirect impacts would occur. Vegetation, wildlife, air quality, and water quality would remain similar to existing conditions. The Project would not impact any of the park's activities, features, or attributes and would not cause a constructive use due to proximity impacts.

John F. Kennedy Park

Also known as the Mid-City Athletic Area, the John F. Kennedy Park is a 40.88-acre community park that is owned by the City of San Diego. The park is located at 4801 Ocean View Boulevard in the Lincoln Park Neighborhood of San Diego, approximately 930 feet east of I-805, south of Lincoln High school and east of Porter Elementary school. Primary access to the park is provided via Ocean View Boulevard. Park amenities mostly consist of grass lawns. Given the public ownership and access to the park, John F. Kennedy Park is a 4(f) resource.

The John F. Kennedy Park is separated from the I-805 alignment by South 47th Street, residential uses, the Mount Erie Christian Academy, and Porter Elementary School. The Project proposes a retaining wall and possible soundwall along the I-805 alignment within the vicinity of John F. Kennedy Park. Given the separation of the park from the Project alignment by dense urban development and South 47th Street, no visual or other indirect impacts would occur. Vegetation, wildlife, air quality, and water quality would remain similar to existing conditions. The Project would not impact any of the park's activities, features, or attributes and would not cause a constructive use of John F. Kennedy Park due to proximity impacts.

Holy Cross Cemetery Mausoleum

The mausoleum at the Holy Cross Cemetery, located at 4471 Hilltop Drive approximately 1,000 feet east of the Project site, was constructed in 1939 and expanded in 1945 and 1956. It is the most noteworthy architectural feature of the Catholic cemetery, which was established in 1919. The structure was designed by famed San Diego architect Frank L. Hope in the Spanish Renaissance style. It was briefly designated as a fallout shelter, and the blue and gold dome of the building (added in 1956) is a landmark to commuters traveling on State Route (SR) 94. The structure appears to be eligible for listing on the NRHP. The Project does not propose any activities within or adjacent to Holy Cross Cemetery Mausoleum. The Project would not impact any of the structure's activities, features, or attributes that make it eligible on the NRHP and would not cause a constructive use due to proximity impacts.

Dennis V. Allen Park (Allen Park)

The Dennis V. Allen Park (Allen Park) is a 5.6-acre neighborhood park owned by the City of San Diego. The park is located at 686 Gateway Center Way in the Mount Hope neighborhood of the City of San Diego, approximately 0.50 mile west of the I-805 alignment, northwest of the intersection of Market Street and I-805. The park consists of open space, barbeque areas, a playground, restroom facilities, and a basketball court. Given the public ownership and access to the park, Allen Park is a 4(f) resource.

Allen Park is separated from the I-805 project alignment by approximately 11 blocks of primarily residential land uses. The Project does not propose any activities within or adjacent to the park. Given the separation of the park from the Project alignment by dense urban development no visual or other indirect impacts would occur. Vegetation, wildlife, air quality, and water quality would remain similar to existing conditions. The Project would not impact any of the park's activities, features, or attributes and would not cause a constructive use of Dennis V. Allen Park due to proximity impacts.

Hollywood Park

The approximately 13.2-acre Hollywood Park is located at 2600 Fairmount Avenue in the Hollywood Park neighborhood of City Heights in the City of San Diego. The westernmost boundary of Hollywood Park is located approximately 80 feet east of I-805, north of Home Avenue, and east of Fairmount Avenue. Primary access to Hollywood park is off of Juniper Street on the east side of the park. The neighborhood park serves the surrounding area with a children's play area, two softball fields, and picnic areas. Hollywood Park is the beginning of an inner city system of inter-connective canyon trails and is a regional center for youth soccer. Given the public ownership and access to the park, Hollywood Park is a 4(f) resource.

The eastern boundary of Hollywood Park is separated from the I-805 alignment by a vegetated buffer area of ornamental landscaping, which slopes downward from the park area to I-805. The interstate was constructed below grade of the surrounding topography. The Project does not propose any activities within the park. Work adjacent to the park would include mainline and shoulder work and the construction of a retaining wall within I-805 R/W with associated grading. Given the minor scope of work proposed by the Project adjacent to the park no visual or other indirect impacts would occur. Vegetation, wildlife, air quality, and water quality would remain similar to existing conditions. The Project would not impact any of the park's activities, features, or attributes and would not cause a constructive use of Hollywood Park due to proximity impacts.

Montclair Park

Montclair Park is a neighborhood park located at 2800 Vancouver Avenue in the North Park neighborhood of the City of San Diego. The park is approximately 255 feet west of the I-805 alignment, near the I-805 and I-15 interchange, and south of Quince Street. Park access is off of Nile Street. Park amenities include two play equipment areas, a fitness circuit area, open green space area, and barbeque facilities. Given the public ownership and access to the park, Montclair Park is a 4(f) resource.

The eastern boundary of Montclair Park is separated from the I-805 alignment by a vegetated buffer area, which slopes downward from the park to the I-805 R/W. In addition to the vegetation in this buffer area, the usable park open space area, paved path, barbeque facilities, and playground facilities are further set back from the park boundary by a second grass area associated with the park area. The Project does not propose any activities within the park. Work adjacent to the park would include the potential construction of two sound walls within I-805 R/W. Given the minor scope of work proposed by the Project adjacent to the park no visual or other indirect impacts would occur. Vegetation, wildlife, air quality, and water quality would remain similar to existing conditions. The Project would not impact any of the park's activities, features, or attributes and would not cause a constructive use of Montclair Park due to proximity impacts.

Park De La Cruz

Park De La Cruz is a 6.9-acre neighborhood park owned by the City of San Diego. It is located at 3901 Landis Street in the City Heights Community of the City of San Diego, 0.3 mile east/northeast of I-805 and adjacent to and immediately west/northwest of I-15. The park features a baseball field, paved walking paths, picnic areas, and passive park space. Given the public ownership and access to the park, Park De La Cruz is a 4(f) resource.

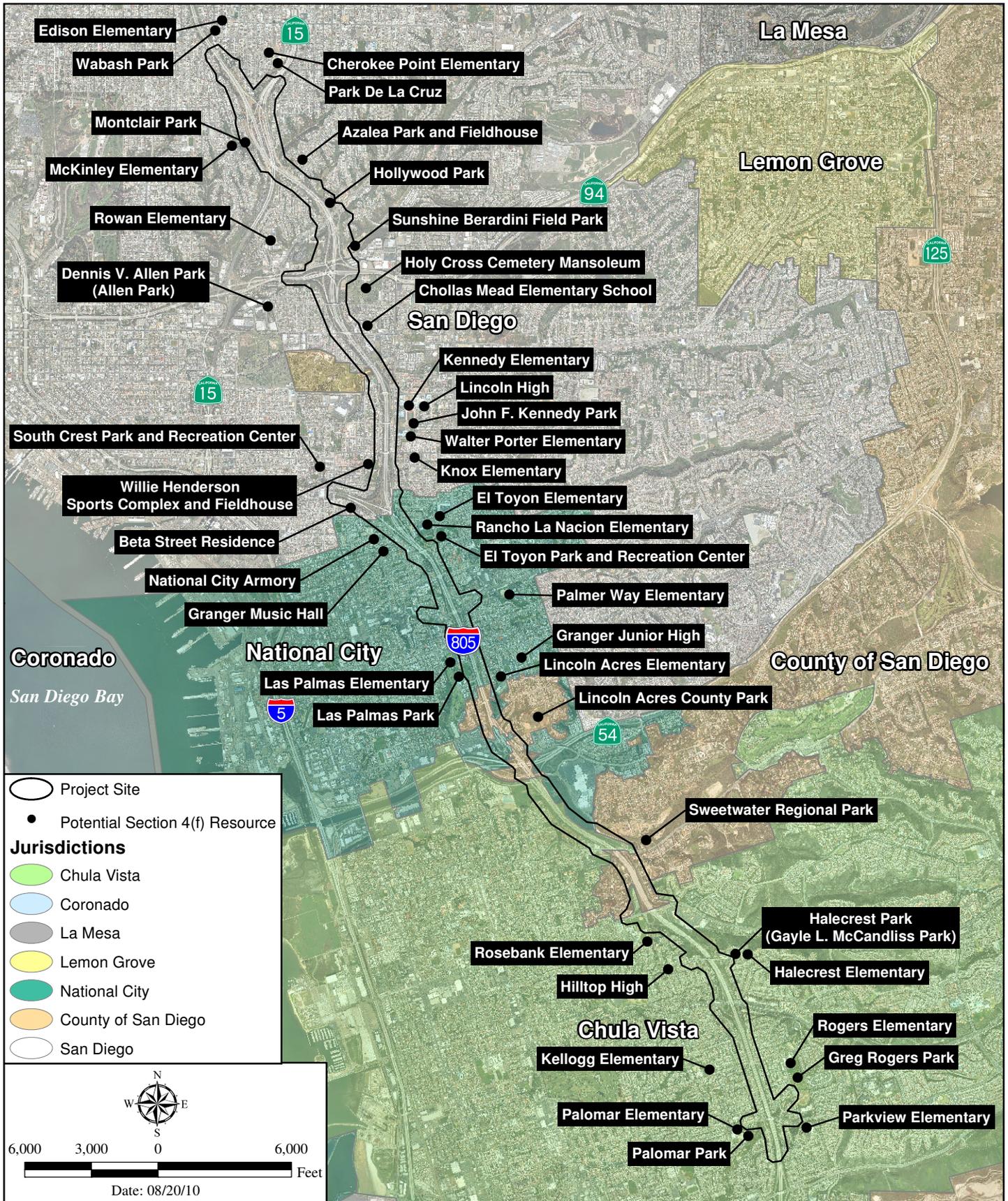
The Project does not propose any actions within or directly adjacent to the park. Park De La Cruz is separated from the I-805 alignment by approximately 12 blocks of primarily residential land uses. No visual or other indirect impacts would occur. Vegetation, wildlife, air quality, and water quality would remain similar to existing conditions. The Project would not impact any of the park's activities, features, or attributes and would not cause a constructive use of Park De La Cruz due to proximity impacts.

Wabash Park

Wabash Park is an approximately 0.17 acre park owned by the City of San Diego. This "mini-park" is located at 3355 Lincoln Avenue, approximately 530 feet east of I-805, and 1,000 feet

north of the Project site in the community of City Heights in the City of San Diego. This park features a flat, open grassy area bisected by a tree-lined, paved pathway. The park is triangular shaped, bounded by Lincoln Avenue, Wabash Avenue, and University Avenue on three sides. Access is provided by these streets and limited parking is available on Lincoln and Wabash Avenues. Given the public ownership and access to the park, Wabash Park is a 4(f) resource.

In this area, I-805 is located below grade of the urban development and is not visible or audible from the park. The park is situated above the freeway and is separated from I-805 by residential and commercial development. The Project does not propose any actions within or directly adjacent to the park. Due to the distance of the park from the proposed improvements, elevation above the freeway and shielding by existing structures, no visual or other indirect impacts would occur. Vegetation, wildlife, air quality, and water quality would remain similar to existing conditions. The Project would not impact any of the park's activities, features, or attributes and would not cause a constructive use of Wabash Park due to proximity impacts.



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Potential Section 4(f) Resources

RESOURCES EVALUATED RELATIVE TO THE REQUIREMENTS OF SECTION 4(F)

Figure 1

APPENDIX C

TITLE VI POLICY STATEMENT

DEPARTMENT OF TRANSPORTATION

OFFICE OF THE DIRECTOR

1120 N STREET

P. O. BOX 942873

SACRAMENTO, CA 94273-0001

PHONE (916) 654-5266

FAX (916) 654-6608

TTY (916) 653-4086

*Flex your power!
Be energy efficient!*

August 25, 2009

**TITLE VI
POLICY STATEMENT**

The California State Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

A handwritten signature in blue ink that reads "Randell H. Iwasaki".

RANDELL H. IWASAKI

Director

APPENDIX D

SUMMARY OF RELOCATION BENEFITS

Appendix D Summary of Relocation Benefits

California Department of Transportation Relocation Assistance Program

RELOCATION ASSISTANCE ADVISORY SERVICES

The California Department of Transportation (Caltrans) will provide relocation advisory assistance to any person, business, farm, or non-profit organization displaced as a result of acquisition of real property by Caltrans for public use. Caltrans will assist residential displacees in obtaining comparable decent, safe, and sanitary replacement housing by providing current and continuing information on sales price and rental rates of available housing. Non-residential displacees will receive information on comparable properties for lease or purchase.

Residential replacement dwellings will be in equal or better neighborhoods, at prices within the financial means of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, displacees will be offered comparable replacement dwellings that are open to all persons regardless of race, color, religion, gender, or national origin, and are consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include supplying information concerning federal and state assisted housing programs, and any other known services being offered by public and private agencies in the area.

ADDITIONAL INFORMATION

No relocation payment received will be considered as income for the purpose of the Internal Revenue Code of 1954 or for the purposes of determining eligibility or the extent of eligibility of any person for assistance under the Social Security Act or any other federal law (except for any federal law providing low-income housing assistance).

Persons who are eligible for relocation payments and who are legally occupying the property required for the Project will not be asked to move without being given at least 90 days advance notice, in writing. Occupants of any type of dwelling eligible for relocation payments will not be required to move unless at least one comparable "decent, safe and sanitary" replacement residence, open to all persons regardless of race, color, religion, gender, or national origin, is available or has been made available to them by the state.

Any person, business, farm, or non-profit organization, which has been refused a relocation payment by Caltrans, or believes that the payments are inadequate, may appeal for a hearing before a hearing officer or the Caltrans' Relocation Assistance Appeals Board. No legal assistance is required; however, the displacee may choose to obtain legal council at his/her expense. Information about the appeal procedure is available from the Caltrans' Relocation Advisors.

The information above is not intended to be a complete statement of all of the Caltrans' laws and regulations. At the time of the first written offer to purchase, owner-occupants are given a more detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted immediately after the first written offer to purchase, and also given a more detailed explanation of the Caltrans' relocation programs.

IMPORTANT NOTICE

To avoid loss of possible benefits, no individual, family, business, farm, or non-profit organization should commit to purchase or rent a replacement property without first contacting a Caltrans relocation advisor at:

State of California
Department of Transportation, District 11
4050 Taylor Street
San Diego, CA 92110

RESIDENTIAL RELOCATION PAYMENTS PROGRAM

Caltrans' Relocation Assistance for Residential Relocation Brochure follows this page.

Your Rights and Benefits as a
Displacee Under the Uniform
Relocation Assistance Program
(Residential)
2007



Caltrans

California Department of Transportation

Introduction

In building a modern transportation system, the displacement of a small percentage of the population is often necessary. However, it is the policy of Caltrans that displaced persons shall not suffer unnecessarily as a result of programs designed to benefit the public as a whole.

Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments.

This brochure provides information about available relocation services and payments. If you are required to move as the result of a Caltrans transportation project, a Relocation Agent will contact you. The Relocation Agent will be able to answer your specific questions and provide additional information.

Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 As Amended "The Uniform Act"

The purpose of this Act is to provide for uniform and equitable treatment of persons displaced from their homes, businesses, or farms by federal and federally assisted programs and to establish uniform and equitable land acquisition policies for federal and federally assisted programs.

49 Code of Federal Regulations Part 24 implements the "Uniform Act" in accordance with the following relocation assistance objective:

To ensure that persons displaced as a direct result of federal or federally-assisted projects are treated fairly, consistently and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.

While every effort has been made to assure the accuracy of this booklet, it should be understood that it does not have the force and effect of law, rule, or regulation governing the payment of benefits. Should any difference or error occur, the law will take precedence.

Some Important Definitions...

Your relocation benefits can be better understood if you become familiar with the following terms:

Comparable Replacement: means a dwelling which is:

- (1) Decent, safe, and sanitary. (See definition below)
- (2) Functionally equivalent to the displaced dwelling.
- (3) Adequate in size to accommodate the family being relocated.
- (4) In an area not subject to unreasonable adverse environmental conditions.
- (5) In a location generally not less desirable than the location of your displacement dwelling with respect to public utilities and commercial and public facilities, and reasonably accessible to the place of-employment.
- (6) On land that is typical in size for residential development with typical improvements.

Decent, Safe and Sanitary (DS&S): Replacement housing must be decent, safe, and sanitary...which means it meets all of the minimum requirements established by federal regulations and conforms to applicable housing and occupancy codes. The dwelling shall:

- (1) Be structurally sound, weather tight, and in good repair.
- (2) Contain a safe electrical wiring system adequate for lighting and other devices.



- (3) Contain a heating system capable of sustaining a healthful temperature (of approximately 70 degrees) for a displaced person, except in those areas where local climatic conditions do not require such a system.
- (4) Be adequate in size with respect to the number of rooms and area of living space needed to accommodate the displaced person. The Caltrans policy is that there will be no more than 2 persons per room unless the room is of adequate size to accommodate the normal bedroom furnishings for the occupants.
- (5) Have a separate, well-lighted and ventilated bathroom that provides privacy to the user and contains a sink, bathtub or shower stall, and a toilet, all in good working order and properly connected to appropriate sources of water and to a sewage drainage system.

Note: In the case of a housekeeping dwelling, there shall be a kitchen area that contains a fully usable sink, properly connected to potable hot and cold water and to a sewage drainage system, and adequate space and utility service connections for a stove and refrigerator.

- (6) Contains unobstructed egress to safe, open space at ground level. If the replacement dwelling unit is on the second story or above, with access directly from or through a common corridor, the common corridor must have at least two means of egress.
- (7) *For a displaced person who is handicapped, be free of any barriers which would preclude reasonable ingress, egress, or use of the dwelling by such displaced person.*

Displaced Person or Displacee: Any person who moves from real property or moves personal property from real property as a result of the acquisition of the real property, in whole or in part, or as the result of a written notice from the agency to vacate the real property needed for a transportation project. In the case of a partial acquisition, Caltrans shall determine if a person is displaced as a direct result of the acquisition.

Residents **not lawfully present** in the United States are not eligible to receive relocation payments and assistance

Relocation benefits will vary, depending upon the type and length of occupancy. As a residential displacee, you will be classified as either a:

- An owner occupant of a residential property (includes mobile homes)
- A tenant occupant of a residential property (includes mobile homes and sleeping rooms)

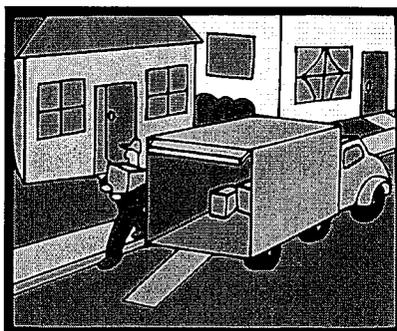
Dwelling: The place of permanent or customary and usual residence of a person, according to local custom or law, including a single family house; a single family unit in a two-family, multi-family, or multi-purpose property; a unit of a condominium or cooperative housing project; a non-housekeeping unit; a mobile home; or any other residential unit.

Owner: A person is considered to have met the requirement to own a dwelling if the person purchases or holds any of the following interests in real property:

- (1) Fee title, a life estate, a land contract, a 99-year lease, oral lease including any options for extension with at least 50 years to run from the date of acquisition; or
- (2) An interest in a cooperative housing project which includes the right to occupy a dwelling; or
- (3) A contract to purchase any interests or estates; or
- (4) Any other interests, including a partial interest, which in the judgment of the agency warrants consideration as ownership.

Tenant: A person who has the temporary use and occupancy of real property owned by another.

Moving Expenses



If you qualify as a displaced person, you are entitled to reimbursement of your moving costs and certain related expenses incurred in moving. The methods of moving and the various types of moving cost payments are explained. Below.

Displaced individuals and families may choose to be paid on the basis of actual, reasonable moving costs and related expenses, or according to a fixed moving cost schedule. However, to ensure your eligibility and prompt payment of moving expenses, you should contact your Relocation Agent before you move.

You Can Choose Either:

Actual Reasonable Moving Costs - You may be paid for your actual reasonable moving costs and related expenses when a commercial mover performs the move. Reimbursement will be limited to a move of 50 miles or less. Related expenses may include:

- Transportation
- Packing and unpacking personal property.
- Disconnecting and reconnecting household appliances.
- Temporary storage of personal property.
- Insurance while property is in storage or transit.

OR

Fixed Moving Cost Schedule - You may be paid on the basis of a fixed moving cost schedule. Under this option, you will not be eligible for reimbursement of related expenses listed above. The fixed schedule is designed to cover such expenses.

Examples (Year 2005 Rate):
4 Rooms - \$ 950
7 Rooms - \$1,550

If the furniture is moved with the mobile home, the amount of the fixed payment is based on Schedule B.

Examples (Year 200 Rate):
4 Rooms - \$1,175
7 Rooms - \$1,900

Under the Fixed Move Schedule for a furnished unit (e.g. you are a tenant of an apartment that is furnished by your landlord) is based on Schedule B.

Example (Year 2005 Rate):
1 Room - \$400

Under the Fixed Move Schedule, you will not receive any additional payments for temporary storage, lodging, transportation or utility hook-ups.

Replacement Housing Payments

The type of Replacement Housing Payment (RHP) depends on whether you are an owner or a tenant, and the length of occupancy in the property being acquired.

If you are a qualified **owner occupant** of more than 180 days prior to the initiation of negotiations for the acquisition of your property, you may be entitled to a RHP that consists of:

Price Differential, and

Mortgage Differential, and

Incidental Expenses;

OR

Rent Differential

If you are a qualified **owner occupant** of more than 90 days but less than 180 days, OR you are a qualified **tenant occupant** of at least 90 days, you may be entitled to a RHP as follows:

Rent Differential

OR

Downpayment Option

Length of occupancy simply means counting the number of days that you actually occupied a dwelling before the date of initiation of negotiations by Caltrans for the purchase of the property. The term "initiation of negotiations" means the date Caltrans makes the first personal contact with the owner of real property, or his/ her representative, to give him/her a written offer for the property to be acquired.

Note: If you have been in occupancy less than 90 days before the initiation of negotiations and the property is subsequently acquired, or if you move onto the property after the initiation of negotiations and you are still in occupancy on the date of acquisition, you may or may not be eligible for a Replacement Housing Payment. Check with your Relocation Agent before you make any decision to vacate your property.

For Owner Occupants of 180 Days or More

If you qualify as a 180-day owner occupant, you may be eligible -- in addition to the fair market value of your property -- for a Replacement Housing Payment that consists of a Price Differential, Mortgage Differential and/or Incidental Expenses.

The **Price Differential** payment is the amount by which the cost of a replacement dwelling exceeds the acquisition cost of the displacement dwelling. This payment will assist you in purchasing a comparable decent, safe, and sanitary (DS&S) replacement dwelling. Caltrans will compute the maximum payment you may be eligible to receive.

In order to receive the full amount of the calculated price differential, you must spend at least the amount calculated by Caltrans on a replacement property

The **Mortgage Differential** payment will reimburse you for any increased mortgage interest costs you might incur because the interest rate on your new mortgage exceeds the interest rate on the property acquired by Caltrans. The payment computation is complex as it is based on prevailing rates, your existing loan and your new loan. Also, a part of this payment may be prorated such as reimbursement for a portion of your loan origination fees and mortgage points.

To be eligible to receive this payment, the acquired property must have been encumbered by a bona fide mortgage which was a valid lien for at least 180 days prior to the initiation of negotiations.

You may also be reimbursed for any actual and necessary **Incidental Expenses** that you incur in relation to the purchase of your replacement property. These expenses may be those costs for title search, recording fees, credit report, appraisal report, and certain other closing costs associated with the purchase of property. You will not be reimbursed for any recurring costs such as prepaid real estate taxes and property insurance.

If the total amount of your **Replacement Housing Payment** (Price Differential, Mortgage Differential and Incidental Expenses) exceeds \$22,500, the payment must be deposited directly into an escrow account or paid directly to the mortgage company.

EXAMPLES OF PRICE DIFFERENTIAL PAYMENT COMPUTATION:

Assume that Caltrans purchases your property for \$98,000. After a thorough study of available, decent, safe and sanitary dwellings on the open market, Caltrans determines that a comparable replacement property will cost you \$100,000. If your purchase price is \$100,000, you will receive \$2,000 (see *Example A*).

If your actual purchase price is more than \$100,000, you pay the difference (see *Example B*). If your purchase price is less than \$100,000, the differential payment will be based on actual costs (see *Example C*).

How much of a differential payment you receive depends on how much you actually spend on a replacement dwelling as shown in these examples:

Caltrans' Computation

Comparable Replacement Property and Mobile Home	\$100,000
Acquisition Price of Your Property and Mobile Home	<u>-\$ 98,000</u>
Maximum Price Differential	\$ 2,000

Example A

Purchase Price of Replacement	\$100,000
Comparable Replacement Property	\$100,000
Acquisition Price of Your Property	<u>-\$ 98,000</u>
Maximum Price Differential	\$ 2,000

Example B

Purchase Price of Replacement Property	\$105,000
Comparable Replacement Property	\$100,000
Acquisition Price of Your Property	<u>\$ 98,000</u>
Maximum Price Differential	\$ 2,000
You Must Pay the Additional	\$ 5,000

Example C

Comparable Replacement Property	\$100,000
Purchase Price of Replacement	\$ 99,000
Acquisition Price of Your Property	<u>\$ 98,000</u>
Price Differential	\$ 1,000

In Example C you will only receive \$1,000 - not the full amount of the Caltrans "Comparable Replacement Property" because of the "Spend to Get" requirements.

IN ORDER FOR A "180 DAY OWNER OCCUPANT" TO RECEIVE THE FULL AMOUNT OF THEIR REPLACEMENT HOUSING PAYMENT (*Price Differential, Mortgage Differential and Incidental Expenses*), **you must:**

A) Purchase and occupy a DS&S replacement dwelling within one year after the later of:

(1) The date you first receive a notification of an available replacement house, **OR**

(2) The date that Caltrans has paid the acquisition cost of your current dwelling (usually the closing of escrow on State's acquisition),

AND

B) Spend at least the amount of the Caltrans "Comparable Replacement Property" for a replacement property,

AND

C) File a claim for relocation payments within 18 months of the later:

(1) The date you vacate the property acquired by Caltrans, **OR**

(2) The date that Caltrans has paid the acquisition cost of your current dwelling (usually the close of escrow on State's acquisition)

You will not be eligible to receive any relocation payments until the State has actually made the first written offer to purchase the property. Also, you will also receive at least 90 days' written notice before you must move.

For Owner Occupants and Tenants of 90 Days or More

If you qualify as a 90-day occupant (either as an owner or tenant), you may be eligible for a Replacement Housing Payment in the form of a Rent Differential.

The **Rent Differential** payment is designed to assist you in renting a comparable decent, safe and sanitary replacement dwelling. The payment is based on the difference between the base monthly Rent for the property acquired by Caltrans (including average monthly cost for utilities) and the lesser of:

- a) The monthly rent and estimated average monthly cost of utilities for a comparable replacement dwelling as determined by Caltrans, **OR**
- b) The monthly rent and estimated average monthly cost of utilities for the decent, safe and sanitary dwelling that you actually rent as a replacement dwelling.

Utility costs are those expenses you incur for heat, lights, water and sewer - regardless of the source (e.g. electricity, propane, and septic system). It does not include garbage, cable, telephone, or security. The utilities at your property are the average costs over the last 12 months. The utilities at the comparable replacement property are the estimated costs for the last 12 months for the type of dwelling and area used in the calculation.

This difference is multiplied by 42 months and may be paid to you in a lump sum payment or in periodic installments in accordance with policy and regulations.

In order to receive the full amount of the calculated Rent Differential, you must spend at least the amount calculated by Caltrans on a replacement property.

This payment may - with certain limitations - be converted to a **Downpayment Option** to assist you in purchasing a replacement property.

Example of Rent Differential Payment Computation:

After a thorough study of comparable, decent, safe and sanitary dwellings that are available for rent, Caltrans determines that a comparable replacement property will rent for \$325.00 per month.

Caltrans Computation (rates are per month)

Rental Rate for Comparable Replacement Property	\$ 325
PLUS average estimated utilities costs	<u>+ 100</u>
TOTAL Cost to Rent Comparable Replacement Property	= \$ 425

Rental Rate for Your Current Property	\$ 300
PLUS average utilities costs	<u>+ 90</u>
TOTAL Cost to Rent Current Property	= \$ 390

Comparable Replacement Property including utilities	\$ 425
Cost you pay to rent your property including utilities	<u>+ 390</u>
Difference	= \$ 35

Multiplied by 42 months = \$1,470 Rent Differential

Example A:

Rental Rate for a Replacement Property including Estimated average utilities costs	\$ 525
Comparable Replacement Property including utilities	\$ 425
Cost you pay to rent your property including utilities	\$ 390

Since \$425 is less than \$525, the Rent Differential is based on the difference between \$390 and \$425.

Rent Differential (\$35 x 42 months = \$1,470)

In this case you spent "at least" the amount of the Comparable Replacement Property on the replacement property and will receive the full amount.

Example B:

Rental Rate for a Replacement Property including Estimated average utilities costs	\$ 400
Comparable Replacement Property including utilities	\$ 425
Cost you pay to rent your property including utilities	\$ 390

Since \$400 is less than \$525, the Rent Differential is based on the difference between \$400 and \$390.

Rent Differential (\$10 x 42 months = \$420)

In this case you spent "less than" the amount of the Comparable Replacement Property on the replacement property and will not receive the full amount.

IN ORDER FOR A "90 DAY OWNER OCCUPANT" TO RECEIVE THE FULL AMOUNT OF THEIR REPLACEMENT HOUSING PAYMENT (Rent Differential), you must:

A) Rent and occupy a DS&S replacement dwelling within one year after the later of:

- (1) The date you first receive a notification of an available replacement house, **OR**
- (2) The day you vacate the property acquired by Caltrans.

AND

B) Spend at least the amount of the Caltrans "Comparable Replacement Property" to rent a replacement property,

AND

C) File a claim for relocation payments within 18 months of the later of:

- (1) The date you vacate the property acquired by Caltrans, **OR**
- (2) The date that Caltrans has paid the acquisition cost of your current dwelling (usually the close of escrow on State's acquisition)

You will not be eligible to receive any relocation payments until the State has actually made the first written offer to purchase the property. And, you will also receive at least 90 days' written notice before you must move.

Note1: The time periods for a 90-day owner occupant are different than a 180-day owner occupant.

Note 2: If the Rent Differential is converted to a Downpayment Option, there is no "spend-to-get" requirement.

DOWN PAYMENT OPTION

The Rent Differential payment may - with certain limitations - be converted to a **Down Payment Option** to assist you in purchasing a replacement property. The down payment option is a direct conversion of the Rent Differential payment.

If the Caltrans calculated Rent Differential is between \$0 and \$5,250, your down payment option will be \$5,250, which can be used towards the purchase of a replacement decent, safe and sanitary dwelling.

If the Rent Differential is over \$5,250, you may be able to convert the entire amount of the Rent Differential to a downpayment option.

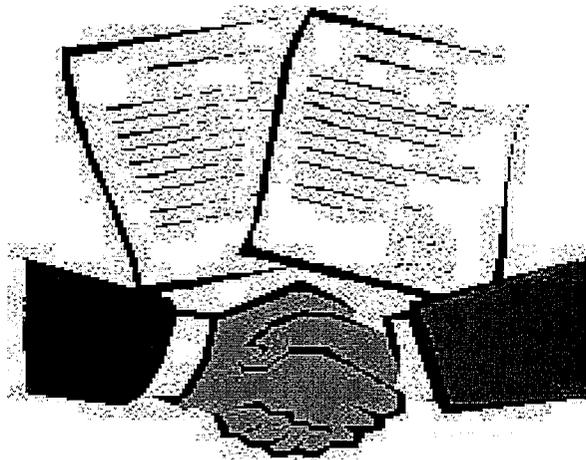
The down payment option must be used for the acquisition of the replacement dwelling, plus any eligible incidental expenses (see "180-day Owner Occupants Incidental Expenses") related to the purchase of the property. You must work closely with your Relocation Agent to ensure you can utilize the full amount of your down payment option towards the purchase.

If any portion of the Rent Differential was used prior to the decision to convert to a down payment option, those advance payments will be deducted from the entire benefit.

LAST RESORT HOUSING

On most projects, an adequate supply of housing will be available for sale and for rent, and the benefits provided will be sufficient to enable you to relocate to comparable housing. However, there may be projects in certain locations where the supply of available housing is insufficient to provide the necessary housing for those persons being displaced. In such cases, Caltrans will utilize a method called Last Resort Housing. Last Resort Housing allows Caltrans to construct, rehabilitate or modify housing in order to meet the needs of the people displaced from a project. Caltrans can also pay above the statutory limits of \$5,250 and \$22,500 in order to make available housing affordable.

Relocation Advisory Assistance



Any individual, family, business or farm displaced by Caltrans shall be offered relocation advisory assistance for the purpose of locating a replacement property. Relocation services are provided by qualified personnel employed by Caltrans. It is their goal and desire to be of service to you and assist in any way possible to help you successfully relocate.

A Relocation Agent from Caltrans will contact you personally. Relocation services and payments will be explained to you in accordance with your eligibility. During the initial interview with you, your housing needs and desires will be determined as well as your need for assistance. You cannot be required to move unless at least one comparable replacement dwelling is made available to you.

You can expect to receive the following services, advice and assistance from your Relocation Agent who will:

- Explain the relocation benefits and eligibility requirements.
- Provide the amount of the replacement housing payments in writing.
- Assure the availability of a comparable property before you move.
- Inspect possible replacement residential units for DS&S compliance.
- Provide information on counseling you can obtain to help minimize hardships in adjusting to your new location.
- Assist you in completing loan documents, rental applications or Relocation Claims Forms.

AND provide information on:

- Security deposits
- Interest rates and terms
- Typical down payments
- VA and FHA loan requirements
- Real property taxes.
- Consumer education literature on housing

If you desire, your Relocation Agent will give you current listings of other available replacement housing. Transportation will be provided to inspect available housing, especially if you are elderly or handicapped. Though you may use the services of a real estate broker, Caltrans cannot provide a referral.

Your Relocation Agent is familiar with the services provided by others in your community and will provide information on other federal, state, and local housing programs offering assistance to displaced persons. If you have special problems, your Relocation Agent will make every effort to secure the services of those agencies with trained personnel who have the expertise to help you.

If the highway project will require a considerable number of people to be relocated, Caltrans will establish a temporary Relocation Field Office on or near the project. Project relocation offices will be open during convenient hours and evening hours if necessary.

In addition to these services, Caltrans is required to coordinate its relocation activities with other agencies causing displacements to ensure that all persons displaced receive fair and consistent relocation benefits.

Remember - YOUR RELOCATION AGENT is there to offer advice and assistance. Do not hesitate to ask questions. And be sure you fully understand all of your rights and available benefits.



YOUR RIGHTS AS A DISPLACEE

All eligible displacees have a freedom of choice in the selection of replacement housing, and Caltrans will not require any displaced person to accept a replacement dwelling provided by Caltrans. If you decide not to accept the replacement housing offered by Caltrans, you may secure a replacement dwelling of your choice, providing it meets DS&S housing standards. Caltrans will not pay more than your calculated benefits on any replacement property.

The most important thing to remember is that the replacement dwelling you select must meet the basic "decent, safe, and sanitary" standards. Do not execute a purchase agreement or a rental agreement until a representative from Caltrans has inspected and certified in writing that the dwelling you propose to occupy meets the basic standards. **DO NOT jeopardize** your right to receive a replacement housing payment by moving into a substandard dwelling.

It is important to remember that your relocation benefits will not have an adverse affect on your:

- Social Security Eligibility
- Welfare Eligibility
- Income Taxes

In addition, the Title VIII of the Civil Rights Act of 1968 and later acts and amendments make discriminatory practices in the purchase and rental of most residential units illegal if based on race, color, religion, sex, or national origin.

Whenever possible, minority persons shall be given reasonable opportunities to relocate to decent, safe, and sanitary replacement dwellings, not located in an area of minority concentration, and that is within their financial means. This policy, however, does not require Caltrans to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Caltrans' Non-Discrimination Policy ensures that all services and/or benefits will be administered to the general public without regard to race, color, national origin, or sex in compliance with Title VI of the 1964 Civil Rights Act (42 USC 2000d. et seq.).

And you always have the Right to Appeal any decision by Caltrans regarding your relocation benefits and eligibility.

Your Right of Appeal is guaranteed in the "Uniform Act" which states that any person may file an appeal with the head of the responsible agency if that person believes that the agency has failed to properly determine the person's eligibility or the amount of a payment authorized by the Act.

If you indicate your dissatisfaction, either verbally or in writing, Caltrans will assist you in filing an appeal and explain the procedures to be followed. You will be given a prompt and full opportunity to be heard. You have the right to be represented by legal counsel or other representative in connection with the appeal (but solely at your own expense).

Caltrans will consider all pertinent justifications and materials submitted by you and other available information needed to ensure a fair review. Caltrans will provide you with a written determination resulting from the appeal with an explanation of the basis for the decision. If you are still dissatisfied with the relief granted, Caltrans will advise you that you may seek judicial review.

NOTES

APPENDIX E

UTILITIES IMPACTS

ASSESSMENT OF UTILITY IMPACTS

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
1	12" ACP	Otay Water District	285+15	Interferes with NB and SB LW and sound wall on both the east and west sides of the freeway	Remove
2	12" concrete	Otay Water District	285+40	Interferes with NB and SB LW and sound wall on both the east and west sides of the freeway	Remove and replace
3	8" concrete encased VCP	City of Chula Vista	288+40	Interferes with NB and SB LW and sound wall on both the east and west sides of the freeway	Remove and replace
4	12" ACP	Otay Water District	296+50 to 297+50		Remove and replace 100' of 12" PVC
5	138 kV transmission line	SDG&E	297+00 to 300+00	Interferes with NB and SB LW, sound wall on the east side of the freeway and bridge widening	Protect in place
6	8" ACP	Otay Water District	297+50 to 299+00	Interferes with local street improvement	Remove and replace 150' OF 8" PVC
7	12" ACP		297+50 to 298+50	Interferes with local street improvement	Remove and replace 100' OF 8" PVC
8	12" ACP	Otay Water District	297+50	Interferes with local street improvement	Remove and replace 300' OF 12" PVC
9	8" ACP	Otay Water District	297+50	Interferes with local street improvement	Remove and replace 510' OF 8" PVC
10	12 kV	SDG&E	297+90	Interferes with bridge replacement	Remove and replace
11	UNK	AT&T	298+00	Interferes with bridge replacement	Remove and replace
12	1.5" HP	SDG&E	298+30	Interferes with bridge replacement	Relocate
13	10" WSP & 10" WSP in 16" casing	Otay Water District	298+50	Interferes with bridge replacement	Remove and replace 200' of 10" WSP and 270' of 10" WSP in 16" RCP
14	1.5" HP	SDG&E	298+50 to 300+00	Interferes with local street improvement	Relocate
15	1.5" HP	SDG&E	298+50 to 300+00	Interferes with local street improvement	Relocate

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
16	8" ACP	Otay Water District	298+50 to 300+00	Interferes with local street improvement	Remove and replace 150' of 8" PVC
17	12" ACP	Otay Water District	298+50	Interferes with local street improvement	Remove and replace 500' of 12" PVC
18	8" VCP	City of Chula Vista	298+50 to 300+00	Interferes with local street improvement	Remove and replace 150' of 8" PVC
19	UNK	SDG&E	299+00	No interference	None
20	8" STL HP	SDG&E	299+70	Interferes with NB and SB LW, grading and sound wall on east and west sides of the freeway	Protect in place
21	UNK	AT&T	299+70	Interferes with NB and SB LW, grading and sound wall on east and west sides of the freeway	Abandon
22	8" VCP	City of Chula Vista	308+40	Interferes with NB and SB LW, grading along east shoulder and soundwall along east and west R/W	Protect in place
23	UNK	City of Chula Vista	312+80	Interferes with NB LW & grading along east shoulder	Remove
24	2" HP	SDG&E	312+85 to 324+75	Interferes with soundwall along east shoulder of freeway	Protect in place
25	8" UNK	City of Chula Vista	312+85	Interferes with NB LW & grading along east shoulder	Abandon and remove
26	12" ACP	Sweetwater Authority	313+00	Interferes with NB and SB LW, sound wall on the east and west sides of the freeway and grading along the east shoulder	Remove
27	UNK	UNK	313+50 to 315+00	Interferes with sound wall along east R/W	Remove and relocate
28	8" UNK	City of Chula Vista	313+00 to 336+00	Interferes with sound wall along east R/W	Remove and replace 2300' of 8" PVC
29	12" UNK	Sweetwater Authority	313+10 to 324+80	Interferes with soundwall along the east R/W	Remove and replace 1170' of 12" PVC

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
30	UNK	Cox Communications	314+00 to 330+50	Interferes with sound wall along east R/W	Protect in place
31	12kV	SDG&E	314+00 to 330+50	Interferes with soundwall along the east R/W	Protect in place
32	8" UNK	City of Chula Vista	324+70	No interference	None
33	8" UNK	City of Chula Vista	324+70 to 330+00	Interferes with soundwall along the west R/W	Relocate and replace 530' of 8" PVC
34	8" UNK	City of Chula Vista	324+70 to 336+00	Interferes with soundwall along the east R/W	Relocate and replace 1130' of 8" PVC
35	6" STL HP	SDG&E	324+70	No interference	None
36	2" HP	SDG&E	324+70 to 330+50	Interferes with soundwall along the east R/W	Relocate
37	12" CAP	Sweetwater Authority	324+80	No interference	None
38	8" ACP	Sweetwater Authority	324+80 to 336+50	Interferes with soundwall along the east R/W	Relocate and replace 1180' of 8" PVC
39	UNK	Cox Communications	324+85	No interference	None
40	UNK	AT&T	324+95	No interference	None
41	12kV	SDG&E	325+00	Interferes with NB and SB LW	Protect in place
42	12kV	SDG&E	327+40 to 337+00	Interferes with sound wall along west R/W	Protect in place
43	UNK	Cox Communications	326+00 to 337+00	Interferes with sound wall along west R/W	Protect in place
44	8" VCP	City of Chula Vista	327+00 to 336+30	Interferes with sound wall along the east R/W	Relocate and replace 930' of 8" PVC
45	2" HP	SDG&E	336+40	Interferes with NB and SB LW and grading, soundwall and retaining wall on the east and west side of the freeway	Abandon and relocate
46	12" CAP	Sweetwater Authority	336+60 to 339+60	Interferes with grading, retaining wall and soundwall along west R/W	Relocate and replace
47	12" WSCLP	Sweetwater Authority	347+00 to 350+00	Interferes with soundwall along west R/W	Relocate and replace 300' of 12" PVC

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
48	18" VCP	City of Chula Vista	352+20	Interferes with new bridge footings	Remove and replace
49	4" STL HP	SDG&E	352+50	No interference	None
50	18" VCP	City of Chula Vista	352+80	Interferes with new bridge footings	Remove and replace
51	12" ACP	Sweetwater Authority	353+00	Interferes with new bridge footings	Remove and replace
52	UNK	AT&T	353+00	Interferes with new bridge footings	Remove and replace
53	UNK	AT&T	354+00	Interferes with grading along the NB ONR shoulder	Relocate
54	12kv	SDG&E	354+80	No interference	Protect in place
55	8" UNK	City of Chula Vista	355+20	Interferes with grading along the east shoulder and construction of NB ONR	Relocate
56	UNK	Cox Communications	371+00	Interferes with local street improvement	Protect in place
57	6" CAP	Sweetwater Authority	371+00 to 371+50	Interferes with local street improvement	Relocate
58	8" VCP	City of Chula Vista	371+00 to 372+00	Interferes with local street improvement	Relocate and replace 275' of 8" PVC
59	16" ACP	Sweetwater Authority	373+00 to 377+00	Interferes with local street improvement	Relocate and replace 300' of 16" PVC
60	16" ACP	Sweetwater Authority	373+50	Interferes with local street improvement	Relocate and replace 240' of 16" PVC
61	12 kV	SDG&E	374+75	No interference	Protect in place
62	UNK	AT&T	374+80	No interference	Protect in place
63	4" STL HP in 8" conduit	SDG&E	374+90	Interferes with bridge replacement	Remove and replace
64	17" WSCLP	Sweetwater Authority	375+00	Interferes with bridge widening and replacement	Remove and replace 480' of 17" PVC
65	UNK	Cox Communications	375+35	Interferes with bridge widening and local street improvement	Remove and replace
66	16" ACP	Sweetwater Authority	377+00	Interferes with local street improvement	Relocate and replace 240' of 16" PVC
67	12kV	SDG&E	385+30	Interferes with NB and SB LW	Protect in place
68	4" PC	AT&T	392+80 to 399+00	Interferes with NB LW and grading along the east shoulder	Remove and relocate

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
69	UNK	AT&T	401+50 to 405+00	Interferes with the construction of the NB OFR	Remove and relocate
70	Concrete encased 8" VCP	City of Chula Vista	402+05	Interferes with the construction of NB and SB LW and construction of SB ONR	Protect in place
71	UNK	City of Chula Vista	408+70	Interferes with bridge widening and replacement and local street improvement	Remove and replace
72	Concrete encased 8" VCP	City of Chula Vista	403+00 to 409+50	Interferes with NB OFR and local street improvement	Protect in place
73	Concrete encased 15" VCP	City of Chula Vista	38+80 to 42+00 East H Street	Interferes with local street improvement	Protect in place
74	15" PVC	City of Chula Vista	407+00 to 414+00	Interferes with local street improvement, construction of NB ONR and retaining wall along east shoulder	Protect in place
75	Future 12kV	SDG&E	409+00	Interferes with bridge widening and local street improvement	Remove and relocate
76	4" STL HP in 8" conduit	SDG&E	409+20	Interferes with bridge widening and local street improvement	Remove and relocate
77	UNK	AT&T	409+50	Interferes with bridge widening and replacement and local street improvement	Remove and relocate
78	19" WSCLP	Sweetwater Authority	411+00 to 419+00	Interferes with soundwall near SB OFR and transit station	Protect in place
79	24" WSP	Sweetwater Authority	411+00 to 423+50	Interferes with soundwall near SB OFR and transit station	Protect in place
80	24" WSCL in 36" RCP	Sweetwater Authority	423+20	Interferes with NB and SB LW, retaining walls and soundwalls located on both the east and west side of the freeway.	Abandon and replace 520' of 24" PVC in 36" RCP 20' north of existing location
81	12kV	SDG&E	439+00 to 440+50	Interferes with the soundwall along the west side of the freeway.	Protect in place

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
82	UNK	Cox Communications	441+60	Interferes with new bridge footings	Remove and replace
83	UNK	AT&T	441+80	Interferes with new bridge footings	Remove and replace
84	8" ACP	Sweetwater Authority	442+50	No interference	None
85	2" HP	SDG&E	442+55	No interference	None
86	Concrete encased 8" VCP	City of Chula Vista	449+50	Interferes with NB and SB LW, NB ONR and retaining wall along the shoulder of the ramp	Protect in place
87	12kV	SDG&E	450+00 to 456+10	No interference	None
88	Concrete encased 8" VCP	City of Chula Vista	468+00	Interferes with NB and SB LW and sound wall along the west shoulder of the freeway	Extend concrete encasement to the R/W on both sides of the freeway
89	8" CLWSP	Sweetwater Authority	476+00 to 477+20	Interferes with sound wall along west R/W	Protect in place
90	42" RCP	County of San Diego	489+00	No interference	None
91	42" RCP	County of San Diego	489+50 to 497+00	No interference	None
92	UNK	Sweetwater Authority	499+50	No interference	None
93	UNK	Sweetwater Authority	505+00	Interferes with NB and SB LW	Remove
94	UNK	SDG&E	505+40	Interferes with NB and SB LW	Remove
95	4" HP	SDG&E	509+90	No interference	None
96	8" VCP	County of San Diego	510+20	No interference	None
97	8" VCP	County of San Diego	510+30	No interference	None
98	16" CIP	Sweetwater Authority	510+45	No interference	None
99	4" HP	SDG&E	510+55	No interference	None

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
100	30" WSP	Sweetwater Authority	510+00	Interferes with new bridge footings	Remove and replace
100	18" ACP	Sweetwater Authority	510+90	Interferes with new bridge footings	Remove and replace
101	UNK	Sweetwater Authority	512+00	Interferes with NB and SB LW, ramp realignment and shoulder widening	Remove
102	1.5" HP	SDG&E	512+05	Interferes with NB and SB LW, ramp realignment and shoulder widening	Remove
103	UNK	SDG&E	417+50	Interferes with soundwall near park-and-ride/transit station	Protect in place
104	6-6" PVC coax and 1-4" telco cable	Sprint PCS	297+50	Interferes with park-and-ride/transit station and local street improvement	Remove and replace
105	8" VCP Sewer (concrete Encased)	County of San Diego -SVS	523+79	Slope work	Relocate/replace
106	8" VCP Sewer	County of San Diego -SVS	524+75-525+75	None	Protect in place
107	2" HP	SDG&E Gas	517+80 - 522+75	Possible conflict with sound wall	Protect in place
108	Telephone	AT&T	533+00-540+00	Retaining wall	Relocate/replace
109	TV (OH)	Southwestern & Cox Cable TV	536+00	Retaining walls	Locate retaining wall to miss poles
110	OH	SDG&E Electrical	536+00	Retaining walls	Locate retaining wall to miss poles
111	OH	SDG&E Electrical	538+60	Retaining walls	Locate retaining wall to miss poles
112	12" WSP	Sweetwater Authority	538+87	Median & outside widening + east & west side retaining walls+ drainage	Replace
113	8" VC	City of National City	542+73	Median & outside widening + east & west side retaining walls+ drainage	Replace
114	4" AC	Sweetwater Authority	545+25 - 545+75	Pedestrian bridge	Possible conflict with new bridge footing
115	2" HP	SDG&E Gas	553+20	Median & outside widening + east & west side retaining walls+ drainage	Abandon & replace

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
116	OH	SDG&E Electrical	558+20	Bridge Replace	Temp Relocation and Final Relocation
117	4"PC4C + up to 27DU (in 2 lines)	AT&T	558+33 & 558+38	Bridge Replace	Replace
118	12" WSCL 73 (12" AC)	Sweetwater Authority	558+50	Bridge Replace	Replace Steel Pipe
119	18" WSCL73 (18" AC)	Sweetwater Authority	565+23.9	Bridge Replace	Replace
120	OH	SDG&E Electrical	564+40	Bridge Replace	Temp Relocation and Final Relocation
121	4" HP with 8" conduit	SDG&E Gas	558+60	Bridge Replace	Replace Steel Pipe
122	6" HP	SDG&E Gas	564+14	Bridge Replace	Replace Steel Pipe
123	UG Electrical conduit	SDG&E Electrical	564+00	Median & Outside widening + East & West Side Retaining Walls+ Drainage	Relocate/Replace
124	TV	Cox Cable TV	558+50	Bridge Replace	Temporary Relocation and New install in Bridge
125	TV	Cox Cable TV	565+30	Bridge Replace	Temporary Relocation and New install in Bridge
126	45C	AT&T	567+50 - 568+50	NONE	Probably Traffic Camera Service
127	8" AC 85	Sweetwater Authority	573+80- 574+52	NONE	Local Street Improvement by others
128	1PC & 6PC - 4C	AT&T	574+00 - 576+00	NONE	Local Street Improvement by others
129	8" ACV	Sweetwater Authority	574+80	NONE	Local Street Improvement by others
130		City of San Diego	574+84	Bridge Replace/widening/ DAR stations	Relocate/Replace
131	Electrical UG	SDG&E Electrical	579+90 - 581+20	Retaining Wall Construction	Relocate poles
132	2" HP	SDG&E Gas	581+20	Retaining Wall Construction	Cap End
133	4" AC	Sweetwater Authority	584+49	Retaining Wall Construction	Cap End

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
134	2" HP	SDG&E Gas	584+49 - 586+20	Retaining Wall Construction	Relocate/Replace
135	8" PVC	Sweetwater Authority	587+50	Retaining Wall Construction	None
136	TV	Mission Cable TV	591+50	Bridge Widening Under Cross	None
137	2" HP	SDG&E Gas	591+60	Bridge Widening Under Cross	None
138	8" AC & 12" PVC	Sweetwater Authority	592+00	Bridge Widening Under Cross	None
139	8" AC	Sweetwater Authority	604+50 - 605+20	Local Street improvement	Conform to Street Improvement
140	12" AC	Sweetwater Authority	604+00 - 613+00	Retaining Wall + Local Street Improvement	Conform to Street Improvement
141	TV	Cox Cable TV	605+25 9	Bridge Replace	Temporary Relocation and New install in Bridge
142	12" Steel Water Main	Sweetwater Authority	605+80	Bridge Replace	Replace
143	45C	AT&T	606+00 607+00	None	Possible Traffic Camera
144	16" HP	SDG&E Gas	606+30	Median & Outside widening + East Side Retaining Wall+ Drainage + Street Improvement	Protect in Place
145	15" VC	City of San Diego	613+23	Median & Outside widening + West & East Side Retaining/Sound Wall+ Drainage + Ramp Realignment	Retaining Wall to bridge Sewer Pipe + Protect in Place
146	TV	Cox Cable TV	620+21	Bridge (UC) Widening + Street Improvement	None
147	4" HP	SDG&E Gas	620+45	Bridge (UC) Widening + Street Improvement	None
148	1STD 3-1/2	AT&T	624+08	None	None
149	8DU, 6DU (6MTD)	AT&T	625+20	New Bridge Bent	New Bridge possible conflict
150	10" VC	City of San Diego	626+93	Median & Outside widening + West Side Retaining/Sound Wall+ Drainage + Ramp Realignment + New Bridge Bent	Relocate/Replace

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
151	18" VC	City of San Diego	644+00	Retaining Wall	Protect in Place
152	18" VC	City of San Diego	646+84.77	Median & Outside widening + West Side Retaining/Sound Wall+ Ramp Realignment	Protect in Place
153	12" AC	City of San Diego	14+36 -28+00	New 47th ramp intersection + new OH connectors	Relocate/Reconstruct
154	9PC4C + 6 MTD	AT&T	10+00 -28+00	New 47th ramp intersection + new OH connectors	Relocate
155	20" HP	SDG&E Gas	10+00 -29+00	New 47th ramp intersection + new OH connectors	Protect in Place
156	FO	Level 3 COMM	10+00 -29+00	New 47th ramp intersection + new OH connectors	Relocate; AC Resurface are included in the water line relocation
157	1PC 4C	AT&T	628+00 47th St offramp to 29+00 47th St	New 47th Off Ramp	Relocate
158	12" AC (Partially In RCP conduit)	City of San Diego	On local Delta Street	New 47th ramp intersection + new connectors	Relocate/Reconstruct
159	1.5" & 2" HP	SDG&E Gas	On local Delta Street/47th	New 47th ramp intersection + new connectors	Relocate/Replace
160	6" AC	Sweetwater Authority	On local Gamma Street	None	None
161	1.5" HP	SDG&E Gas	On Local Alpha Street	Local Street improvement	Protect in Place
162	12" CIMJ	City of San Diego	655+92	None	Protect in Place
163	8" VCP	City of San Diego	656+05.58	None	Protect in Place
164	6PC & 12PC 4C	AT&T	655+50 - 656+00	None	Protect in Place
165	2" HP & 6" conduit	SDG&E Gas	656+00	None	Protect in Place
166	6" VC	City of San Diego	656+40 - 669+35	None	Protect in Place & adjust Sound Wall Location
167	2" & 1.5" HP	SDG&E Gas	655+95 - 669+27	None	Protect in Place & adjust Sound Wall Location

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
168	Electrical UG	SDG&E Electrical	655+95 - 669+27	None	Protect in Place & adjust Sound Wall Location
169	Electrical UG	SDG&E Electrical	655+95 - 669+27	None	Protect in Place & adjust Sound Wall Location
170	1DU 4C	AT&T	662+00 - 662+50	None	Protect in Place & adjust Sound Wall Location
171	1PC 4C, 1 STD	AT&T	668+00 - 669+10	None	Protect in Place & adjust Sound Wall Location
172	20 PVC 4C	AT&T	669+00	None	N/A
173	4" HP & 8" CONDUIT	SDG&E Gas	669+40.51	None	N/A
174	18" VC	City of San Diego	D3 642+29.7, D4 640+68	New Ramp and connectors to 43rd Street	Replace
175	16" AC	City of San Diego	D3 642+29.7, D4 640+68	New Ramp and connectors to 43rd Street	Replace
176	OH	SDG&E Electrical	669+04 Oceanview Blvd OC	Ramp realignment and widening	Protect in Place
177	36" SCRW	City of San Diego - Water	681+97	Previously relocated south of bridge transverse 805. Slope work related to bridge work could impact main.	Line needs to be potted and if possible designed around.
178	UG	SDG&E Electrical	682+30 Imperial Ave	In Bridge	Relocate during bridge work.
179	gas line	SDG&E Gas	682+45 Imperial Ave	In Bridge	Take appx 560' out of service and place new line in bridge
180	4" HP	SDG&E Gas	676+00 - 682+50 (On Imperial off-ramp)	Ramp Realignment + Slopes	Relocate & Remove Old Pipe
181	UG	AT&T	682+95 Imperial Ave	In Bridge	Relocate during bridge work.
182	33" VCP	City of San Diego – Sewer	692+30	Median and shoulder widening	Protect In Place. May need concrete cap to protect from construction loading.

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
183	OH	TV	700+23	Inside and Outside Widening + 2 Retaining Walls	None
184	OH	SDG&E Electrical	700+23	Inside and Outside Widening + 2 Retaining Walls	None
185	30" SCRW	City of San Diego - Water	705+28	Retaining Walls and median widening.	Design retaining wall around pipe. May require protection in median
186	OH	SDG&E Electrical	709+70	Inside and Outside Widening + Ramp Realignment + 3 Retaining Walls	None
187	2" HP	SDG&E Gas	713+00 - 715+50 (44th Street and going into I-805 Market St OC)	Ramp Realignment + Slopes	Relocate & Remove
188	OH	SDG&E Electrical	714+20	Inside and Outside Widening + Ramp Realignment + Retaining Wall	None
189	OH	AT&T	714+20	Inside and Outside Widening + Ramp Realignment + Retaining Wall	None
190	Cable	SDG&E Electrical	714+70 Market Street	Assumed location in bridge	Protect in Place
191	Cable	AT&T	715+40 Market Street (in bridge)	In Bridge	Relocate during bridge work.
192	30" SCRW	City of San Diego – Water	Hilltop 729+30	Previously relocated south of bridge transverse 805. Slope work related to bridgework could impact main.	Line needs to be potted and if possible designed around.
193	Cable	SDG&E Electrical	729+55 Hilltop OC	In Hilltop OC	None
194	6" HP	SDG&E Gas	730+20 (Transverse) Hilltop	Median and outside widening + Slopes	Protect in Place
195	1/2" HP	SDG&E Gas	736+15 (Transverse)	Median and outside widening + Slopes + new HOV Connectors to 94 + Ramp Realignment	Relocate & Remove Old Pipe

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
196	6" CI	City of San Diego - Water	A-Line 742+50 - SD94 240+00 Transverse Crossing	SD94 and I-805 Median and outside widening + Slopes	None
197	UG	AT&T	745+90 Transverse Crossing	Inside and Outside Widening	None
198	12" AC	City of San Diego - Water	749+47 on Federal Blvd	Federal blvd UC	Protect in Place - Design Around
199	UG	AT&T	Federal Blvd 749+55	Outside and inside UC widening	Relocate/Replace & Remove Old conduit, plus AC Resurface
200	27" VCP	City of San Diego - Sewer	Federal Blvd 749+68	Federal Blvd UC + Inside widening	Protect In Place. May need concrete cap to protect from construction loading.
201	UG	AT&T	Ralene Steet UC 760+00 (not in bridge)	Bridge widening/replacement	Relocate/Replac & Remove Old conduit plus AC Resurface
202	16" CPC	City of San Diego - Water	SD94 250+85 Transverse crossing	Median	Protect in Place
203	8" VCP		SD94 251+10 Transverse Crossing	None	None
204	UG	AT&T	SD94 251+50	None	None
205	OH	SDG&Electrical	SD94 256+10	None	None
206	8" VCP	City of San Diego - Sewer	SD94 259+10 Transverse Crossing	None	None
207	8" VCP	City of San Diego - Sewer	SD94 265+50 Transverse Crossing	None	None
208	24" VCP	City of San Diego - Sewer	SD94 212+35 Transverse Crossing	SD94 Median widening	None

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
209	12" CI	City of San Diego - Water	SD94 207+25 - 226+00 along I-805 and Skew crossing at 215+75	SD94 inside and outside widening	None
210	1.5" HP	SDG&E Gas	A line 741+55 to 742+60 (West of 805) and to SD94 240+00	805 West inside and outside widening + bridge on 94WB over 94WB/805SB bridge	Probably not there
211	1.5"HP	SDG&E Gas	A-Line 742+50 - SD94 240+00 Transverse Crossing	SD94 and I-805 Median and outside widening + Slopes	Relocate/Replace & Remove Old Pipe
212	2" HP	SDG&E Gas	SD94 224+30 (under Home Ave OC)	SD94 inside and outside widening	Relocate/Replace plus AC Resurfacing
213	12" CI	City of San Diego - Water	SD94 224+31 Transverse Crossing	SD94 inside and outside widening	Protect in Place - May require concrete cap
214	16" CI	City of San Diego - Water	SD94 224+55 (in UC bridge)	Home Ave Bridge	Protect in Place
215	21" VCP	City of San Diego - Sewer	SD94 224+70 Transverse Crossing	SD94 Median and outside widening + Slopes + Retaining wall	Replace
216	12" CI	City of San Diego - Water	SD94 228+00 - 240+00 North side of SD94	Slopes + Ramp Realignment	Relocate/Replace plus Remove Old Pipe
217	16" CI	City of San Diego - Water	SD94 Appx 228+18	Will need to be potholed + Retaining Walls + Ramp Realignment + SD94 inside and outside widening	Replace
218	8" VCP	City of San Diego - Sewer	SR 94 - Sta 232+70	SD94 Median and outside widening + Slopes + Ramp Realignment + new 805/94 HOV Connector	Replace

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
219	UG	AT&T	SD94 232+95	SD94 Inside and Outside widening + 94W805N and 94E805S ramps realignment and widening + 94/805 HOV connector	None
220	UG	AT&T	SD94 236+20	SD94 Inside and Outside widening + 94W805N and 94E805S ramps realignment and widening + 94/805 HOV connector	None
221	OH	AT&T	765+70 skew crossing	Inside and Outside widening + Home Ave realignment and widening + 2 Retaining Walls	Protect In Place
222	OH	SDG&E Electrical	766+20	Inside and Outside widening + Home Ave realignment and widening + 2 Retaining Walls	None
223	21" PVC	City of San Diego - Sewer	Home Avenue 768+00	Ramp and bridge widening	Relocate + Remove Old Pipe
224	4" HP	SDG&E Gas	768+48 (on Home ave)	Ramp and bridge widening	Relocate + Remove Old Pipe
225		SDG&E Gas	769+00 (On Tulip St parallel to I-805)	No apparent conflict	None
226	OH	SDG&E Electrical	788+70	Bridge Widening/Replacement + Outside Widening + 4 Retaining Walls	None
227	8" Sewer	City of San Diego – Sewer	Ralene UC 790+00	Bridge widening/replacement	Abandoned.
228	6" HP	SDG&E Gas	790+00 in Ralene St OC	Bridge widening/replacement	Replace
229	12" AC	City of San Diego – Water	Ralene St UC 790+20	Bridge Widening/Replacement	Protect in Place - Design Around
230	36" SCRW	City of San Diego – Water	Transverse at 798+22	Possible conflict with retaining walls + 805/15 connector + Ramp realignment	Design retaining wall around pipe.
231	OH	SDG&E Electrical	798+50	Inside and Outside Widening + 805/15 connector + Ramp Realignment and widening + 3 Retaining Walls	None

ASSESSMENT OF UTILITY IMPACTS (cont.)

	Size & Material	Agency Contact	Center Line Station Limits	Conflict	Recommendation
232	24" VCP	City of San Diego - Sewer	Transverse at 804+17	805/15 connector + I-15 widening (I-805 crosses over the I-15 at this point)	Replace
233	10" VCP	City of San Diego - Sewer	Transverse at A line 816+28	Retaining Walls + Widening + Ramp Realignment	Replace
234	10" VCP	City of San Diego - Sewer	Skews at appx 826+49	Connector 15SB to 805SB + ramp realignment 805SB to 15SB + 805 widening	Replace
235	24" VCP	City of San Diego - Sewer	I-15 186+45 Transverse crossing	15/805 connector (bridge) + I-15 Road widening	Protect in Place
236	10" VCP	City of San Diego - Sewer	I-15 194+75 Transverse crossing	5 retaining walls + I-15 Road Widening	Replace
237	18" VCP	City of San Diego - Sewer	Skews at appx 839+14	805 inside and outside widening + Retaining Wall	Replace
238	36" SCRW	City of San Diego - Water	Transverse at 845+79	805 inside and outside widening + Retaining Wall	Protect in Place - Design around
239	21" VCP	City of San Diego - Sewer	15SB to 805SB connector and ramp at ramp Sta829+90	Connector 15SB to 805SB + ramp realignment 805SB to 15SB	Relocate + Remove Old Pipe
240	OH	SDG&E Electrical	852+30	Ramp Realignment/widening + Retaining Wall	None
241	10" VCP	City of San Diego - Sewer	Transverse at 852+44	805 inside and outside widening + retaining wall	Replace
242	15" VCP	City of San Diego - Sewer	Skews at appx 855+00	805 inside and outside widening	Replace
243	12" AC	City of San Diego - Water	861+00	In Landis Bridge	Protect in Place

NB	North Bound	LW	Lane Widening
SB	South Bound	SVS	Spring Valley Sanitation
OH	Over Head	Ped	Pedestrian
ONR	On Ramp	LF	Linear Feet
OFR	Off Ramp	UG	Underground

APPENDIX F

ENVIRONMENTAL COMMITMENTS RECORD

**ENVIRONMENTAL COMMITMENTS RECORD (ECR)
INTERSTATE 805 MANAGED LANES SOUTH PROJECT**

Date: August 2010
Environmental Coordinator: Jamie Le Dent
619-688-0157

11-SD-805
PM 4.4/15.8
EA 081610

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed	
				Initial	Date
DESIGN KICK-OFF	Project Management/Project Delivery	Beginning of 1 phase			
ENVIRONMENTAL PS&E REVIEW	Project Management/ Environmental	District PS&E Circulation			
PRECONSTRUCTION MEETING	Project Management	Contract Award			
TRANSFER RESIDENT ENGINEER BOOK	Project Engineer (RE)	Pre-construction Meeting			
PREJOB MEETING	Project Management/ Construction	Construction			
ENVIRONMENTAL COMPLIANCE REVIEW	Project Management/ Construction	Safety Review			
DESIGN FEATURES MEMORANDUM	Project Management/ Construction	Post Construction			
PERMITS					
Section 7 Consultation - Threatened and Endangered Species	RE / Construction	Pre-construction			
Section 404 Permit	RE / Construction	Pre-construction			
1602 Streambed Alteration Agreement	RE / Construction	Pre-construction			
Section 401 Water Quality Certification	RE / Construction	Pre-construction			

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LAND USE					
During construction of the new East 22 nd Street pedestrian overcrossing structure (POC), the existing POC would remain open the majority of the time for public use. If during the design phase of this Project it is determined to be impracticable to construct an adjacent POC, then the residents in the immediate area would be notified of the dates and duration of the POC closure and alternate routes that are available to cross I-805.	Design / Construction	Design / Construction			
Construction activities for the East J Street and the park driveway improvements would be scheduled when street lane closures are permitted (typically nighttime hours).	Construction	Construction			
UTILITIES/EMERGENCY SERVICES					
Traffic Management Plan for emergency vehicles	Construction	Construction			
Waste Management Plan to minimize generation of construction debris and solid waste	Construction	Construction			
Coordination with local emergency services so that public safety is not threatened	Project Management/ Construction	Pre-construction/ Construction			
TRAFFIC AND TRANSPORTATION/ PEDESTRIAN AND BICYCLE FACILITIES					
Install ramp meters on all entrance ramps to control volumes entering the freeway and weaving movements	RE/ Traffic	Design/ Construction			
Implement Traffic Management Plan	RE/ Traffic	Construction			
Signalize and/or re-stripe affected intersections and roadways, where appropriate	RE/ Traffic	Design/ Construction			
VISUAL/AESTHETICS					
Implement applicable landscape design guidelines in consultation with the District 11 Landscape Architect	Design / Landscape Architect	Design / Construction			
Perform mitigation monitoring of all visual mitigation requirements	Design / Landscape Architect	Design / Construction			

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CULTURAL RESOURCES					
Apply an Environmentally Sensitive Area (ESA) designation to the area of site CA-SDI-19463	Project Management / Construction	Pre-construction/ Construction			
If currently unknown cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find	Construction	Construction			
If human remains are discovered, further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner would be contacted. If remains are thought to be Native American, the coroner would notify the NAHC, which would then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains would contact the Caltrans District Archaeologist so that she may work with the MLD on the respectful treatment and disposition of the remains.	Construction	Construction			
HYDROLOGY AND FLOODPLAIN					
Detailed drainage reports based on final Project design parameters, including appropriate design, sizing, and location of proposed storm drain facilities; and continued consultation with applicable federal, state, and local agencies	Project Management/ Construction	Pre-construction/ Construction			
Design all proposed on-site storm drain facilities to accommodate anticipated peak flows from a 25-year storm event and modifications to off-site storm drain facilities (e.g., cross drains) to accommodate anticipated peak flows from a 100-year storm event, pursuant to applicable Caltrans requirements	Design/ Construction	Design/ Construction			
Design applicable Project storm drain outlets to include appropriately sized energy dissipation structures (e.g., riprap aprons) to reduce flow velocities prior to discharging into natural water courses	Design/ Construction	Design/ Construction			
Avoid potential encroachment associated with travel lane extensions north of Bonita Road by constructing retaining wall along the top of the adjacent embankment slope	Design/ Construction	Design/ Construction			
Construct the proposed abutment structure at the Sweetwater River Bridge on the north side of the channel outside of mapped floodplain boundaries	Design/ Construction	Design/ Construction			
Line up proposed Sweetwater River Bridge pier wall extensions with the existing pier walls and parallel to the flow direction	Design/ Construction	Design/ Construction			
Conduct enlargement of the pile caps beneath the Sweetwater River Bridge pier walls completely below grade	Design/ Construction	Design/ Construction			

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WATER QUALITY AND STORM WATER RUNOFF					
Implement an authorized Storm Water Pollution Prevention Plan	Design/RE	Construction			
Implement standard Best Management Practices (BMPs) listed in Project <i>Water Quality Report</i> and Storm Water Data Reports	Design/RE	Construction			
Implement construction-related hazardous materials BMPs	Design/RE	Construction			
Implement erosion/sediment control BMPs	Design/RE	Construction			
Implement pollution prevention BMPs	Design/RE	Construction			
Implement treatment BMPs	Construction	Construction			
Implement maintenance BMPs	Construction	Construction			
GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY					
Conduct detailed subsurface exploration and laboratory testing to assess subsurface conditions in proposed development areas, as necessary	Design/ Construction	Design/ Construction			
Potential impacts related to seismic ground acceleration would be addressed/avoided through efforts such as: (1) conformance with applicable seismic parameters from sources, including Department standards and the IBC/CBC; (2) use of properly engineered fill; (3) appropriate foundation and pavement design; (4) use of properly reinforced concrete and masonry; and (5) appropriate structure and utility design	Design/ Construction	Design/ Construction			
Potential liquefaction and seismic settlement effects would be addressed/avoided through efforts such as: (1) conformance with applicable seismic parameters from sources, including Caltrans standards and the IBC/CBC; (2) removal and recompaction or replacement of materials susceptible to liquefaction or seismic settlement with engineered fill; (3) in-place soil and/or structural modifications such as compaction grouting, soil mixing, dynamic compaction, or driving piles below liquefiable layers; and (4) use of subdrains in appropriate areas	Design/ Construction	Design/ Construction			
Potential impacts related to manufactured slope/excavation instability hazards could be addressed/avoided through efforts such as: (1) limitation of individual manufactured slope grades per geotechnical recommendations; (2) use of proper BMPs related to landscaping, erosion/sedimentation and drainage controls as identified in Subchapters 2.8 and 2.9; and (3) conformance with applicable Caltrans, OSHA and Cal/OSHA standards (e.g., limiting slope grades and incorporating appropriate shoring)	Design/ Construction	Design/ Construction			

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Potential impacts related to the instability of retaining walls would be addressed/avoided through efforts such as: (1) use of appropriate footing and foundation design per geotechnical recommendations; (2) use of appropriate stabilizing techniques such as soil nail, tieback and/or mechanically stabilized earth (MSE) walls; (3) conformance with appropriate recommendations and regulatory/industry standards regarding wall design and loading; and (4) provision of appropriate drainage	Design/ Construction	Design/ Construction			
Expansive or compressive characteristics in surficial materials would be addressed/avoided through efforts such as: (1) removal and recompaction or replacement of unsuitable soils with engineered fill; (2) selective placement and/or capping of expansive soils; (3) use of subdrains and moisture conditioning in areas of expansive soils; (4) soil mixing and use of specially designed foundations or slabs in areas of expansive deposits; (5) use of in-place soil modifications in areas of compressible soils (as described above for liquefaction/seismic settlement); (6) surcharging of compressible materials left in place to accelerate consolidation rates; and (7) implementation of settlement monitoring periods/monuments in areas of compressible soils	Design/ Construction	Design/ Construction			
Potential impacts associated with corrosive soils would be addressed/avoided through efforts such as: (1) removal of unsuitable deposits and replacement with non-corrosive fill, (2) use of corrosion-resistant construction materials and (3) installation of cathodic protection devices	Design/ Construction	Design/ Construction			
Potential impacts related to oversize materials would be addressed/avoided through efforts such as screening and removal (e.g., off-site disposal) of materials unsuitable for use in on-site fills, selective burial of oversize materials in deeper fills, or crushing to appropriate size for use in on-site fill	Design/ Construction	Design/ Construction			
Potential impacts related to scour at the Sweetwater River Bridge would be addressed/avoided through conformance with associated geotechnical recommendations, including efforts such as the use of: (1) riprap revetments at bents 2, 3 and 4; and (2) grouted riprap along reconstructed portions of the channel banks	Design/ Construction	Design/ Construction			

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				Initial	Date
PALEONTOLOGY					
Prepare and implement a Paleontological Mitigation Plan (PMP)	Project Management	Pre-construction			
A qualified principal paleontologist (M.S. or Ph.D. in paleontology or geology, and familiar with paleontological procedures and techniques) would be retained to be present at pre-grading meetings to consult with grading and excavation contractors	Project Management	Pre-construction			
Provide grading plans to the Project paleontologist at least one week prior to the initiation of earth-moving activities	Project Management	Pre-construction			
A paleontological monitor, under the direction of the qualified paleontologist, would be on site on a full-time basis during the original cutting of previously undisturbed deposits with high or moderate paleontological resource potential (i.e., the Bay Point, Lindavista, and San Diego formations) to inspect exposures for contained fossils	RE/ Paleontologist	Construction			
If fossils are discovered, the paleontologist (or paleontological monitor) would recover them. Construction work in these areas would be halted or diverted to allow recovery of fossil remains in a timely manner	RE/ Paleontologist	Construction			
During the monitoring and recovery phases of the PMP, the paleontologist and/or paleontological monitor would also routinely collect stratigraphic data to provide an adequate stratigraphic context for any recovered fossils	Paleontologist	Construction			
Fossil remains collected during the monitoring and salvage portion of the mitigation program would be cleaned, repaired, sorted, and cataloged	Paleontologist	Construction			
Prepared fossils, along with copies of all pertinent field notes, photos and maps, would then be deposited in a scientific institution with paleontological collections	Paelontologist	Construction			
A final report would be completed that outlines the results of the mitigation program	Paleontologist	Construction/ Post-construction			

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HAZARDOUS WASTE/MATERIAL					
<p>Conduct sampling characterize soil and/or groundwater in areas of concern prior to Caltrans' property acquisition and disturbance of soil if:</p> <ul style="list-style-type: none"> ▪ Staining, dumping, or other evidence of a release to the ground water surface was observed during site reconnaissance; ▪ The current nature of the business on the site (e.g., gas station, auto repair, etc.), or the historical use of the property indicates on-site hazardous waste/materials generators/users; or ▪ Previous agricultural usage of the site indicates the potential for residual pesticides, herbicides, insecticides, or agriculturally related hazardous waste/materials storage/ staging or application 	RE/Contractor	Pre-construction			
Conduct shallow soil sampling in the proposed area of improvements prior to commencement of excavation activities to determine if lead is present in the soil, and the concentration and areal extent	Contractor	Pre-construction			
Remove and dispose of wastes and potentially hazardous wastes on site, including municipal trash, discarded appliances, old tires, and equipment, prior to commencement of excavation activities	RE/Contractor	Pre-construction			
If treated wood is present on the Project site and would be removed during construction, it would be characterized, managed, and disposed of in accordance with applicable DTSC Treated Wood Waste regulations	RE/Construction	Construction			
Prior to commencement of excavation activities, a Site and Community Health and Safety Plan would be prepared to manage potential health and safety hazards to workers and the public	Contractor	Pre-construction			
Prior to commencement of excavation activities, a Soil Management Plan would be prepared to address the notification, monitoring, sampling, testing, handling, storage, and disposal of contaminated media or substances that may be encountered during construction activities	Contractor	Pre-construction			
If groundwater is anticipated to be encountered during subsurface activities, a Groundwater Management Plan would be prepared prior to commencement of excavation activities to address the notification, monitoring, sampling, testing, handling, storage, and disposal of potentially contaminated groundwater	RE/Contractor	Pre-construction/ Construction			
Contract specifications would include references to the potential to encounter contaminated soil, groundwater, or other regulated wastes during Project construction	RE	Pre-construction			

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Further assessment would be performed at the Project site if soil suggestive of contamination or other potential environmental issues is encountered during Project construction	RE/Contractor	Construction			
The City of San Diego Local Enforcement Agency would be contacted prior to disturbance of soil in areas suspected of being associated with historical burn sites or dumping	RE	Pre-construction			
Prior to renovation or demolition of bridge components, surveys would be conducted of affected bridges to evaluate the presence, locations, and quantities of asbestos-containing materials. Suspect materials, including bridge joints and piping material, would be sampled and analyzed, and if present, appropriate abatement actions would be implemented in accordance with applicable regulatory requirements	RE/Contractor	Pre-construction/ Construction			
Prior to disturbance of any painted surfaces, sampling would be performed to assess the presence of lead. Suspect surfaces, including guardrails, piping, and pavement striping, should be sampled and analyzed, and if present, appropriate abatement actions shall be implemented in accordance with applicable regulatory requirements. A Lead Compliance Plan is required prior to any paint stripe removal.	RE/Contractor	Pre-construction/ Construction			
Soil subject to export would be characterized to assess the appropriate waste classification consistent with the requirements of the permitted disposal facility	RE/Contractor	Pre-construction/ Construction			
AIR QUALITY					
The construction contractor would comply with Caltrans' Standard Specifications Section 7-1.01F and Section 10 of Caltrans' Standard Specifications (2006)	RE/ Construction	Construction			
Water or dust palliative would be applied to exposed soil surfaces at the Project site as frequently as necessary to control fugitive dust emissions	RE/ Construction	Construction			
Soil binder would be spread on any unpaved roads used for construction purposes, and all construction parking areas	RE/ Construction	Construction			
Trucks would be washed off as they leave the Project site as necessary to control fugitive dust emissions	RE/ Construction	Construction			
Construction equipment and vehicles would be properly tuned and maintained. Low sulfur fuel would be used in all construction equipment, as provided in California Code of Regulations Title 17, Section 93114	RE/ Construction	Construction			
A dust control plan would be developed to document sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts to existing communities	RE/ Construction	Construction			

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Equipment and materials storage areas would be located as far away from residential, school, and park uses as practical	RE/ Construction	Construction			
Extended idling of diesel equipment would be prohibited, to the extent that is feasible	RE/ Construction	Construction			
Track-out reduction measures such as gravel pads would be used at access points to minimize dust and mud deposits on roads affected by construction traffic	RE/ Construction	Construction			
Transported loads of soils and wet materials would be covered, or adequate freeboard (space from the top of the material to the top of the truck) would be provided to reduce PM ₁₀ and deposition of particulate during transportation	RE/ Construction	Construction			
Dust and mud that are deposited on paved, public roads due to construction activity and traffic would be removed to decrease particulate matter	RE/ Construction	Construction			
To the extent feasible, construction traffic would be routed and scheduled to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times	RE/ Construction	Construction			
Mulch or plant vegetation would be installed as soon as practical after grading to reduce windblown particulates in the area	RE/ Construction	Construction			
NOISE					
The following noise control measures would be implemented during Project construction: <ul style="list-style-type: none"> ▪ Compliance with Caltrans' Standard Specifications 7-1.011 (May 2006) Sound Control Requirements ▪ Ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine enclosures, and engine vibration isolators, intact and operational ▪ All construction equipment would be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding, etc.) ▪ Idling equipment would be turned off ▪ A construction noise monitoring program would be implemented ▪ Noisier operations would be performed during the times least sensitive to receptors ▪ The community would be informed of anticipated construction activities and schedules 	RE/ Construction	Pre-construction/ Construction			
Construct noise abatement (TBD)	RE/ Design	Design/ Construction			

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ENERGY					
To the extent feasible, construction traffic would be routed and scheduled to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times. TMP strategies would be implemented to minimize delay for existing traffic during construction	RE / Construction	Construction			
Construction equipment and vehicles would be properly tuned and maintained. Low sulfur fuel would be used in all construction equipment as provided in CCR Title 17, Section 93114	RE/ Construction	Construction			
To the extent feasible, existing materials would be reused and incorporated into the proposed facilities	RE/ Construction	Construction			
Where possible, use drought-tolerant plants to reduce the need for irrigation and the likelihood of invasive species	Design / Landscape Architect	Design / Construction			
Include proposed features to reduce long-term maintenance needs of the Project, which reduce the long-term use of resources. These include such items as concrete median barriers, overhead video-based detection, and interconnecting light signals to increase efficiency	RE / Design	Design / Construction			
NATURAL COMMUNITIES					
All native or sensitive habitats outside the permanent and temporary construction limits would be designated as ESAs on Project maps. ESAs would be temporarily fenced with orange plastic snow fence. No personnel, debris, or equipment would be allowed within the ESAs	RE/ Construction	Pre-construction/ Construction			
A qualified biologist would be available for both the pre-construction and construction phases to review grading plans, address protection of special status biological resources, and monitor ongoing work. The biologist would be familiar with the habitats, plants, and wildlife of the Project area, and maintain communications with the resident engineer, to ensure that issues relating to biological resources are appropriately and lawfully managed	RE/ Construction	Pre-construction/ Construction			
Cut slopes adjacent to native habitats would be revegetated with native upland habitats with compositions similar to those within the BSA. Fill slopes would be revegetated with appropriate native upland species. The revegetated areas would have temporary irrigation and be planted with native container plants and seeds selected by the biologist. There would be at least three years of plant establishment/maintenance on these slopes to control invasive weeds. Bioswales would be planted with appropriate native species as determined by the biologist and storm water pollution prevention professional	RE/ Construction	Construction			

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Duff from areas with coastal sage scrub and chaparral would be saved to aid in revegetating slopes with native species	RE/ Construction	Construction			
All temporary impacts to native and sensitive habitats would be revegetated and restored to pre-existing conditions. Plants salvaged from construction areas would be placed on created slopes or in an off-site mitigation area	RE/ Construction	Construction/ Post-construction			
Permanent impacts to sensitive upland communities would be mitigated by preservation at the Anderprise Mitigation Site at Otay Mesa or another approved mitigation site in consultation with the resource agencies.	Qualified Biologist	Pre-construction			
Fugitive dust would be minimized through the application of water or chemical palliatives to active construction areas and unpaved surfaces	RE/ Construction	Construction			
Invasive plant species would not be used in Project landscaping	RE/ Design	Construction			
Construction or operational night lighting would be shielded and directed away from native habitat	RE/ Construction	Construction			
Implement site design and construction-related BMPs, including: <ul style="list-style-type: none"> ▪ Installing erosion and sediment control devices such as silt fences, fiber rolls, bonded fiber matrix, mulching, and gravel bags in appropriate locations; ▪ Placing temporary filters at storm drain inlets (e.g., gravel bags/filter fabric); ▪ Stabilizing construction entrances; ▪ Designating containment areas for material storage (e.g., covering/berming of soil stockpiles); ▪ Providing containment areas for solid waste storage and concrete washout; and ▪ Using energy dissipators in appropriate locations 	RE/ Construction	Pre-construction/ Construction			
WETLANDS AND OTHER WATERS					
Permanent and temporary impacts to wetland/riparian vegetation would be mitigated off site through creation and/or restoration an approved mitigation site in consultation with the resource agencies.	Qualified Biologist	Pre-construction			
All debris from the expansion of bridges would be contained so that it does not fall into rivers and creeks	RE/ Construction	Construction			
Bioswales would be placed on many of the slopes to treat runoff from the freeway	RE/ Construction	Construction			
Appropriate BMPs would be used to control erosion and sedimentation. No sediment or debris would be allowed to enter the vernal pools, creeks, rivers, or other drainages	RE/ Construction	Pre-construction/ Construction			

**ENVIRONMENTAL COMMITMENTS RECORD (ECR)
INTERSTATE 805 MANAGED LANES SOUTH PROJECT**

Date: August 2010
Environmental Coordinator: Jamie Le Dent
619-688-0157

11-SD-805
PM 4.4/15.8
EA 081610

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed	
				Initial	Date
Fueling of construction equipment would only occur at a designated area at a distance greater than 100 feet from drainages and associated plant communities to preclude adverse water quality impacts. Fuel cans and fueling of tools would not occur within drainages	RE/ Construction	Construction			
PLANT SPECIES					
All native or sensitive habitats outside the permanent and temporary construction limits would be designated as ESAs on Project maps. ESAs would be fenced with orange plastic snow fence. No personnel, debris, or equipment would be allowed within the ESAs	RE/ Construction	Pre-construction/ Construction			
The coast barrel cactus may be salvaged and replanted within the R/W or at a mitigation site	RE/ Construction	Construction			
All temporary impacts to native and sensitive habitats would be revegetated and restored to pre-existing conditions. Plants salvaged from construction areas may be placed on created slopes or in an off-site mitigation area	RE/ Construction	Construction			
Seeds from the San Diego sunflower removed during construction may be collected prior to brushing activities for use in revegetation efforts	RE/ Construction	Construction			
ANIMAL SPECIES					
All native vegetation and non-native shrubs and trees within the impact areas would be removed outside of the breeding season (February 15 to August 31) to avoid impacts to nesting birds. Otherwise, a qualified biologist would thoroughly survey all vegetation prior to removal during the breeding season to ensure there are no nesting birds within the impact area. If nesting birds are identified within the impact area, vegetation removal would be delayed until the nest no longer supports eggs or chicks	RE/ Contractor	Pre-construction/ Construction			
Exclusion devices would be installed on bridge drain holes and ledges during the non-breeding season (September 1 through February 15) to prevent swallows, swifts, and any other birds or bats from nesting on or within bridges to be expanded	RE/ Construction	Pre-construction/ Construction			
Lighting used at night for construction would be shielded away from ESAs	RE/ Construction	Construction			

**ENVIRONMENTAL COMMITMENTS RECORD (ECR)
INTERSTATE 805 MANAGED LANES SOUTH PROJECT**

Date: August 2010
Environmental Coordinator: Jamie Le Dent
619-688-0157

11-SD-805
PM 4.4/15.8
EA 081610

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase	Action Taken to Comply with Task	Task Completed	
				Initial	Date
THREATENED AND ENDANGERED SPECIES					
Impacts to California gnatcatcher habitat and critical habitat would be mitigated by off-site habitat preservation of at Anderprise Mitigation Site at Otay Mesa or another approved mitigation site in consultation with the resource agencies.	Qualified Biologist	Pre-construction			
Impacts to habitat supporting least Bell's vireo and light-footed clapper rail would be mitigated through off-site creation and/or restoration of habitat at approved mitigation sites	Qualified Biologist	Pre-construction			
All native vegetation and non-native shrubs and trees within the impact areas would be removed outside of the breeding season (February 15 to August 31) to avoid impacts to nesting birds. Otherwise, a qualified biologist would thoroughly survey all vegetation prior to removal during the breeding season to ensure there are no nesting birds within the impact area. If nesting birds are identified within the impact area, vegetation removal would be delayed until the nest no longer supports eggs or chicks	RE/ Contractor	Pre-construction/ Construction			
All pile driving along the Sweetwater River would be completed outside the breeding season of listed birds (March 15 to September 15) to minimize construction noise impacts to light-footed clapper rail and least Bell's vireo	Construction	Pre-construction/ Construction			
Lighting used at night for construction would be shielded away from ESAs	Construction	Construction			
INVASIVE SPECIES					
Special care would be taken when transporting, using, and disposing of soils with invasive weed seeds	Construction	Construction			
All heavy equipment would be washed and cleaned of debris prior to entering a riparian area, to minimize spread of invasive weeds	Construction	Construction			
Plant material to be used for the Project would be inspected to ensure that no Argentine ants are imported with the plants	Qualified Biologist	Construction			

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APPENDIX G

LIST OF ACRONYMS

LIST OF ACRONYMS AND ABBREVIATIONS

AADT	annual average daily traffic
AB	Assembly Bill
ACM	asbestos-containing material
ACOE	U.S. Army Corps of Engineers
ADA	Americans with Disabilities Act
ADT	average daily traffic
Advisory Council	Advisory Council on Historic Preservation
AGR	agricultural supply
AM	morning
APCD	Air Pollution Control District
APE	Area of Potential Effects
ARB	California Air Resources Board
ASR	Archaeological Study Report
AST	above ground storage tank
Basin Plan	Water Quality Control Plan for the San Diego Basin
BAT/BCT	Best Available Technology economically achievable/ Best Conventional Technology
BIOL	biological habitats of special significance
BMPs	best management practices
BRT	Bus Rapid Transit
BSA	Biological Study Area
CalEPA	California Environmental Protection Agency
Cal/OSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
Caltrans Statewide Permit	NPDES Statewide Storm Water Permit
CAA	Clean Air Act, as amended in 1990
CAAQS	California Ambient Air Quality Standards
CBC	California Building Code
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFG	California Department of Fish and Game
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CERFA	Community Environmental Response Facilitation Act of 1992
CFR	Code of Federal Regulations
CH ₄	methane
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CIA	Community Impact Assessment
CNPS	California Native Plant Society
CO	carbon monoxide
CO Protocol	Transportation Project-Level Carbon Monoxide Protocol
CO ₂	carbon dioxide
COMM	commercial and sport fishing
Construction General Permit	SWRCB NPDES Statewide Construction General Permit

COPC	contaminant of potential concern
COZEEP	Construction Zone Enhanced Enforcement Program
CRHR	California Register of Historic Resources
CWA	Clean Water Act
cy	cubic yards
DAR	direct access ramp
dB	decibel(s)
dBA	A-weighted decibel(s)
DEH	San Diego County Department of Environmental Health
DLA	District 11 Landscape Architect
DOT	U.S. Department of Transportation
DRIS	Draft Relocation Impact Statement
DSA	disturbed soil area
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EA	Environmental Assessment
EB	eastbound
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ELR	Environmental Law Reporter
EO	Executive Order
ESA	Environmentally Sensitive Area
EST	estuarine habitat
ETC	Electronic Toll Collection
°F	degrees Fahrenheit
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FONSI	Finding of No Significant Impact
FR	Foundation Report
FSP	Freeway Service patrol
FTA	Federal Transit Administration
FY	fiscal year
g	acceleration due to gravity
GDR	Geotechnical Design Report
GHG	greenhouse gas
GIS	Geographic Information Systems
H ₂ S	Hydrogen Sulfide
HA	Hydrologic Area
HEC-RAS	Hydrologic Engineering Center-River Analysis System
HFCs	hydrofluorocarbons
HOV	High Occupancy Vehicle
HPSR	Historic Property Survey Report
HRER	Historical Resources Evaluation Report
HSA	Hydrologic Sub Area
HU	Hydrologic Unit

I-	Interstate
IAP	intermediate access point
IBC	International Building Code
IND	industrial service supply
IRIS	Integrated Risk Information System
ISA	Initial Site Assessment
ITS	Intelligence Transportation System
Leq	noise equivalent level
Leq(h)	peak-noise-hour noise equivalent level
LCS	lead-containing surface
LHS	Location Hydraulic Study
LOS	level of service
LU	landscape unit
MAR	marine habitat
MCE	Maximum Credible Earthquake
MEP	maximum extent practicable
mg/l	milligram(s) per liter
MHPA	Multi-Habitat Planning Area
MIGR	migration of aquatic organisms
MLD	Most Likely Descendant
mph	miles per hour
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer System
MSAT	Mobile Source Air Toxic
MSCP	Multiple Species Conservation Program
MSE	mechanically stabilized earth
MSL	mean sea level
MTBE	methyl tertiary butyl ether
MTS	Metropolitan Transit System
MUN	municipal and domestic supply
NAAQS	National Ambient Air Quality Standards
NAC	noise abatement criteria
NADR	Noise Abatement Decision Report
NAFTA	North American Free Trade Agreement
NAHC	Native American Heritage Commission
NATA	National Air Toxics Assessment
NAV	navigation
NB	northbound
NCTD	North County Transit District
NEPA	National Environmental Policy Act
NES	Natural Environmental Study
NHPA	National Historic Preservation Act of 1966
NIE	Newport-Inglewood/Rose Canyon East Fault Zone
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Construction

NOCC	Notice of Completion of Construction
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSR	Noise Study Report
O ₃	ozone
OSHA	Occupational Safety and Health Act
PA	Programmatic Agreement
PAH	polycyclic aromatic hydrocarbon
PAMA	Pre-Approved Mitigation Area
Pb	lead
PCB	polychlorinated biphenyl
PCC	Portland Cement Concrete
PDR	Preliminary Drainage Report
PDT	Project Development Team
PER	Paleontological Evaluation Report
PERMITS	San Diego County DEH Hazardous Materials Establishments
PFCs	perfluorocarbons
PGR	Preliminary Geotechnical Report
PIR	Paleontological Identification Report
PM	afternoon/particulate matter/post mile
PM _{2.5}	fine particulate matter with a diameter of 2.5 microns or less
PM ₁₀	respirable particulate matter with a diameter of 10 microns or less
PMP	Paleontological Mitigation Plan
POC	pedestrian overcrossing
POE	port of entry
P-O-P	Problems Options Plan
ppm	parts part million
PRA	Paleontological Resource Assessment
PRC	Public Resources Code (California)
(proposed) Project	Interstate-805 Managed Lanes South Project
Province	Peninsular Ranges Geomorphic Province
RAP	Relocation Assistance Program
RARE	rare, threatened, and endangered species
RCP	Regional Comprehensive Plan
RCRA	Resource Conservation and Recovery Act of 1976
RCRA GEN	Resource Conservation and Recovery Act Large and Small Quantity Generators List
REC	recognized environmental condition/recreational area
REC-1	contact recreation
REC-2	non-contact recreation
RSA	Resource Study Area
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RV	recreational vehicle
RVP	Reid Vapor Pressure
R/W	right-of-way
RWQCB	San Diego Regional Water Quality Control Board

SAA	Streambed Alteration Agreement
SANDAG	San Diego Association of Governments
SANTEC/ITE	San Diego Traffic Engineers Council/Institute of Transportation Engineers
SB	southbound
SCIC	South Coastal Information Center
SDAB	San Diego Air Basin
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas and Electric
SDMM	San Diego Museum of Man
SF ₆	sulfur hexafluoride
SHELL	shellfish harvesting
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SO ₄	sulfates
SOV	single occupancy vehicle
SPWN	spawning, reproduction and/or early development
SR	State Route
SRA	subregional areas
STP	shovel test pit
SVOC	semivolatile organic compound
SWAMP	Surface Water Ambient Monitoring Program
SWMP	Statewide Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TBA	tert-butyl alcohol
TDCs	Target Design Consultants
TDM	Transportation Demand Management
TDS	total dissolved solids
TMDL	total maximum daily load
TMP	Traffic Management Plan
TMT	Traffic Management Team
TPH	total petroleum hydrocarbons
TPH-g	total petroleum hydrocarbons as gasoline
TRPH	total recoverable petroleum hydrocarbons
TSM	Transportation Systems Management
TSP	transit signal priority
TSS	total suspended solids
U.S.	United States
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
V/C	volume-to-capacity ratio
VIA	Visual Impact Assessment
VMT	vehicle miles traveled
VOC	Volatile organic compounds

WARM	warm freshwater habitat
WB	westbound
WILD	wildlife habitat
WMP	Waste Management Plan
WPCP	Water Pollution Control Plan
$\mu\text{g/L}$	micrograms per liter
$\mu\text{g/m}^3$	micrograms per cubic meter

APPENDIX H

SPECIES LIST



Kurt_Roblek@fws.gov
 10/01/2009 09:20 AM

To susan_scatolini@dot.ca.gov
 cc kim_miller@dot.ca.gov
 bcc

Subject I-805 Corridor Project - South Segment

History: This message has been replied to and forwarded.

Hi Sue

I reviewed the April 11, 2006, species list for this project (FWS-SDG-4840.2). The list remains accurate.

Common Name	Scientific Name	Status
BIRDS		
Coastal California gnatcatcher	<i>Polioptila californica californica</i>	T, CH
Least Bell's vireo	<i>Vireo bellii pusillus</i>	E
Light-footed clapper rail	<i>Rallus longirostris levipes</i>	E
Southwestern willow flycatcher	<i>Epidonax traillii extimus</i>	E
INVERTEBRATES		
San Diego fairy shrimp	<i>Branchinecta sandiegonensis</i>	E
PLANTS		
Otay tarplant	<i>Deinandra conjugens</i>	T
San Diego thorn-mint	<i>Acanthomintha ilicifolia</i>	T
San Diego ambrosia	<i>Ambrosia pumila</i>	E
San Diego button-celery	<i>Eryngium aristulatum</i> var. <i>parishii</i>	E
Spreading navarretia	<i>Navarretia fossalis</i>	T

Kurt Roblek
 Biologist
 U.S. Fish and Wildlife Service
 (760) 431-9440 ext 308



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, California 92011



In Reply Refer To:
FWS-SDG-4840.2

APR 11 2006

Chris White
Chief, Environmental Resource Studies
Department of Transportation, District 11
P.O. Box 85406, M.S. 25
San Diego, California 92110

Subject: Request for Candidate, Proposed, Threatened, or Endangered Species for the Interstate 805 Widening Project – South Segment, San Diego, California

Attention: Sue Scatolini

Dear Mr. White:

The U.S. Fish and Wildlife Service has reviewed the information provided in your letter dated February 1, 2006, and received February 2, 2006, to assess the potential presence of federally listed threatened, endangered, or proposed species and/or their critical habitats at the proposed project site. To assist you in evaluating whether or not the proposed project may affect listed species and/or their critical habitats, we are providing the attached list of federally listed species that may occur in the general project area. Please note that only general biological information is available for the project area and this may not be a comprehensive list. The proposed project is located in potential habitat for the species listed in the attachment.

Also attached is a list of species that are covered under the City of San Diego's Multiple Species Conservation Plan.

You should contact the California Department of Fish and Game for State-listed and other sensitive species that may occur in the area of the proposed project. Please note that State-listed species are protected under the provisions of the California Endangered Species Act. We recommend that you seek assistance from a biologist familiar with the project site, and experienced in assessing the potential for direct, indirect, and cumulative effects to species and their habitats likely to result from the proposed activity.

If it is determined that the proposed project may affect a listed or proposed species, or designated or proposed critical habitat, consultation (or conference for proposed species) with the Service pursuant to section 7 of the Endangered Species Act (Act) of 1973, as amended, should be initiated. Informal consultation may be used to exchange information and resolve conflicts with respect to listed species prior to a written request for formal consultation.

**TAKE PRIDE[®]
IN AMERICA** 

Mr. Chris White (FWS-SDG-4840.2)

2

Should you have any questions regarding the species on the enclosed list or your responsibilities under the Act, please call Kurt Roblek of my staff at (760) 431-9440, extension 308.

Sincerely,

A handwritten signature in black ink, appearing to read "Therese O'Rourke". The signature is stylized and includes a large, looped flourish at the end.

Therese O'Rourke
Assistant Field Supervisor

Mr. Chris White (FWS-SDG-4840.2)

3

**Federally Listed or Candidate Species Which Occur or May Occur
on the Project Site of the Interstate 805 – South Segment Widening Project**

Common Name	Scientific Name	Status
BIRDS		
Coastal California gnatcatcher	<i>Polioptila californica californica</i>	T, CH
Least Bell's vireo	<i>Vireo bellii pusillus</i>	E
Light-footed clapper rail	<i>Rallus longirostris levipes</i>	E
Southwestern willow flycatcher	<i>Epidonax traillii extimus</i>	E
INVERTEBRATES		
San Diego fairy shrimp	<i>Branchinecta sandiegonensis</i>	E
PLANTS		
Otay tarplant	<i>Deinandra conjugens</i>	T
San Diego thorn-mint	<i>Acanthomintha ilicifolia</i>	T
San Diego ambrosia	<i>Ambrosia pumila</i>	E
San Diego button-celery	<i>Eryngium aristulatum var. parishii</i>	E
Spreading navarretia	<i>Navarretia fossalis</i>	T

E: Endangered T: Threatened C: Candidate Species CH: Critical Habitat

APPENDIX I

LIST OF TECHNICAL STUDIES

List of Technical Studies

Aerially Deposited Lead Summary Report – I-805 Managed Lanes South Project, San Diego, California. March 17, 2009 – Kleinfelder.

Air Quality Analysis – Interstate 805 Managed Lanes South Project. September 2009 – EDAW, Inc.

Interstate 805 Managed Lanes South Project Community Impact Assessment. March 2010 – URS.

Historic Property Survey Report. September 2009 – California Department of Transportation.

Drainage Report, I-805 Managed Lanes South Project – Unit 2. February 2, 2009 – URS.

Drainage Report, I-805 Managed Lanes South Project – Unit 4. August 19, 2009 – URS.

Location Hydraulic Study and Floodplain Evaluation Report, I-805 Managed Lanes South Project - Unit 2. August 25, 2009 – URS.

Structure Preliminary Hydraulic Report, I-805 Managed Lanes South Project. March 10, 2008 – URS.

Preliminary Foundation Report, I-805 Managed Lanes South Project - Unit 2, Sweetwater River Bridge. June 13, 2008 – URS.

District Preliminary Geotechnical Report, Interstate 805 Managed Lanes South Project - Unit 4. June 29, 2009 – URS.

District Preliminary Geotechnical Report, Interstate 805 Managed Lanes South Project - Unit 2. June 18, 2009 – URS.

Preliminary Geotechnical Report, I-805 Managed Lanes South Project, Unit 3. September 29, 2008 – Kimley-Horn and Associates.

Initial Site Assessment – I-805 Managed Lanes – South Corridor, San Diego, California. September 26, 2008 – Ninyo & Moore.

Interstate 805 (I-805) Managed Lanes South Project Wetland Delineation Report. July 31, 2007 – URS.

Interstate 805 (I-805) Managed Lanes South Natural Environment Study, September 15, 2009 – URS.

Noise Study Report, Interstate 805 Managed Lanes South Project. October 2009 – Parsons; Bowlby & Associates, Inc.; and ICF Jones & Stokes.

Supplemental Traffic Noise Impact and Barrier Analysis for Interstate 805 Managed Lanes South Project. October 26, 2009 – Parsons; Bowlby & Associates, Inc.; and ICF Jones & Stokes.

Supplement 2 for I-805 Managed Lanes Project. November 6, 2009 - Parsons; Bowlby & Associates, Inc.; and ICF Jones & Stokes.

Preliminary Noise Abatement Decision Report, Interstate 805 Managed Lanes South Project. November 2009 – California Department of Transportation.

Paleontological Resource Assessment, I-805 Managed Lanes South Project, Caltrans District 11, San Diego County, January 2009 – URS.

Interstate 805 Managed Lanes South Project Final Existing Conditions & Traffic Operations Analysis Report. July 2, 2009 – URS.

Interstate-805 Managed Lanes South Project, East Palomar Direct Access Ramp and East Palomar, H Street & Plaza Boulevard Park-and-Rides Local Circulation System Traffic Study. June 4, 2009 – URS.

Interstate 805 South Managed Lanes Project Water Quality Report. August 2010 – California Department of Transportation.

Visual Impact Assessment, Interstate 805 Managed Lanes South. February 2010 – California Department of Transportation.

Site Investigation Report, DAR/Park and Ride Lots/805 South HOV Lanes. June 3, 2010 – Kleinfelder.