2.4 BIOLOGICAL ENVIRONMENT

A Natural Environment Study (NES) and Jurisdictional Delineation (JD) were prepared in February 2014. A Biological Assessment (BA) was prepared in May 2015; the United States Fish and Wildlife Service (USFWS) concurred with the findings of the BA in a letter dated October 8, 2015. This Section is based on these studies.

2.4.1 NATURAL COMMUNITIES

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. The emphasis of the section should be on the ecological function of the natural communities within the area. This section 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 below in the Threatened and Endangered Species section 2.4.5. Wetlands and other waters are also discussed below in Section 2.4.2.

2.4.1.1 Affected Environment

The proposed project area historically consisted of rolling hills, but this has been modified by development, mainly freeway and commercial/industrial development. The alignment of SR-57 is relatively flat but is surrounded by relatively steep slopes on both the east and west. Elevations within the biological study area (BSA) range from approximately 365 feet above mean sea level (amsl) to 715 feet amsl. Habitat within the BSA has been modified completely or is highly disturbed, consisting of developed areas associated with existing transportation corridors as well as residential and commercial buildings. Undeveloped areas within the BSA consist of landscaped areas and slopes adjacent to northbound and southbound SR-57. Eight hydrologic features were identified within the BSA. Critical habitat for the coastal California gnatcatcher (CAGN) occurs in the northern portion of the BSA and is further discussed in Section 2.4.5, Threatened and Endangered Species. There are no adopted habitat conservation plans (HCPs) or natural community conservation plans (NCCPs) that cover the proposed project.

Methodology

The original records were searched in the California Natural Diversity Database (CNDDB), the California Native Plant Society (CNPS) Electronic Inventory, and the Information, Planning and Conservation System (IPAC) databases in December 2011. An updated record search in the IPAC database for federally-listed endangered, threatened, proposed, and candidate species and critical habitat in the vicinity of the proposed project was completed in August 2015 (Appendix G).

Biologists conducted a site reconnaissance-level survey on December 21, 2011. Survey methods included walking the shoulder and median areas on SR-57 within the right-of-way (ROW). Vegetation communities and subcommunities were determined in general based on the Orange County Habitat Classification System Natural Resources Geographic Information System (GIS) Project. Vegetation communities were mapped on a 1 inch = 200 feet aerial photograph. Habitat areas that were considered too small to map separately were included in nearby habitat types

determined to be the most appropriate based on species composition. A follow-up windshield survey was conducted on August 7, 2013.

A habitat assessment for CAGN was conducted for areas within and adjacent to the federally-designated critical habitat for this species. As part of the required informal Section 7 consultation with USFWS, an on-site meeting with the U.S. Fish and Wildlife Service (USFWS) was held on July 25, 2012 to discuss the potential effects to CAGN by the proposed project. A BA was prepared to evaluate the effects of the proposed project and found that the effects are not likely to adversely affect CAGN and its designated critical habitat areas within the BSA. The BA was provided to the USFWS on June 8, 2015 by Caltrans, requesting concurrence with the determination that the proposed project is not likely to adversely affect the federally threatened CAGN and its designated habitat. USFWS concurred that the proposed project is not likely to adversely affect CAGN on October 8, 2015. This is further discussed in Section 2.4.5, Threatened and Endangered Species.

Vegetation Communities

Vegetation communities identified within the BSA include sage scrub-grassland, Ornamental Landscaping, Disturbed or Barren, Ruderal, Urban and Commercial, and Transportation and are shown in Figures 2.4-1a to 2.4-1d, Vegetation Communities.

As described in the NES, the BSA is located within the South Coast subregion of the Southwestern California region of the California Floristic Province. The South Coast subregion is characterized by valleys and small hills extending from the coast inland to the foothills of the Transverse and Peninsular Mountain Ranges. Much of the area is intensively developed for urban, suburban, and agricultural uses. The natural vegetation of the subregion consists primarily of chaparral, coastal sage scrub (CSS), annual grasslands, and some riparian scrub and woodland. Much of the natural vegetation occurs in scattered, often fragmented patches on hills or in other areas not easily developed.

Sage Scrub-Grassland

This habitat type occurs on steep slopes adjacent to SR-57 on the northern end of the BSA. It is largely dominated by nonnative annual grass species, including red brome (*Bromus madritensis* ssp. *rubens*), wild oats (*Avena* sp.), and ripgut brome (*Bromus diandrus*). The western slope also contains poison hemlock (*Conium maculatum*) as a dominant. Within the annual grassland, there is an approximately five percent cover of scattered scrub species, including California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), and coyote brush (*Baccharis pilularis*). Less common scrub species identified include California encelia (*Encelia californica*), Mexican elderberry (*Sambucus mexicana*), deer weed (*Lotus scoparius*), and black sage (*Salvia mellifera*). Scrub species are very sparse within this community, and it more closely resembles annual grassland habitat.

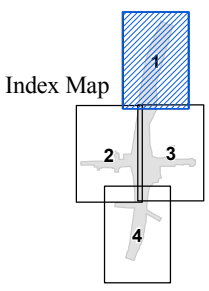
Ornamental Landscaping

The majority of the study area consists of nonnative landscaped vegetation associated with medians and shoulders adjacent to SR-57 and Lambert Road. Species within this habitat type consist of hottentot fig (*Carpobrotus edulis*), Peruvian pepper tree (*Schinus molle*), gum tree (*Eucalyptus* spp.), and acacia (*Acacia redolens*).

Source: Eagle Aerial, 2010.

Sheet 1 of 4

Index Map



LEGEND

- Biological Study Area
- Coastal California Gnatcatcher Final Critical Habitat, 12/19/07

LAND COVER

- Disturbed or Barren
- Ornamental Landscaping
- Ruderal
- Sage Scrub-Grassland
- Transportation
- Urban and Commercial
- Watercourses

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Vegetation Communities

6/1/12 JN 10-107792-18226 MAS

Figure 2.4-1a

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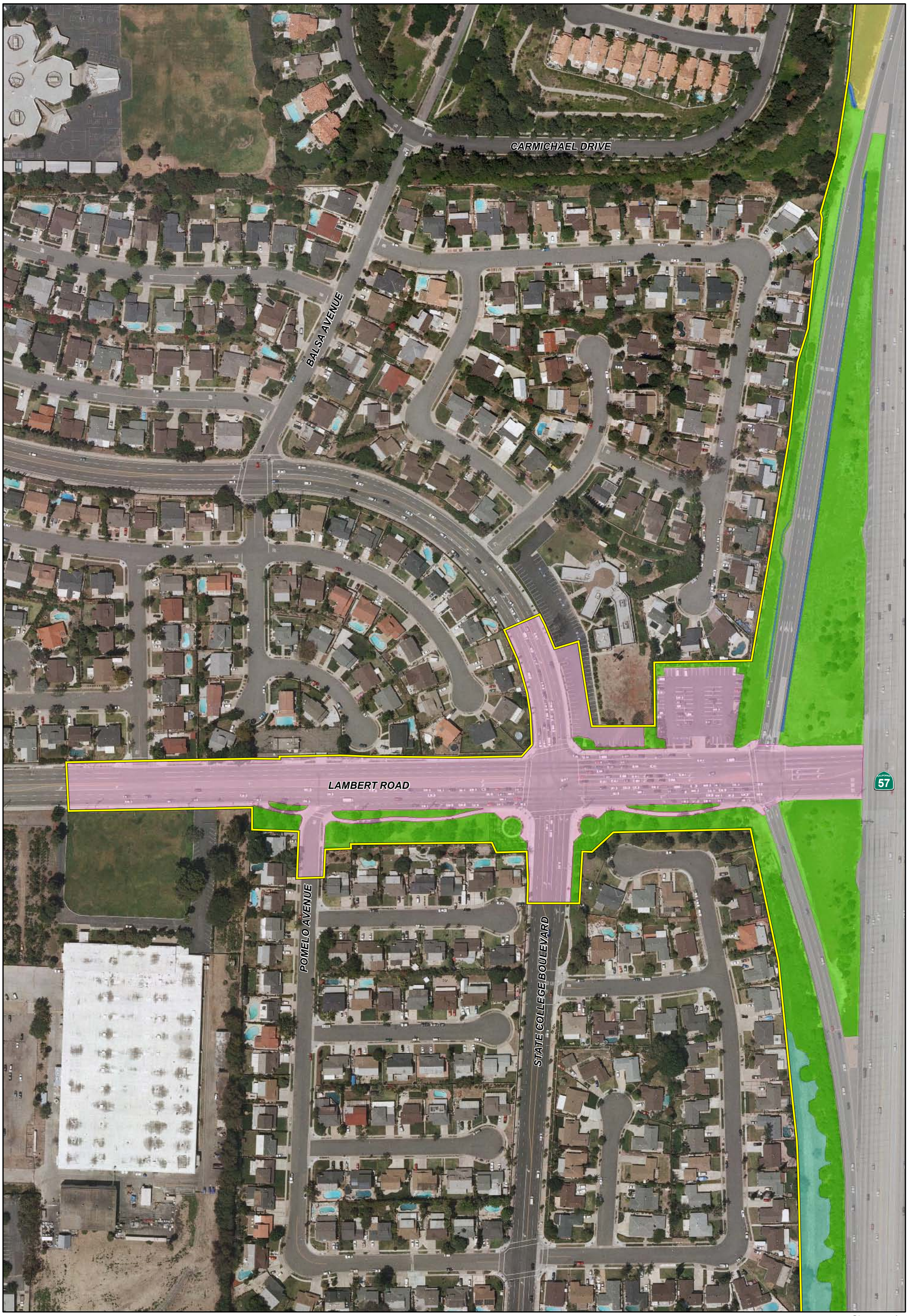
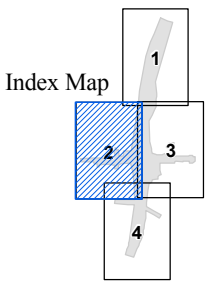


Source: Eagle Aerial, 2010.

Sheet 2 of 4

Index Map



LEGEND

- Biological Study Area
- Coastal California Gnatcatcher Final Critical Habitat, 12/19/07

LAND COVER

- Disturbed or Barren
- Ornamental Landscaping
- Ruderal
- Sage Scrub-Grassland
- Transportation
- Urban and Commercial
- Watercourses

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Vegetation Communities

6/1/12 JN 10-107792-18226 MAS

Figure 2.4-1b

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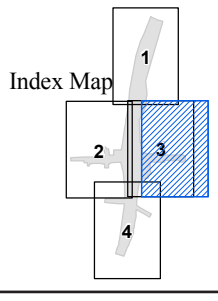
Source: Eagle Aerial, 2010.

Sheet 3 of 4



LEGEND

- Biological Study Area
- Coastal California Gnatcatcher Final Critical Habitat, 12/19/07
- Ruderal
- Sage Scrub-Grassland
- Transportation
- Urban and Commercial
- Watercourses

LAND COVER

- Disturbed or Barren
- Ornamental Landscaping

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Vegetation Communities

3/30/12 JN 10-107792-18226 MAS

Figure 2.4-1c

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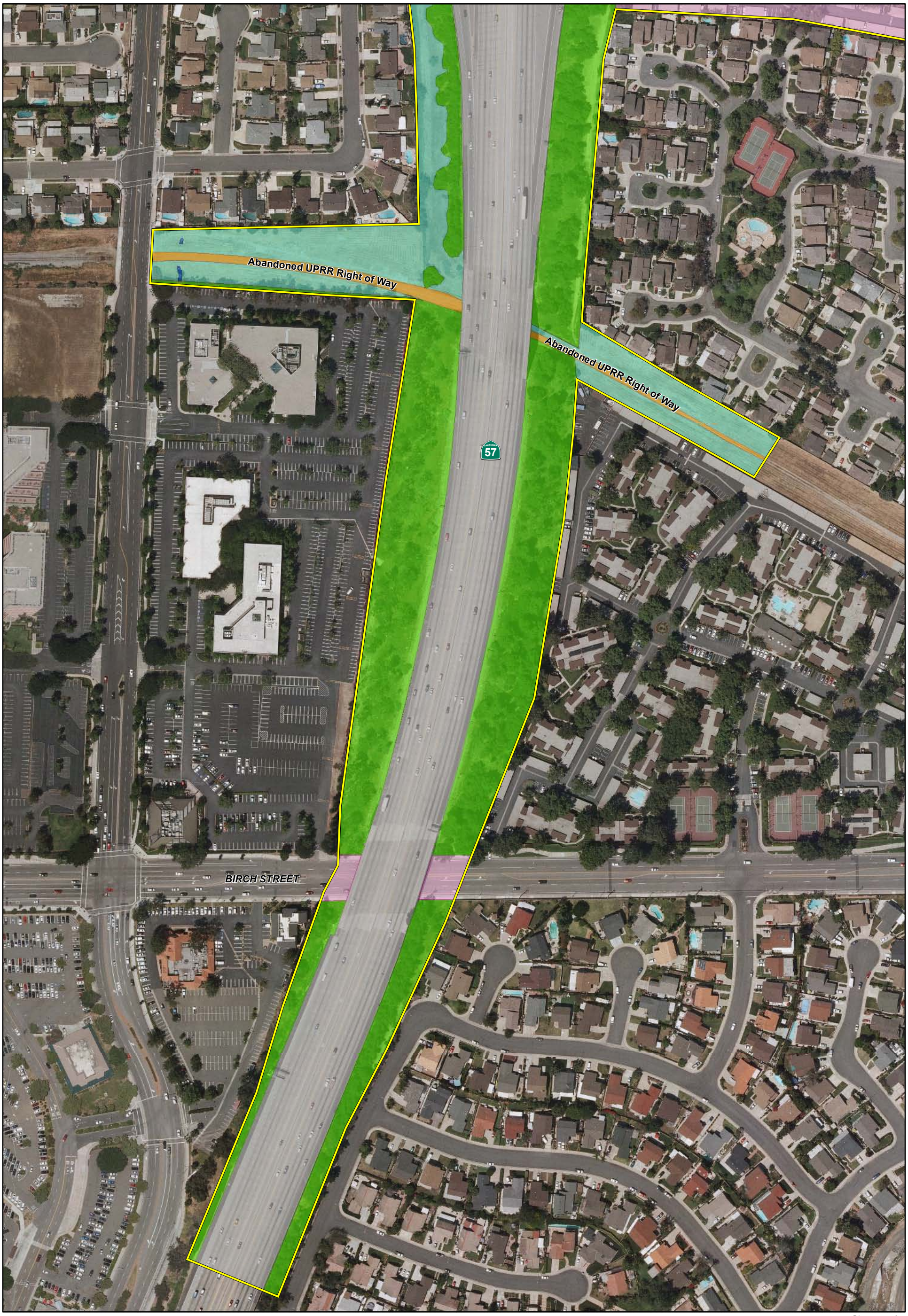
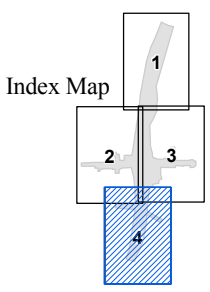


Source: Eagle Aerial, 2010.

Sheet 4 of 4

Index Map



LEGEND

- Biological Study Area
- Coastal California Gnatcatcher Final Critical Habitat, 12/19/07
- Ruderal
- Sage Scrub-Grassland
- Transportation
- Urban and Commercial
- Watercourses

LAND COVER

- Disturbed or Barren
- Ornamental Landscaping

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Vegetation Communities

3/30/12 JN 10-107792-18226 MAS

Figure 2.4-1d

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Disturbed or Barren

Disturbed or Barren habitat occurs in small areas adjacent to SR-57, just south of Lambert Road. These areas are mostly bare but contain scattered ruderal vegetation, including shortpod mustard (*Hirschfeldia incana*) and Russian thistle (*Salsola tragus*). A small portion of the BSA associated with the former Southern Pacific Railroad corridor consists of barren ground. This area is devoid of vegetation and is a compacted dirt/gravel road.

Urban and Commercial

A large portion of the BSA consists of an Urban habitat type. These areas are fully developed residential and commercial areas, local streets and highways, and flood control channels. These areas are primarily unvegetated or support small patches of ruderal or ornamental vegetation. Species within these areas include Peruvian pepper, Mexican fan palm (Washingtonia robusta), English ivy (Hedera helix), and Bermuda grass (Cynodon dactylon).

Transportation

This "habitat" type consists of the SR-57 mainline and on- and off-ramps. These areas are fully developed paved highways with no vegetation.

Wildlife Communities and Movement Corridors

Wildlife species occurring with the BSA are characteristic of those found within a developed urban setting. Common species observed include rock pigeon (*Columba livida*), house sparrow (*Passer domesticus*), house finch (*Carpodacus mexicanus*), black phoebe (*Sayornis nigricans*), and American crow (*Corvus brachyrhynchos*). Due to the high level of disturbance and substantial portion of the BSA that is developed, the site does not appear to function as a wildlife movement corridor.

2.4.1.2 Environmental Consequences

Build Alternatives 7A and 9

Both Build Alternatives would impact areas that are urbanized and generally considered of low biological value to plant and wildlife species. This section focuses on the impacts to those habitats that are outside the California gnatcatcher (CAGN) designated critical habitat, which is located at the northern end of the proposed project, as shown in Figures 2.4-1a to 2.4.1d, Vegetation Communities, and as discussed in Section 2.4.5, Threatened and Endangered Species.

Construction (Short-Term) Impacts

The proposed project would result in 0.89 acre of temporary impacts under Build Alternative 7A (Preferred Alternative) and 0.75 acre of temporary impacts under Build Alternative 9 to the sage scrub-grassland habitat outside the USFWS-designated CAGN critical habitat.

All indirect and temporary impacts as a result of construction activities, including staging and equipment areas, would be contained within the BSA. Grading activities would disturb soils and result in the accumulation of dust on the surface of the leaves of trees and shrubs. The respiratory function of the plants in the area would be impaired when dust accumulation is excessive. The indirect effect of construction of the proposed project on any native vegetation (sage scrub-

grassland) would be limited to incidental encroachment and areas where existing topography would be restored. Minimization Measure AN-1 is provided to avoid and minimize construction-related impacts to the surrounding vegetation communities.

Operation (Long-Term) Impacts

Both Build Alternative 7A (Preferred Alternative) and Build Alternative 9 would result in 0.14 acre of permanent impacts to the sage scrub-grassland habitat outside the USFWS-designated CAGN critical habitat. The sage scrub-grassland habitat is largely dominated by nonnative annual grass species (red brome, wild oats, ripgut brome, and poison hemlock). There is approximately five percent cover of scattered scrub species (California buckwheat, California sagebrush, and coyote brush). The area has high disturbance of the habitat and is in close proximity to SR-57. Permanent impacts may include complete removal and heavy encroachment. Because focused CAGN surveys were not conducted for the proposed project, project impacts to all of the sage scrub-grassland, including the areas outside the CAGN-designated critical habitat, presence for CAGN is assumed. Implementation of Mitigation Measure TE-1, discussed in Section 2.4.5, Threatened and Endangered Species, would reduce impacts.

Due to the high level of disturbance and substantial portion of the BSA that is developed, the site does not appear to function as a wildlife movement corridor. Therefore, neither Build Alternative would affect wildlife movement corridors.

No Build Alternative

Under the No Build Alternative, no new construction would occur and there would be no new impacts on natural communities within the BSA.

2.4.1.3 Avoidance and Minimization Measures

In addition to the implementation of TE-1, provided in Section 2.4.5, Threatened and Endangered Species, and INV-1 through INV-2, provided in Section 2.4.6, Invasive Species, the following measures have been identified.

NC-1 During construction, when work is conducted during the fire season (as identified by the Orange County Fire Authority) adjacent to the sage scrub-grassland vegetation, appropriate firefighting equipment (e.g., extinguishers, shovels and water tankers) will be available on site during all phases of proposed project construction. Shields, protective mats, and/or other fire preventive methods will be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventive actions, and responses to fires will advise the construction contractors regarding fire risk from all construction-related activities.

2.4.2 WETLANDS AND OTHER WATERS

2.4.2.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate 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 formed during 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 discharge of dredged or fill material cannot 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 U.S. Army Corps of Engineers (USACE) with oversight by the United States Environmental Protection Agency (U.S. EPA).

The USACE issues two types of 404 permits: General and Standard permits. There are two types of General permits: Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (U.S. EPA 40 Code of Federal Regulations [CFR] Part 230), and whether permit approval is in the public interest. Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this EO states that a federal agency, such as the FHWA and/or Caltrans, as assigned, 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 primarily by the State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCB), and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or Tahoe Regional Planning Agency) may also be involved. 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 CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW 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 USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCB also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with Section 404 permit request. Please see the Water Quality section for additional details.

2.4.2.2 Affected Environment

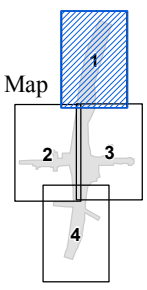
Methodology

On December 21, 2011, the BSA was surveyed by vehicle and on foot from both federal and state jurisdictional areas. The BSA was surveyed for areas supporting species of plant life potentially indicative of wetlands according to routine wetland delineation procedures described in the *Regional Supplement to the Corps Wetland Delineation Manual: Arid West Region*. A Wetland Determination Data Form (Arid West Region) was completed for one area of potential wetland jurisdiction within the BSA. Hydrological conditions, including surface inundation, saturated soils, groundwater levels, and/or other wetland hydrology indicators, were noted.

Areas of potential jurisdiction were evaluated according to USACE and CDFW criteria. The boundaries of the potential jurisdictional areas were observed in the field and mapped on a series of aerial photographs (scale, 1 inch = approximately 200 feet), which together show the entire BSA. Measurements of federal and state jurisdictional areas mapped during the course of the field investigation were determined by a combination of direct measurements taken in the field and measurements taken from the aerial photographs. Figures 2.4-2a through 2.4-2d, Potential Jurisdictional Areas, show the locations of the potential jurisdictional areas.

Source: Eagle Aerial, 2010.

Index Map



LEGEND

- Project Boundary
- 1'/2' Drainage Widths (ACOE/CDFG)
- Drainage
- A Drainage ID

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Potential Jurisdictional Areas

3/29/12 JN 10-107792-18226 MAS

Figure 2.4-2a

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CARMICHAEL DRIVE

BALSA AVENUE

C

3'/6'

D

E

1'/2'

1'/2'

Park and Ride

LAMBERT ROAD

57

POMELO AVENUE

STATE COLLEGE BOULEVARD

Source: Eagle Aerial, 2010.

Index Map

1

2

3

4

0 200'

LEGEND

Project Boundary

Drainage

1'/2' Drainage Widths (ACOE/CDFG)

A Drainage ID

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Potential Jurisdictional Areas

3/29/12 JN 10-107792-18226 MAS

Figure 2.4-2b

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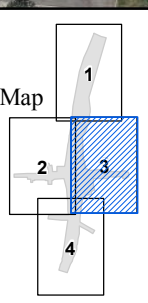
Source: Eagle Aerial, 2010.

Index Map



LEGEND

- Project Boundary
- 1'/2' Drainage Widths (ACOE/CDFG)
- Drainage
- A Drainage ID

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Potential Jurisdictional Areas

3/29/12 JN 10-107792-18226 MAS

Figure 2.4-2c

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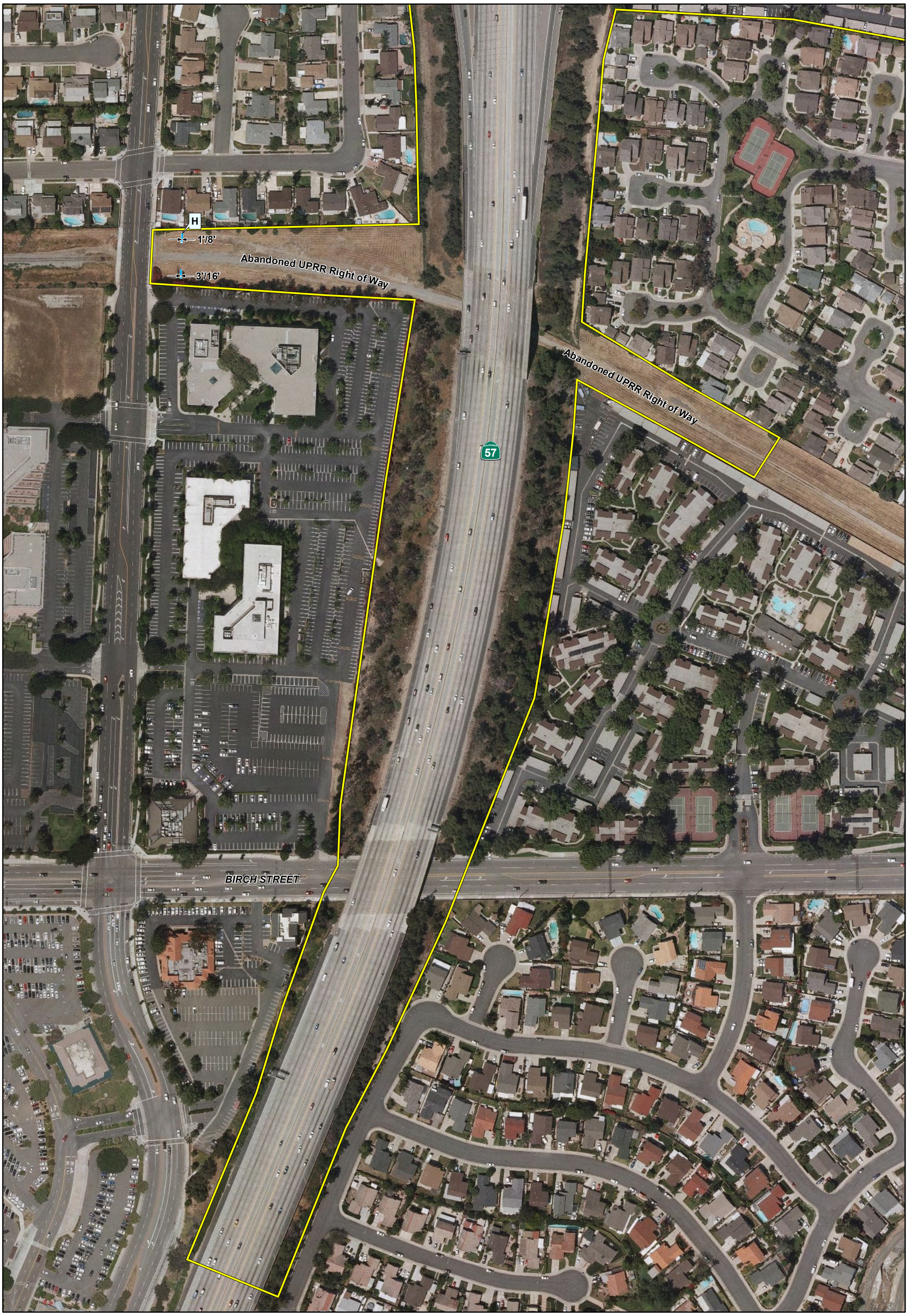

Source: Eagle Aerial, 2010.

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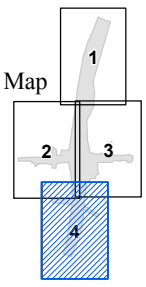

LEGEND

- Project Boundary
- 1'/2' Drainage Widths (ACOE/CDFG)
- Drainage
- A Drainage ID

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Potential Jurisdictional Areas

3/29/12 JN 10-107792-18226 MAS

Figure 2.4-2d

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Existing Conditions

All channelized storm water and drainage features from the proposed project discharge directly into the storm drain system, which eventually discharges into Coyote Creek via Fullerton Creek. Coyote Creek is tributary to the San Gabriel River, which connects directly to the Pacific Ocean (a navigable water of the U.S.) at Alamitos Bay, between the Cities of Long Beach and Seal Beach; refer to Figure 2.4-3, Surface Waters. This connection to the Pacific Ocean establishes a nexus to navigable waters, as defined by USACE guidance.

Drainage Features

Eight drainage features were identified within the BSA (Drainage Features A–H). Features A, B, D, E, F, and G are entirely surrounded by urban development, lack associated riparian habitat, and are excavated on dry land. These features convey sheet flows from adjacent areas to the storm drain system. Features C and H are human-altered and surrounded by suburban habitat but convey flows from drainage areas that likely contained flows prior to the freeway and other development in the vicinity and contain small amounts of riparian habitat. Nonnative grassland vegetation was present at Drainage Features A and B. Upland ornamental vegetation was present at Drainage Features B, D, E, F, and G.

Drainage Features A, B, and F are humanmade, unvegetated concrete V-ditch connecting to a storm drain facility, with the exception of Drainage Feature A, which does not connect to any other drainage. Drainage Features D, E, and G are humanmade, unvegetated asphalt swales that transport runoff directly into a storm drain. Drainage Feature C is a three-foot-wide concrete channel. Drainage Features A through G are adjacent to SR-57. Drainage Feature H is a graded earthen channel running north-south on the north and south sides of historic Southern Pacific Railroad tracks, east of State College Boulevard and west of the SR-57.

Drainage Feature A had very faint water stains present and an ordinary high watermark (OHWM) was difficult to determine. The OHWM was determined to be less than one foot wide. Drainage Feature C had debris blocking the storm drain; therefore, sediment, measuring two inches deep, had accumulated and the concrete channel supported standing water and a small amount of riparian vegetation at the time of the field visit. This channel is intended to be maintained for flood control purposes and the OHWM was determined to be three feet wide. Drainage Feature F had a substantial amount of leaf debris accumulation at the time of the field visit, and an OHWM was difficult to determine; however, very faint stains were present and the OHWM was determined to be two feet wide.

Drainage Features A, B, D, E, F, and G do not satisfy the criteria for relatively permanent water (RPW). Drainage Feature A does not convey flows into any drainage potentially considered a traditional navigable water (TNW). Due to the lack of riparian vegetation and the presence of an asphalt lining, Drainage Features A, B, D, E, F, G were not classified as wetland. Although standing water was present at the time of the delineation, Drainage Feature C is not anticipated to satisfy the criteria of an RPW.

Drainage Feature H appears to be the remnants of a channel that now forms two basins, one on each side of the historic Southern Pacific Railroad tracks, which are abandoned and currently used as a Department access road. A reinforced concrete box culvert conveys flows from the northern basin into the southern basin. Flows from the southern basin enter a corrugated metal pipe culvert and are conveyed off-site into the storm drain system. The northern basin is approximately eight feet wide and contains upland vegetation dominated by castor bean (*Ricinus*

communis). The average OHWM in the northern basin is approximately one foot wide. The southern basin is approximately 16 feet wide and contains standing water and a mix of upland and riparian vegetation. The banks of the southern basin appear to have recently caved in, resulting in a larger basin. The average OHWM in the southern basin is three feet wide. Dominant hydrophytic plant species identified in the southern basin include rabbitfoot grass (*Polypogon monspieliensis*) and tall flatsedge (*Cyperus eragrostis*). An Arid West Region Wetland Determination Data Form has been completed and the drainage feature did not qualify as wetlands based on the lack of sufficient hydrophytic vegetation. Topographic maps and historic aerial images indicate that prior to development of a housing tract south of the railroad corridor (sometime between 1980 and 1994), the channel connected directly to Fullerton Creek. Due to the historic connection to a TNW (the Pacific Ocean via Fullerton Creek and the San Gabriel River), it is the opinion of the consulting biologists that the USACE would assert jurisdiction over this drainage as nonwetland waters of the U.S.

Jurisdiction

As described above, the drainage features on site connect to Fullerton Creek, either directly or indirectly (through the storm drain system). Fullerton Creek is a tributary to Coyote Creek, which is a tributary to the San Gabriel River. The San Gabriel River flows directly into the Pacific Ocean at Alamitos Bay, thereby establishing a nexus to navigable waters. All but one of the features are asphalt or concrete-lined and clearly excavated on dry land to control local runoff. Human-altered drainages, where topography supports the possibility that some form of "natural" drainage was present in the past or would be present if SR-57 and the existing drainages were not constructed, are believed to be potentially jurisdictional (i.e., Drainage Feature H). Because Drainage Feature H does not have a relatively permanent flow, a significant nexus determination by the USACE would be required. As shown in Table 2.4.2-1, the total acreage of potential USACE jurisdiction within the BSA is less than 0.01 acre (ac).

Table 2.4.2-1 Potentially Jurisdictional Drainage Feature Length and Area Measurements

Drainage Feature	Average USACE Width (feet)	Average CDFW Width (feet)	Potential Jurisdictional USACE Area (acres)	Potential Jurisdictional CDFW Area (acres)
H	2	12	<0.01	0.01
Total Potential Jurisdictional Area			<0.01	0.01

Source: Jurisdictional Delineation, 2014b
USACE = United States Army Corps of Engineers
CDFW = California Department of Fish and Wildlife

The remaining drainages (i.e., Drainage Features A–G) are believed to be humanmade drainage ditches constructed on dry land for the sole purpose of collecting sheet flow from the freeway, local streets, and urban properties. These roadside drainage ditches function solely to convey storm water sheet flow into the storm drain system. The USACE typically does not assert jurisdiction over these humanmade roadside drainage ditches; however, the USACE does reserve the right to regulate these waters on a case-by-case basis. As shown in Table 2.4.2-2, the total acreage of potentially nonjurisdictional waters within the BSA is 0.15 ac.

Source: AirPhotoUSA, 2008; National Hydrography Dataset, 1999.

LEGEND

- Biological Study Area
- Surface Waters

0 3500'

3/30/12 JN 10-107792-18226 MAS

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Surface Waters

Figure 2.4-3

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Table 2.4.2-2 Potentially Non-Jurisdictional Drainage Feature Length and Area Measurements

Drainage Feature	Average USACE Width (feet)	Average CDFW Width (feet)	Potential Non-Jurisdictional USACE Area (acres)	Potential Non-Jurisdictional CDFW Area (acres)
A	1	3	0.02	0.05
B	1	4	0.01	0.05
C	3	6	<0.01	<0.01
D	1	2	0.03	0.06
E	1	2	0.03	0.06
F	2	10	0.04	0.17
G	1	2	<0.01	0.01
Total Potential Jurisdictional Area			0.15	0.41

Source: Jurisdictional Delineation, 2014b
USACE = United States Army Corps of Engineers
CDFW = California Department of Fish and Wildlife

The drainage feature satisfying the USACE jurisdictional criteria for waters of the U.S., Drainage Feature H, is also subject to CDFW jurisdiction pursuant to Section 1602 of the California Fish and Game Code. Streambed banks extending beyond the limits of USACE jurisdiction are considered subject to CDFW jurisdiction; however, there were no areas within the BSA where riparian vegetation, potentially considered subject to CDFW jurisdiction, extended beyond the streambed banks. Drainages believed to be not jurisdictional by the USACE and that lack riparian vegetation, are concrete-lined, show an absence of any aquatic or terrestrial wildlife, and do not function as a river, lake, or stream are also not likely to be considered jurisdictional by the CDFW. Therefore, as shown in Table 2.4.2-1, the total acreage of potential CDFW jurisdiction within the BSA is 0.01 ac.

Since there is no approved public guidance on determining Regional Water Quality Control Board (RWQCB) jurisdictional areas, jurisdiction was determined based on the federal definition of wetlands (three-parameter) and other waters of the U.S. Since there are areas within the BSA subject to USACE and CDFW jurisdiction, RWQCB jurisdiction in this case is coincident with USACE jurisdiction for purposes of Section 401 certification.

2.4.2.3 Environmental Consequences

Build Alternatives 7A and 9

Figures 2.4-4a to 2.4-4d, Impacted Waters – Alternative 7A, show the impacted drainage features under Build Alternative 7A (Preferred Alternative), while Figures 2.4-5a to 2.4-5d, Impacted Waters – Alternative 9, show the impacted drainage features under Build Alternative 9.

Construction (Short-Term) Impacts

No temporary impacts would occur under either Build Alternative.

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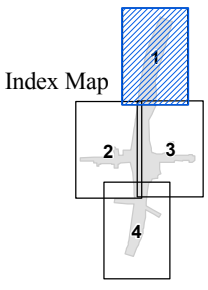
Source: Eagle Aerial, 2010.

Sheet 1 of 4

Index Map



LEGEND • ALT 7A Impacts

- Project Boundary
- Permanent Impact
- Temporary Impact
- Alternative 7A

DRAINAGES

- Drainages
- A Drainage ID

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacted Waters Alternative 7A

8/5/13 JN 10-107792-18226 MAS

Figure 2.4-4a

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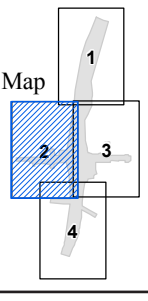
Source: Eagle Aerial, 2010.

Sheet 2 of 4

Index Map



LEGEND • ALT 7A Impacts

- Project Boundary
- Permanent Impact
- Temporary Impact
- Alternative 7A

DRAINAGES

- Drainages
- A Drainage ID

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacted Waters Alternative 7A

8/5/13 JN 10-107792-18226 MAS

Figure 2.4-4b

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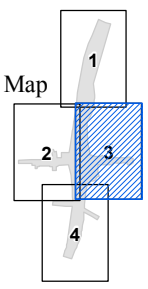
Source: Eagle Aerial, 2010.

Sheet 3 of 4

Index Map



LEGEND • ALT 7A Impacts

- Project Boundary
- Permanent Impact
- Temporary Impact
- Alternative 7A

DRAINAGES

- Drainages
- A Drainage ID

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacted Waters Alternative 7A

8/5/13 JN 10-107792-18226 MAS

Figure 2.4-4c

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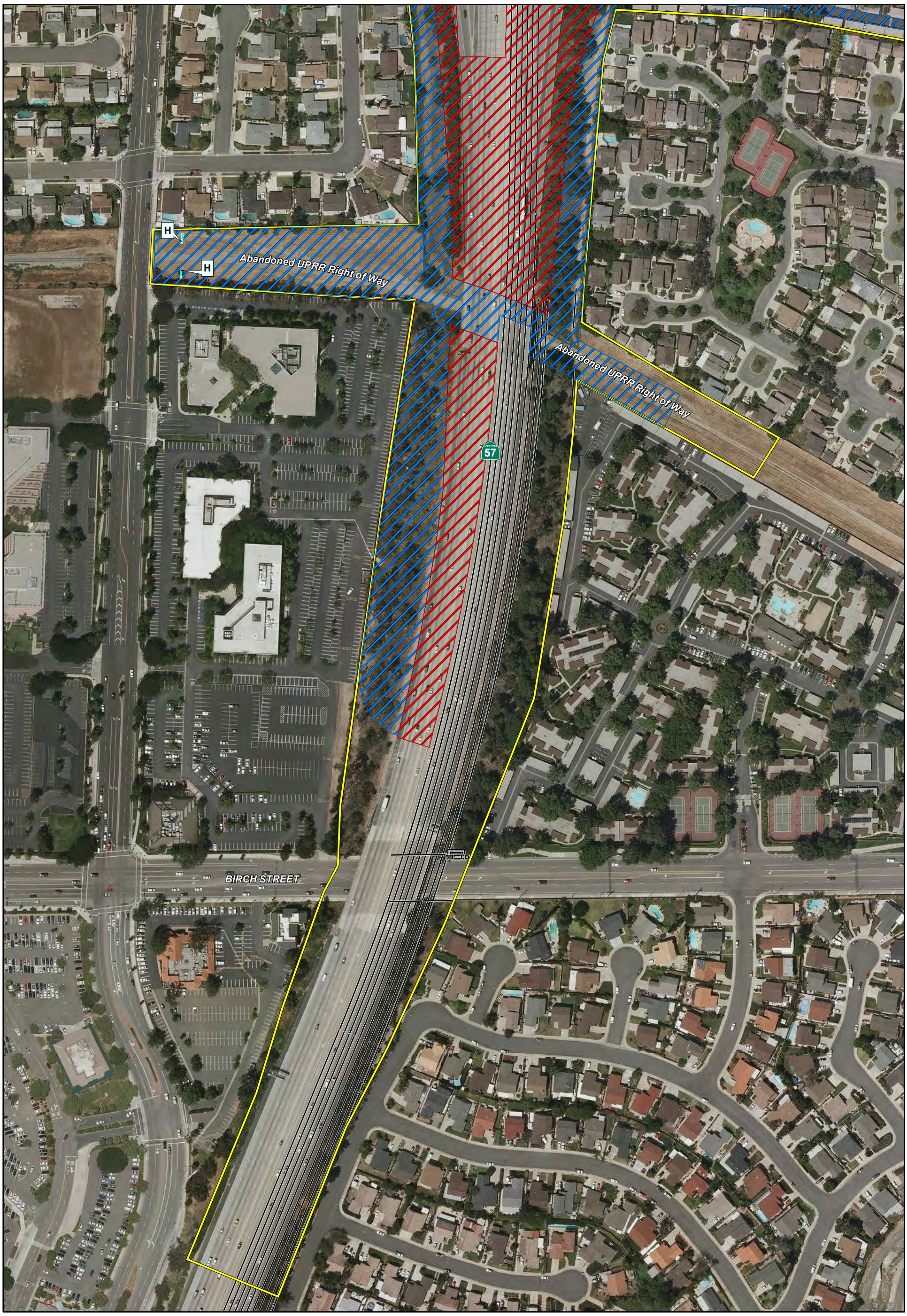
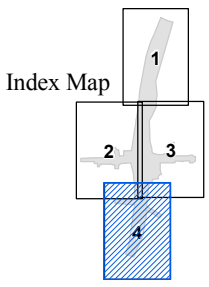


Source: Eagle Aerial, 2010.

Sheet 4 of 4

Index Map



LEGEND • ALT 7A Impacts

- Project Boundary
- Permanent Impact
- Temporary Impact
- Alternative 7A

DRAINAGES

- Drainages
- A Drainage ID

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacted Waters Alternative 7A

8/5/13 JN 10-107792-18226 MAS

Figure 2.4-4d

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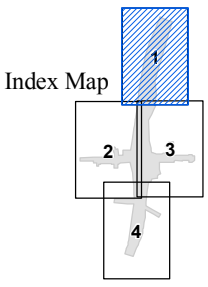
Source: Eagle Aerial, 2010.

Sheet 1 of 4

Index Map



LEGEND • ALT 9 Impacts

- Project Boundary
- Permanent Impact
- Temporary Impact
- Alternative 9

DRAINAGES

- Drainages
- A Drainage ID

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacted Waters Alternative 9

8/6/13 JN 10-107792-18226 MAS

Figure 2.4-5a

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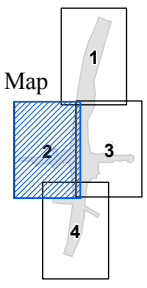
Source: Eagle Aerial, 2010.

Sheet 2 of 4

Index Map



LEGEND • ALT 9 Impacts

- Project Boundary
- Permanent Impact
- Temporary Impact
- Alternative 9

DRAINAGES

- Drainages
- A Drainage ID

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacted Waters Alternative 9

8/6/13 JN 10-107792-18226 MAS

Figure 2.4-5b

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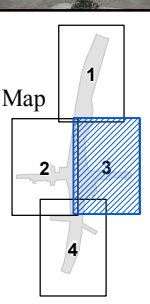
Source: Eagle Aerial, 2010.

Sheet 3 of 4

Index Map



LEGEND • ALT 9 Impacts

- Project Boundary
- Permanent Impact
- Temporary Impact
- Alternative 9

DRAINAGES

- Drainages
- A Drainage ID

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacted Waters Alternative 9

8/6/13 JN 10-107792-18226 MAS

Figure 2.4-5c

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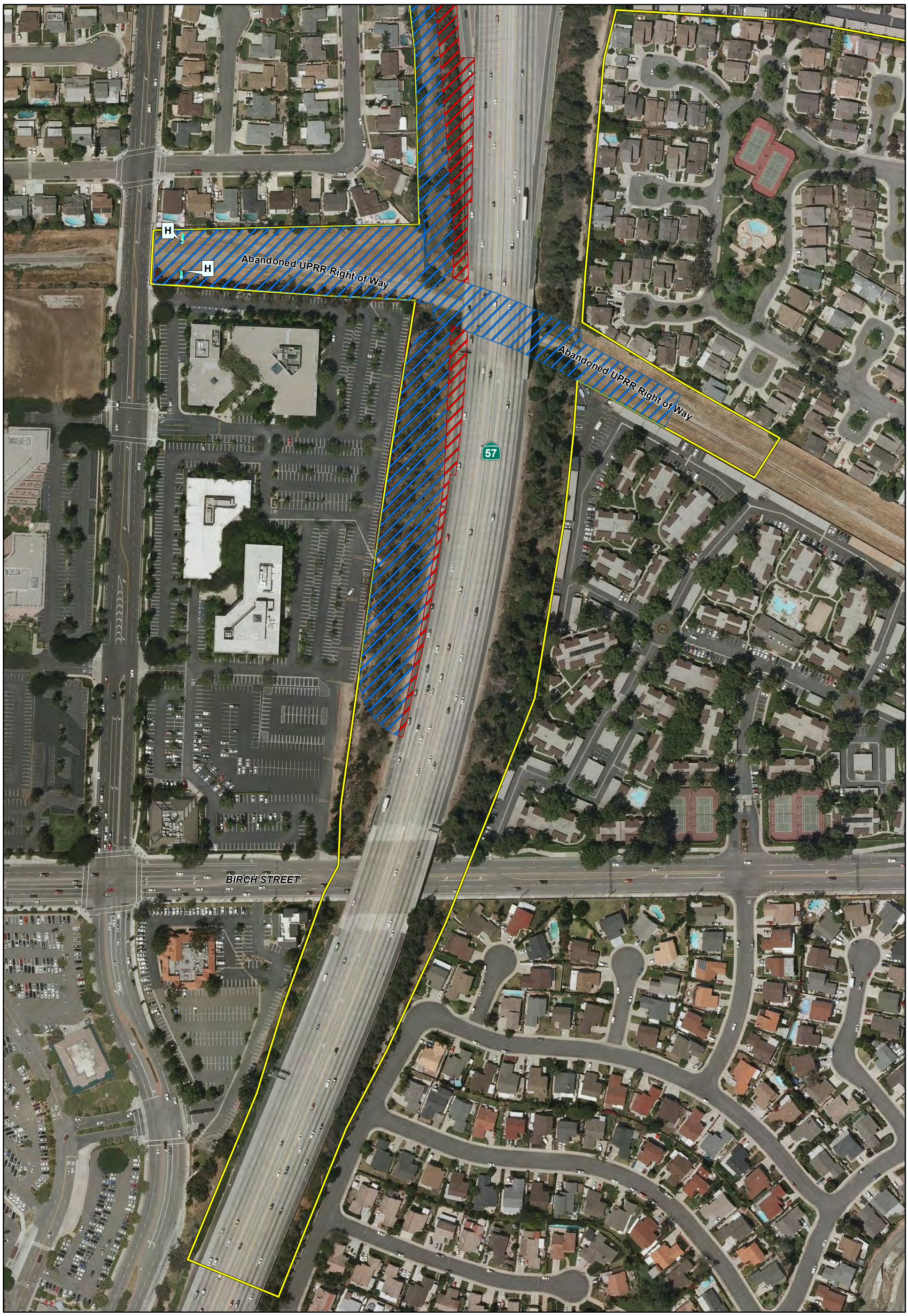
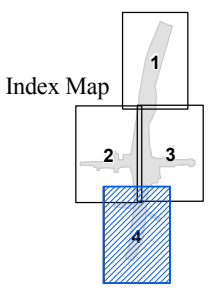


Source: Eagle Aerial, 2010.

Sheet 4 of 4

Index Map



LEGEND • ALT 9 Impacts

- Project Boundary
- Permanent Impact
- Temporary Impact
- Alternative 9

DRAINAGES

- Drainages
- A Drainage ID

0 200'

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacted Waters Alternative 9

8/6/13 JN 10-107792-18226 MAS

Figure 2.4-5d

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Operation (Long-Term) Impacts

Both Build Alternatives 7A and 9 would permanently affect Drainage Feature E and portions of Drainage Features B, D, and G. All impacted drainages are artificial and drain only upland areas. The drainage features are either concrete-lined ditches or asphalt swale that do not support vegetation and do not provide wildlife habitat. Since the impacted drainage features are artificial drainages that drain only upland areas, they are not likely to be considered jurisdictional by the USACE. Therefore, no impacts to USACE jurisdictional areas are expected.

Drainages believed to be not jurisdictional by the USACE and that lack riparian vegetation are concrete-lined, show an absence of any aquatic or terrestrial wildlife, and do not function as a river, lake, or stream; they are also not likely to be considered jurisdictional by the CDFW. Therefore, no impacts to CDFW jurisdictional areas are expected.

Drainage Feature H is located in an area identified as a temporary staging area and construction vehicle access. Drainage Feature H is considered an environmentally sensitive area (ESA). Construction activities would avoid the drainage feature, thus no impacts are anticipated; however, avoidance and minimization measures are required, as discussed in Section 2.4.2.4, to ensure that no impacts would occur.

Since the proposed project would not result in impacts to potentially jurisdictional areas, a Section 404 Permit from the USACE, a Streambed Alteration Notification to the CDFW, and a Section 401 Water Quality Certification from the RWQCB are not expected to be required for this proposed project.

No Build Alternative

Under the No Build Alternative, no new construction would occur and there would be no new impacts to drainage features.

2.4.2.4 Avoidance and/or Minimization Measures

WET-1 Prior to the start of any construction activities, temporary construction fencing will be erected outside the jurisdictional limits of Drainage Feature H and no vehicles or construction materials will be permitted inside the environmentally sensitive area (ESA) fencing.

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2.4.3 PLANT SPECIES

2.4.3.1 Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have 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 provided 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 (FESA) and/or the California Endangered Species Act (CESA). Please refer to Section 2.4.5, Threatened and Endangered Species in this document for detailed information about these species.

This section of the document discusses all the other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at United States Code 16 (USC), Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), CA Public Resources Code, Sections 2100-21177.

2.4.3.2 Affected Environment

A Jurisdictional Delineation was prepared in February 2012 and a Natural Environment Study (NES) was prepared in February 2014. A Biological Assessment (BA) was prepared in May 2015 and the USFWS provided a letter of concurrence on October 8, 2015.

Methodology

The original records were searched in the CNDDB, CNPS Electronic Inventory, and the IPAC databases in December 2011. An updated record search in the IPAC database for federally-listed endangered, threatened, proposed, and candidate species and critical habitat in the vicinity of the proposed project was completed in August 2015 (Appendix G).

Biologists conducted a site reconnaissance-level survey on December 21, 2011 to generally characterize the biological resources of the site and to ascertain the presence or absence of sensitive plants or the likelihood of their occurrence in the BSA. The purpose of the survey was to evaluate the site based on existing conditions, with particular focus on the native vegetation and sensitive species within the BSA. The BSA includes the entire proposed ground disturbance area associated with the interchange improvements, including the grading limits and staging areas. During the course of the survey described above, the biological condition of the BSA was assessed for the presence of various sensitive species, including vegetation, wildlife, and suitability of habitat. Survey methods included walking the shoulder and median areas on SR-57 within the ROW. Vegetation communities and subcommunities were determined in general based on the Orange County Habitat Classification System Natural Resources GIS Project. Vegetation communities were mapped on a 1-inch = 200 feet aerial photograph. Habitat areas that were considered too small to map separately were included in nearby habitat types determined to be

the most appropriate based on species composition. A follow-up windshield survey was conducted on August 7, 2013.

Existing Conditions

The BSA is mainly comprised of nonnative landscaped, ruderal, ornamental vegetation, or bare ground. Species observed included hottentot fig (*Carpobrotus edulis*), Peruvian pepper tree (*Schinus molle*), gum tree (Eucalyptus spp.), acacia (*Acacia redolens*), Mexican fan palm (*Washingtonia robusta*), English ivy (*Hedera helix*), Bermuda grass (*Cynodon dactylon*), shortpod mustard (*Hirschfeldia incana*) and Russian thistle (*Salsola tragus*). A small portion of the BSA associated with the former Southern Pacific Railroad corridor consists of cleared or barren ground. This area is devoid of vegetation and is a compacted dirt/gravel road.

Sage scrub-grassland occurs on steep slopes adjacent to SR-57 on the northern end of the BSA. It is largely dominated by nonnative annual grass species, including red brome (*Bromus madritensis* ssp. *rubens*), wild oats (*Avena* sp.), and ripgut brome (*Bromus diandrus*). The western slope also contains poison hemlock (*Conium maculatum*) as a dominant. Within the annual grassland, there is an approximately five percent cover of scattered scrub species, including California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), and coyote brush (*Baccharis pilularis*). Less common scrub species identified include California encelia (*Encelia californica*), Mexican elderberry (*Sambucus mexicana*), deer weed (*Lotus scoparius*), and black sage (*Salvia mellifera*). Scrub species are very sparse within this community, and it more closely resembles annual grassland habitat.

The surrounding area west and south of the BSA is highly developed. The surrounding area east and north of the BSA is connected to a large, undeveloped area associated with the Puente/Chino Hills. This area provides habitat to support several special-interest plant species. The results of the literature review indicated the potential for 34 special-interest plant species to occur in the region, including six federally and/or state listed special status species. No suitable habitat to support any of these 34 identified regional special-status plant species occurs within the BSA; Refer to Table 2.4.3-1, below.

2.4.3.3 Environmental Consequences

Build Alternatives 7A and 9

Construction (Short-Term) Impacts

Grading activities would disturb soils and result in the accumulation of dust on the surface of the leaves of trees, shrubs, and herbs. The respiratory function of the plants in the area would be impaired when dust accumulation is excessive. The indirect effect of the proposed project construction on the vegetation in the immediate vicinity of the construction area would not reduce the plant population below self-sustaining levels. No sensitive plants have the potential to occur within the proposed project limits; therefore, no such impacts are anticipated. No impacts would occur to plant species.

Operation (Long-Term) Impacts

Operation and maintenance of both Build Alternatives, Alternatives 7A and 9, would not impact plants beyond the impacts during construction. No sensitive plants have the potential to occur

within the proposed project limits; therefore, no such impacts are anticipated. No impacts would occur to plant species.

No Build Alternative

Under the No Build Alternative, no new construction would occur and there would be no new impacts to sensitive plant species.

2.4.3.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

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Table 2.4.3-1 Listed, Proposed, and Special-Status Plant Species and Critical Habitat Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name	Scientific Name	Status	General Habitat Description	Flowering Period	Habitat	Rationale
Chaparral sand-verbena	*Abronia villosa* var. *aurita*	CSP, CNPS List 1B	Annual herb. Occurs in coastal scrub and chaparral in sandy soils. From 260 to 5,250 feet (ft) in elevation.	January–August	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.
Western spleenwort	*Asplenium vespertinum*	CNPS List 4	Rocky sites in chaparral, cismontane woodland, and coastal scrub at 180 to 1,000 meters (600 to 3,300 feet) elevation.	February–June (perennial rhizomatous herb)	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.
Parish's brittlescale	*Atriplex parishii*	CSP, CNPS List 1B	Annual herb that occurs in chenopod scrub, vernal pools, and playas, usually on drying alkali flat with fine soils. From 10 to 6,230 ft in elevation.	June–October	Absent	No suitable habitat occurs in BSA.
Davidson's saltscale	*Atriplex serenana* var. *davidsonii*	CSP, CNPS List 1B	Annual herb. Occurs in coastal bluff scrub and coastal scrub, usually in alkaline soil. From 35 to 660 ft in elevation.	April–October	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.
Nevin's barberry	*Berberis nevinii*	FE, SE, CNPS List 1B	Gravelly wash margins in alluvial scrub, or coarse soils and rocky slopes in chaparral; typically 275 to 825 meters (900 to 2,700 feet) elevation; Los Angeles, San Bernardino, Riverside, and San Diego Counties.		Absent	No suitable habitat occurs in BSA.
Round-leaved filaree	*California (formerly Erodium) macrophyllum*	CSP, CNPS List 1B	Annual herb. Occurs in cismontane woodland and valley and foothill grassland, usually in clay soils. From 45 to 3,600 ft in elevation.	March–May	Absent	No suitable habitat occurs in BSA.
Plummer's mariposa lily	*Calochortus plummerae*	CSP, CNPS List 1B	Perennial bulbiferous herb. Occurs in chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and lower montane coniferous forest, usually on rocky and sandy sites; can be very common after fire. From 300 to 5,100 ft in elevation.	May–July	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.
Intermediate mariposa lily	*Calochortus weedii* var. *intermedius*	CSP, CNPS List 1B	Perennial bulbiferous herb. Occurs in chaparral, coastal scrub, and valley and foothill grassland. Often in dry, rocky soils. From 395 to 2,805 ft in elevation.	May–July	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.
Southern tarplant	*Centromadia parryi* ssp. *australis*	CSP, CNPS List 1B	Annual herb. Occurs in vernal pools, margins of marshes and swamps, and vernally mesic valley and foothill grasslands, sometimes with saltgrass on alkaline soils. Up to 1,400 ft in elevation.	May–November	Absent	No suitable habitat in BSA.

Table 2.4.3-1 Listed, Proposed, and Special-Status Plant Species and Critical Habitat Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name	Scientific Name	Status	General Habitat Description	Flowering Period	Habitat	Rationale
Salt marsh bird's beak	*Chloropyron (Cordylanthus) maritimus spp. Maritimus*	FE, SE, CNPS List 1B	Coastal dunes and salt marshes below 30 meters (100 feet) elevation. In California, known from Los Angeles, Orange, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, and Ventura Counties. Historical collections referred to this taxon from alkaline meadow in vicinity of San Bernardino Valley are intermediate to C. maritimus ssp. canescens. Also occurs in Mexico.	May–October	Absent	No suitable habitat in BSA.
San Fernando Valley spineflower	*Chorizanthe parryi* var. *fernandina*	FC, CE, CNPS List 1B	Annual herb. Occurs in coastal scrub in sandy soils. From 450 to 3,660 ft in elevation.	April–July	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.
Parry's spineflower	*Chorizanthe parryi* var. *parryi*	CSP, CNPS List 3	Annual herb. Occurs in coastal scrub and chaparral on sandy or rocky soils. From 120 to 5,115 ft in elevation.	April–June	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.
Peruvian dodder	*Cuscuta obtusifolia var. glandulosa*	CNPS List 2	May be extirpated in California. Formerly found sporadically in freshwater marsh on herbs including Alternanthera, Dalea, Lythrum, Polygonum, and Xanthium below about 500 meters (1,600 feet). Reported in California from Los Angeles, San Bernardino, Sonoma, Sutter, Butte, Sacramento, and Merced Counties. Also known from eastern and southern US, West Indies, and Mexico.	July–October (annual parasitic vine)	Absent	No suitable habitat in BSA.
Many-stemmed dudleya	*Dudleya multicaulis*	CSP, CNPS List 1B	Perennial herb. Occurs in chaparral, coastal scrub, valley and foothill grassland usually in heavy, often clayey soils. From 45 to 2,370 ft in elevation.	April–July	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.
Slender-horned spineflower	*Dodecahema leptoceras*	FE, CE, CNPS: List 1B	Annual herb. Occurs in chaparral, cismontane woodland and coastal scrub in sandy soils. From 600 to 2,280 ft in elevation.	April–June	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.
Santa Ana River woollystar	*Eriastrum densifolium* ssp. *sanctorum*	FE, CE, CNPS List 1B	Perennial herb. Occurs in chaparral and costal scrub in sandy or gravelly soils on river floodplains or terraced fluvial deposits. From 273 to 1,830 ft in elevation.	May–September	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.
Vernal barley	*Hordeum intercedens*	CSP, CNPS: List 3	Annual herb. Occurs in coastal dunes, coastal scrub, valley and foothill grassland, and vernal pools, usually in saline flats and depressions. From 15 to 3000 ft in elevation.	March–June	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.

Table 2.4.3-1 Listed, Proposed, and Special-Status Plant Species and Critical Habitat Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name	Scientific Name	Status	General Habitat Description	Flowering Period	Habitat	Rationale
Mesa horkelia	*Horkelia cuneata* ssp. *puberula*	CNPS List 1B	Sandy or gravelly soils in chaparral, or rarely in cismontane woodland or coastal scrub at 70 to 825 meters (200 to 2,700 feet) elevation. Known only from San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Bernardino Counties, California. Believed extirpated from Riverside and San Diego Counties.	February–July (sometimes to September)	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.
California black walnut	*Juglans californica*	CSP, CNPS List 4	Perennial deciduous tree, usually with several trunks. Locally common below 4,500 ft elevation on slopes and in canyons. Known from Orange and western cismontane San Bernardino County to Ventura County.	March–August	Absent	No suitable habitat in BSA. Not observed during biological surveys.
Coulter's goldfields	*Lasthenia glabrata* ssp. *coulteri*	CSP, CNPS List 1B	Annual herb occurring in coastal salt marshes and swamps, playas, valley and foothill grasslands, sinks, and vernal pools up to 4,000 ft in elevation.	February–June	Absent	No suitable habitat in BSA.
Prostrate vernal pool navarretia	*Navarretia prostrate*	CNPS List 1B	Vernal pools, usually alkaline, from 15 to 1,210 meters (50 to 4,000 feet) elevation. Known only from Alameda, Fresno, Los Angeles, Merced, Monterey, Orange, Riverside, San Benito, San Diego San Luis Obispo, San Bernardino (presumed extirpated) Counties, California.	April–July	Absent	No suitable habitat in BSA.
Coast wooly-heads	*Nemacaulis denudata var. denudate*	CNPS List 1B	Sandy places such as coastal dunes below 100 meters (300 feet) elevation. Known in California from Orange, Los Angeles, and San Diego Counties. Believed extirpated from Santa Catalina Island. Also occurs in Mexico.	April–September	Absent	No suitable habitat in BSA.
California Orcutt grass	*Orcuttia californica*	FE, SE, CNPS List 1B	Vernal pools from 15 to 660 meters (50 to 2,200 feet) elevation. In California, known from Los Angeles, Ventura, Riverside, and San Diego Counties. Also occurs in Mexico.	April–August	Absent	No suitable habitat in BSA.
Hubby's phacelia	*Phacelia hubbyi*	CNPS List 4	Chaparral, coastal scrub and Valley and Foothill Grassland below 1000 meters (3,000 feet). Known from Kern, Los Angeles, Santa Barbara, and Ventura Counties.	April–June	Absent	Outside of species known range. Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.
South Coast branching phacelia	*Phacelia ramosissima* var. *austrolitoralis*	CNPS List 3	Chaparral, Coastal Dunes, Coastal Scrub and Marshes and Swamps in sandy, sometimes rocky soils from 5 to 300 meters (15 to 1000 feet). Known from several counties throughout California.	March–August	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.
Brand's phacelia	*Phacelia stellaris*	FC, CSP, CNPS List 1B	Annual herb that occurs in coastal dunes and coastal scrub. From 15 to 4,970 ft in elevation.	March–June	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.

Table 2.4.3-1 Listed, Proposed, and Special-Status Plant Species and Critical Habitat Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name	Scientific Name	Status	General Habitat Description	Flowering Period	Habitat	Rationale
Engelmann oak	*Quercus engelmannii*	CNPS List 4	Chaparral, woodland, and grassland, from 120 to 1,300 meters (400 to 4,300 feet) elevation. Known from Los Angeles, Orange, Riverside, and San Diego Counties and from northern Baja California.	Year-round	Absent	No suitable habitat in BSA.
Parish's gooseberry	*Ribes divericatum var. parishii*	CNPS List 1A	Deciduous shrub of willow swales in riparian habitats at 60 to 300 meters (200 to 1,000 feet) elevation. Believed to be extinct. Historical collections from Los Angeles and San Bernardino Counties.	February–April	Absent	No suitable habitat in BSA.
Southern skullcap	*Scutellaria bolanderi* ssp. *austromontana*	CNPS List 1B	Mesic areas in gravelly soils of streambanks or in oak or pine woodland (rarely chaparral) at 425 to 2,000 meters (1,400 to 6,600 feet) elevation. Known from Riverside and San Diego Counties. Believed extirpated from San Bernardino County and perhaps Los Angeles County.	June–August	Absent	No suitable habitat in BSA.
Rayless ragwort	*Senecio aphanactis*	CSP, CNPS: List 2	Annual herb. Occurs in chaparral, cismontane woodland, and coastal scrub on drying alkaline flats. Elevations from 45 to 2,400 ft.	January–April	Absent	No suitable habitat in BSA.
Salt spring checkerbloom	*Sidalcea neomexicana*	CSP, CNPS: List 2	Perennial herb. Occurs in coastal scrub, chaparral, lower montane coniferous forest, brackish marshes, Mohavean desert scrub, and playas on alkaline, mesic soils. From 30 to 5,020 ft in elevation.	March–June	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.
Estuary seablite	*Suaeda esteroa*	CNPS List 1B	Coastal salt marshes below 5 meters (15 feet) elevation. Occurs along immediate coast from Santa Barbara County to Baja California.	May–October	Absent	No suitable habitat in BSA.
San Bernardino aster	*Symphyotrichum defoliatum*	CSP, CNPS: List 1B	Perennial rhizomatous herb. Occurs in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and valley and foothill grassland, usually near ditches, streams, and springs. From 6 to 6,120 ft in elevation	July–November	Absent	Sage scrub-grassland in the habitat is highly disturbed and represents nonnative annual grassland more than CSS.

Table 2.4.3-1 Listed, Proposed, and Special-Status Plant Species and Critical Habitat Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name	Scientific Name	Status	General Habitat Description	Flowering Period	Habitat	Rationale
Greata's aster	*Symphyotrichum greatae*	CNPS List 1B	Chaparral and woodland habitats in mesic canyons from 300 to 2,010 meters (1,000 to 6,600 feet) elevation. Known only from Los Angeles, San Bernardino, and Ventura Counties.	June–October	Absent	No suitable habitat in BSA.

Source: Natural Environment Study, February 2014.

[1] Months in parentheses are uncommon.
BSA = biological study area
Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC); California Endangered (CE); California Threatened (CT); California Fully Protected Species (CFP); California Special Plant (CSP), California Native Plant Society (CNPS); etc.

California Native Plant Society (CNPS) designations:

List 1A: Plants presumed extinct in California
List 1B: Plants rare and endangered in California and throughout their range
List 2: Plants rare, threatened, or endangered in California but more common elsewhere in their range.
List 3: Plants needing more information (a review list).
List 4: Plants of limited distribution (a watch list).

Habitat Present/Absent: Absent (A) – No habitat present and no further work needed; Habitat present (HP) – Habitat is or may be present; Species present (O) – The species was observed within the BSA at the time of the survey; Critical Habitat (CH) – Project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

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2.4.4 ANIMAL SPECIES

2.4.4.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.4.5, Threatened and Endangered Species, below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the California Fish and Game Code
- Section 4150 and 4152 of the California Fish and Game Code

2.4.4.2 Affected Environment

A Jurisdictional Delineation was prepared in February 2012 and a Natural Environment Study (NES) was prepared in February 2014. A Biological Assessment (BA) was prepared in May 2015 and the USFWS provided a letter of concurrence on October 8, 2015.

Methodology

The original records were searched in the CNDDB and the IPAC databases in December 2011. An updated record search in the IPAC database for federally-listed endangered, threatened, proposed, and candidate species and critical habitat in the vicinity of the proposed project was completed in August 2015 (Appendix G).

Biologists conducted a site reconnaissance-level survey on December 21, 2011 to generally characterize the biological resources of the site and to ascertain the presence or absence of sensitive animals or the likelihood of their occurrence in the BSA. The purpose of the survey was to evaluate the site based on existing conditions, with particular focus on the native habitat and sensitive species within the BSA. The BSA includes the entire proposed ground disturbance area associated with the interchange improvements, including the grading limits and staging areas. During the course of the survey described above, the biological condition of the BSA was assessed for the presence of various sensitive species, including wildlife and suitability of habitat.

Bridges within the BSA were evaluated for the presence of suitable crevices and roosting habitat for bats as well as presence of bat sign (e.g., guano, staining, or vocalizations).

Survey methods included walking the shoulder and median areas on SR-57 within the ROW. Vegetation communities and subcommunities were determined in general based on the Orange County Habitat Classification System Natural Resources Geographic Information System (GIS) Project. Vegetation communities were mapped on a 1-inch = 200 feet aerial photograph. Habitat areas that were considered too small to map separately were included in nearby habitat types determined to be the most appropriate based on species composition. A follow-up windshield survey was conducted on August 7, 2013.

A habitat assessment for CAGN was conducted for areas within and adjacent to the USFWS-designated critical habitat. As part of the required informal Section 7 consultation with USFWS, an on-site meeting was conducted on July 25, 2012 with USFWS to discuss potential effects to CAGN. A BA was prepared to evaluate the effects of the proposed project and found that the effects are not likely to adversely affect CAGN and its designated critical habitat areas within the BSA. The USFWS provided a letter of concurrence that the proposed project is not likely to adversely affect CAGN on October 8, 2015. This is further discussed in Section 2.4.5, Threatened and Endangered Species.

Existing Conditions

The BSA is located in an urbanized area; the surrounding area west and south of the BSA is highly developed while the surrounding area east and north of the BSA is connected to a large undeveloped area associated with the Puente/Chino Hills. Wildlife species occurring within the BSA are characteristic of those found within a developed urban setting. Common species observed include rock pigeon (*Columba livida*), house sparrow (*Passer domesticus*), house finch (*Carpodacus mexicanus*), black phoebe (*Sayornis nigricans*), and American crow (*Corvus brachyrhynchos*). The site does not appear to function as a wildlife movement corridor.

The BSA supports suitable habitat for a variety of special-status wildlife species. After a thorough literature review, it was determined that 72 special-status wildlife species occur or have the potential to occur within the vicinity of the BSA. A total of 12 of these species are federally and/or state-listed endangered or threatened, or proposed endangered or threatened, or are considered Fully Protected species by the State of California; refer to Table 2.4.4-1, below. No sensitive or special-interest animal species were observed or otherwise detected in the BSA at the time of the field visit. Suitable habitat for these species is not present within the BSA. Critical habitat for CAGN occurs in the northern portions of the BSA and is discussed below and in further detail in Section 2.4.5, Threatened and Endangered Species.

Other Special-Status Species

In addition to CAGN, special-status CSS species with the potential to occur in the BSA include San Diego horned lizard, orange-throated whiptail, coastal western whiptail, coast patch-nosed snake, Southern California rufous-crowned sparrow, and black-tailed jackrabbit. None of these species were observed during the December 2011 surveys; however, surveys were not directed toward these species. Much of the habitat on-site is disturbed, developed, or degraded by infestations of nonnative species. Low-quality habitat for these species exists within the BSA. No cholla cactus (*Opuntia* sp. or *Cylindropuntia* sp.) occurs within the BSA to support San Diego cactus wren.

Table 2.4.4-1 Listed, Proposed, and Special-Status Wildlife Species Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat	Rationale
FISH					
Santa Ana sucker	*Catostomus santaanae*	FT, SSC	Endemic to the Los Angeles Basin south coastal streams. It is usually found in fresh water with sand-rubble or boulder bottoms.	A	No suitable habitat in BSA.
AMPHIBIANS					
Western spadefoot	*Spea hammondii*	SSC	Occurs primarily in grassland and other relatively open habitats. Found in elevations ranging from sea level to 4,500 ft. Requires temporary pools for breeding.	A	No suitable habitat in BSA. No pools for breeding.
REPTILES					
Southwestern pond turtle	*Actinemys marmorata pallida*	SSC	Occurs in a variety of habitats, including woodland, grassland, and open forest. Thoroughly aquatic, existing in good-quality ponds, marshes, rivers, streams, and irrigation ditches that have rocky or muddy bottoms. Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks.	A	No permanent water source in BSA.
San Diego horned lizard	*Phrynosoma coronatum blainvillii*	SSC	Occurs in CSS, open chaparral, riparian woodland, and annual grassland habitats that support adequate prey species.	HP	Not expected in highly disturbed habitat of BSA.
Orange-throated whiptail	*Aspidoscelis hyperythra*	SSC	Inhabits low-elevation coastal scrub, chaparral, and valley hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food, termites.	HP	Not expected in highly disturbed habitat of BSA.
Coastal western whiptail	*Aspidoscelis tigris stejnegeri*	CSA	Occurs in deserts and semiarid areas with sparse vegetation. Often found in woodland and riparian areas.	HP	Not expected in highly disturbed habitat of BSA.
Rosy boa	*Charina trivirgata*	CSA	Inhabits rock outcrops and rocky shrublands in the southwestern U.S. and western Mexico.	A	No suitable habitat in BSA.
Northern red-diamond rattlesnake	*Crotalus ruber ruber*	SSC	Associated with chaparral, woodland, grassland and desert communities from Los Angeles County to Baja California Sur. Prefers rocky areas with dense vegetation. Needs rodent burrows, cracks in rocks, or surface cover objects for shelter.	HP	Not expected in highly disturbed habitat of BSA
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	SSC	Occupies desert scrub, coastal chaparral, washes, sandy flats, and rocky areas.	HP	Not expected in highly disturbed habitat of BSA.
BIRDS					
Cooper's hawk (nesting)	*Accipiter cooperii*	CSA	Nests in a wide variety of woodland and forest habitats.	A	No suitable nesting habitat in BSA.
Tricolored blackbird (nesting colony)	*Agelaius tricolor*	SSC	Highly colonial. Most numerous in the Central Valley, largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	A	No suitable habitat in BSA.

Table 2.4.4-1 Listed, Proposed, and Special-Status Wildlife Species Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat	Rationale
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	CSA	Resident in southern California CSS and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	HP	May occur in sage scrub-grassland, although this habitat is highly disturbed and represents nonnative annual grassland more than CSS. No rocky hillsides. Impacts to this species will not be substantial; see text for acreage of impacts to sage scrub-grassland.
Great blue heron (nesting)	*Ardea herodias*	CSA	Nests in tall trees in close proximity to foraging areas; marshes, lake margins, tide flats, rivers and streams, and wet meadows. Colonial nester.	A	No suitable habitat in BSA.
Long-eared owl (nesting)	*Asio otus*	SSC	Nests in riparian areas with tall willows and cottonwoods as well as belts of live oak woodlands occurring adjacent to streams. Requires adjacent open land for foraging and utilizes old nests of crows, hawks, or magpies for breeding.	A	No suitable habitat in BSA.
Burrowing owl (burrow sites)	*Athene cunicularia*	SSC	Burrows in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.	A	Not expected in highly disturbed habitat of BSA. No suitable burrows observed in potentially suitable habitat areas.
Ferruginous hawk	*Buteo regalis*	CSA	Open country in western North America, north to Canada in summer and south to Mexico in winter.	A	No suitable habitat in BSA.
San Diego cactus wren	*Campylorhynchus brunneicapillus sandiegensis*	SSC	Occurs in CSS habitats. Requires tall opuntia cactus for nesting and roosting.	A	No suitable habitat in BSA. sage scrub-grassland does not contain opuntia cactus.
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FC, SE	Nests in riparian forests, along the broad, lower flood-bottoms of large river systems. Nests are found in jungles of willow often mixed with cottonwoods with understory of blackberry, nettles, or wild grape.	A	No suitable habitat in BSA.
White-tailed kite	*Elanus leucurus*	CSA, CFP	Breeds in riparian trees such as oaks, willows, and cottonwoods in lower-elevation areas, particularly coastal valleys and plains.	A	No suitable habitat in BSA.
Southwestern willow flycatcher (nesting)	*Empidonax traillii extimus*	FE, CE	Rare and local breeder in riparian habitat usually with standing water, in the southwestern U.S. and (formerly?) northwestern Mexico. Winters in Central and South America.	A	No suitable habitat in BSA.
Merlin	*Falco columbarius*	CSA	Open country; breeds in the Holarctic Region and winters south to the tropics. Rare fall migrant and winter visitor to southwestern California.	A	No suitable habitat in BSA.
Yellow-breasted chat (nesting)	*Icteria virens*	SSC	Summer resident of California. Inhabits riparian thickets of willow and other brushy tangles near water. Nests in low, dense vegetation consisting of willow, blackberry, and wild grape.	A	No suitable habitat in BSA.
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	SE	Resident in salt marshes, with rare exception (e.g., Islas Todos Santos, Baja California), of Pacific Coast from Santa Barbara County to Baja California.	A	No suitable habitat in BSA.

Table 2.4.4-1 Listed, Proposed, and Special-Status Wildlife Species Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat	Rationale
Coastal California gnatcatcher	*Polioptila californica californica*	FT, CSA	Obligate, permanent resident of CSS below 2,500 feet in southern California.	CH	Sage scrub-grassland in the BSA is highly disturbed and represents nonnative annual grassland more than CSS. No primary constituent elements present; see text for further discussion.
California least tern	*Sternula antillarum browni* (nesting colony)	FE, SE, CFP	Nests along the coast from San Francisco Bay south to northern Baja California. Forages in shallow water. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	A	No suitable habitat in BSA.
Least Bell's vireo (nesting)	*Vireo bellii pusillus*	FE, CE	Occurs in moist thickets and riparian areas that are predominantly composed of willow and mulefat.	A	No suitable habitat in BSA.
MAMMALS					
Pallid bat	*Antrozous pallidus*	SSC	Occurs in grassland, shrublands, woodlands, and forests; requires rocky outcrops, cliffs, and crevices with access to open habitats for foraging.	A	No suitable habitat in BSA.
Mexican long-tongued bat	*Choeronycteris mexicana*	SSC	Occasionally found in San Diego County. Feeds on nectar and pollen of night-blooming succulents. Roosts in relatively well-lit caves as well as in and around buildings.	A	No suitable habitat in BSA.
Western mastiff bat	*Eumops perotis californicus*	SSC	Inhabits many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands and chaparral communities. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	HP	Moderately suitable habitat for roosting provided by trees adjacent to SR-57, but not expected due to proximity to high level of noise and disturbance.
Silver-haired bat	*Lasionycteris noctivagans*	SSC	Inhabits forested areas, where it forages in small clearings, along roadways and water-courses, and among trees. Generally roosts in trees but occasionally enters buildings or caves. Prefers old growth areas with snag densities of at least 21 per hectare. Range extends from extreme northeastern Mexico north to Alaska and east to the Atlantic Coast.	A	No suitable habitat in BSA.
Hoary bat	*Lasiurus cinereus*	CSA	Forages over a wide range of habitats, but prefers open habitats with access to trees for roosting, and water. Ranges throughout most of California.	A	No suitable habitat in BSA.
Southwestern yellow bat	*Lasiurus xanthinus*	CSA	Occurs in southern California in palm oases and in residential areas with untrimmed palm trees. Roosts primarily in trees, especially the dead fronds of palm trees. Forages over water and among trees.	A	No suitable habitat in BSA.
Black-tailed jackrabbit	*Lepus californicus bennettii*	SSC	Found in a variety of habitats, including herbaceous and desert scrub areas, early stages of open forest, and chaparral. Most common in relatively open habitats. In southern California generally restricted to the cismontane areas, extending from the coast to the Santa Monica, San Gabriel, San Bernardino, and Santa Rosa Mountain ranges.	HP	Suitable habitat is present within the BSA, although high level of disturbance and small amount of open space may prevent this species from occupying BSA.

Table 2.4.4-1 Listed, Proposed, and Special-Status Wildlife Species Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat	Rationale
Yuma myotis	*Myotis yumanensis*	CSA	Common and widespread in California. Found in a wide variety of habitats ranging from sea level to 3,300 m (11,000 ft). Optimal habitats are open forests and woodlands with sources of water over which to feed.	HP	Suitable habitat is present within BSA, however, no optimal habitat available and no water sources within BSA.
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	SSC	Primarily occupies desert scrub and arid lowlands near riparian habitats in the southwestern U.S. and western Mexico. Roost sites include caves, cliffs, and buildings.	A	No suitable habitat in BSA.
Big free-tailed bat	*Nyctinomops macrotis*	SSC	Primarily arid habitats from the southwestern U.S. to South America, but has been recorded far "out of range" during migration. Roost sites include cliffs, buildings, and hollow trees.	HP	Suitable habitat is present within BSA, however high level of noise and disturbance may prevent this species from occupying BSA.
American badger	*Taxidea taxus*	CSA	Occurs throughout much of North America. Primary habitat requirements seem to be sufficient food and friable soils in relatively open uncultivated ground in grasslands, woodlands, and deserts.	A	No suitable habitat in BSA. Level of disturbance is too high to support this species.

Source: Natural Environment Study, February 2014.

BSA = biological study area
CSS = coastal sage scrub
ft = feet
m = meters
U.S. = United States
USFWS = United States Fish and Wildlife Service

Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC); Federal Delisted (FD); California Endangered (CE); California Threatened (CT); California Fully Protected Species (CFP); California Special Animal (CSA), California Native Plant Society (CNPS), Sepcies of Special Concern (SSC); etc.

Habitat Present/Absent: Absent (A) – No habitat present and no further work needed; Habitat present (HP) – Habitat is or may be present; Species present (O) – The species was observed within the Biological Study Area (BSA) during surveys; Critical Habitat (CH) – Project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

Special-Status Bridge and Crevice Dwelling Animal Species

Special-status bridge and crevice dwelling wildlife species potentially within the BSA include western mastiff bat, Yuma myotis, and big free-tailed bat. During the general biological survey, bridges within the BSA were evaluated for the presence of suitable crevices and rooting habitat for bats as well as presence of bat signs. While bridges in the BSA contain crevices that could potentially support roosting bats, no bat signs (e.g., guano, staining, or vocalizations) were observed in the BSA. In addition, the location of these structures over traffic and away from foraging areas decreases the likelihood that they would be used for night roosting. The proposed project area lacks suitable nesting, roosting or foraging habitat within the project limits for special-status species.

Migratory Birds and Raptors

The pepper, gum, and palm trees in the BSA have a limited potential to support nesting migratory birds/raptors. Activities having the potential to disturb active nests are prohibited by CDFW regulations. In addition, native species and their nests are also protected under the Migratory Bird Treaty Act (MBTA) (16 USC 703-712) and Executive Order 13186. This protection generally ceases once nesting activity is completed, typically by July.

2.4.4.3 Environmental Consequences

Build Alternatives 7A and 9

Several special-status species have been documented within the vicinity of the BSA, associated with coastal scrub habitat in nearby Carbon Canyon and Tonner Canyon and riparian habitat associated with nearby Brea Creek.

Direct and indirect effects on CAGN designated critical habitat are expected to occur as a result of both Build Alternatives 7A (Preferred Alternative) and 9. Impacts to critical habitat are discussed further in Section 2.4.5, Threatened and Endangered Species.

Construction (Short-Term) Impacts

No direct effect is anticipated of CAGN due to the low quality of habitat within the BSA; however, 0.51 acre of temporary impacts to critical habitat would occur under Build Alternative 7A (Preferred Alternative). Therefore, a BA was prepared for informal Section 7 consultation with the USFWS to confirm that the effects from Build Alternative 7A (Preferred Alternative) are not likely to adversely affect critical habitat areas within the BSA. The USFWS concurred with these findings on October 8, 2015, due to the small amount of impact, 0.51 acre, within the critical habitat identified within the BSA. With the incorporation of avoidance and/or minimization measures, which are provided to address effects during construction of the proposed project, impacts would not be adverse. Refer to Section 2.4.5, Threatened and Endangered Species, for further detail on impacts to CAGN.

The proposed project would result in a total temporary loss of 1.40 acres of disturbed sage scrub-grassland under Build Alternatives 7A (Preferred Alternative), with 0.89 acre of temporary loss being outside the USFWS designated critical habitat for CAGN. With the incorporation of avoidance and/or minimization measures, impacts are not considered adverse under Build Alternatives 7A (Preferred Alternative).

While bridges in the BSA contain crevices that could potentially support roosting bats, no bat signs (e.g., guano, staining, or vocalizations) were observed during the field survey. There is the potential for bridge and crevice nesting birds (i.e., swifts and swallows) to be present within the project area. Potential impacts on nesting birds as a result of the either Build Alternative 7A (Preferred Alternative) or 9 would be minimized with implementation of avoidance measures.

Impacts to any active migratory bird nest (common or special-status species) would be considered a violation of the California Fish and Game Code Section 3503.5. In addition, the MBTA states that all migratory birds and their parts (including eggs, nests and feathers) are fully protected. The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase, or barter, any migratory bird, its eggs, parts, and nests except as authorized under a valid permit. In addition, Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) directs Federal agencies "…taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations to develop and implement an MOU with the USFWS that promotes the conservation of migratory bird populations". Therefore, any impact on the nest of any migratory bird species would not be considered adverse. Potential impacts on nesting birds would be minimized with implementation of avoidance measures AN-1 and AN-2.

Operation (Long-Term) Impacts

No direct effect of CAGN would occur due to the low quality of habitat within the BSA; however, 0.01 acre of permanent impacts to critical habitat would occur under Build Alternative 7A (Preferred Alternative). With the incorporation of avoidance and/or minimization measures, impacts are not considered adverse. Refer to Section 2.4.5, Threatened and Endangered Species, for further detail. The USFWS concurred with the findings that Build Alternative 7A (Preferred Alternative) is not likely to adversely affect the CAGN on October 8, 2015 (Appendix H).

The proposed project would result in a total permanent loss of 0.15 acre of highly disturbed sage scrub-grassland under Build Alternatives 7A (Preferred Alternative), with 0.14 acre of permanent loss being outside the USFWS designated critical habitat for CAGN. With incorporation of avoidance and/or minimization measures, impacts are not considered adverse under Build Alternatives 7A (Preferred Alternative).

While bridges in the BSA contain crevices that could potentially support roosting bats, no bat signs (e.g., guano, staining, or vocalizations) were observed during the field survey. There is the potential for bridge and crevice nesting birds (i.e., swifts and swallows) to be present within the project area. Potential impacts on nesting birds as a result of the either Build Alternative 7A (Preferred Alternative) or 9 would be minimized with implementation of avoidance measures.

Impacts to any active migratory bird nest (common or special-status species) would be considered a violation of the California Fish and Game Code Section 3503.5. In addition, the MBTA states that all migratory birds and their parts (including eggs, nests and feathers) are fully protected. The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase, or barter, any migratory bird, its eggs, parts, and nests except as authorized under a valid permit. In addition, Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) directs Federal agencies "…taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations to develop and implement an MOU with the USFWS that promotes the conservation of migratory bird populations". Therefore, any impact on the nest of any migratory bird species would not be

considered adverse. Potential impacts on nesting birds would be minimized with implementation of avoidance measures.

No Build Alternative

Under the No Build Alternative, no new construction would occur and there would be no new impacts to animal species.

2.4.4.4 Avoidance, Minimization, and/or Mitigation Measures

AN-1 To avoid impacts to nesting birds, any native vegetation removal or tree (native or exotic) trimming activities will occur outside of the nesting bird season. In the event that vegetation clearing is necessary during the nesting season (i.e., February 15 to August 31), a qualified biologist shall conduct a pre-construction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the biologist. This buffer will be clearly marked in the field by construction personnel under guidance of the biologist, and construction or clearing will not be conducted within this zone until the biologist determines that the young have fledged or the nest is no longer active.

AN-2 To prevent proposed project effects to bridge and crevice-nesting birds (i.e., swifts and swallows), all work on existing bridges with potential habitat conducted between February 15 and October 31 will include inspection for, and removal of, all bird nests prior to construction under the guidance and observation of a qualified biologist prior to February 1 of that year, before the nesting colony returns to the nesting site. Removal of nests that are under construction must be repeated as frequently as necessary to prevent nest completion or until a nest exclusion device is installed (such as netting or a similar mechanism that keeps birds from building nests). Nest removal and exclusion device installation will be monitored by a qualified biologist. Such exclusion efforts must be continued to keep the structures free of swallows until September or completion of construction. All nest exclusion techniques will be coordinated among the Department's District Biologist and the resource agencies.

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2.4.5 THREATENED AND ENDANGERED SPECIES

2.4.5.1 Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later 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 Federal Highway Administration (FHWA), are required to consult with the U.S. Fish wan Wildlife Services (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) 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 may include a Biological Opinion with an Incidental Take statement, a Letter of Concurrence and/or documentation of a No Effect finding. Section 3 of FESA 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 (CESA), California Fish and Game Code, Section 2050, et seq. CESA 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 California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. 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 Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for incidental take to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

2.4.5.2 Affected Environment

A Jurisdictional Delineation was prepared in February 2012 and a Natural Environment Study (NES) was prepared in February 2014. A Biological Assessment (BA) was prepared in May 2015 and the USFWS provided a letter of concurrence on October 8, 2015.

Methodology

The original records were searched in the CNDDB, the CNPS Electronic Inventory, and the IPAC databases in December 2011. An updated record search in the IPAC database for federally-listed endangered, threatened, proposed, and candidate species and critical habitat in the vicinity of the proposed project was completed in August 2015 (Appendix G).

Biologists conducted a site reconnaissance-level survey on December 21, 2011 to generally characterize the biological resources of the site and to ascertain the presence or absence of sensitive animals or the likelihood of their occurrence in the BSA. The purpose of the survey was to evaluate the site based on existing conditions, with particular focus on the native habitat and sensitive species within the BSA. The BSA includes the entire proposed ground disturbance area associated with the interchange improvements, including the grading limits and staging areas. During the course of the survey described above, the biological condition of the BSA was assessed for the presence of various sensitive species, including wildlife and suitability of habitat. Bridges within the BSA were evaluated for the presence of suitable crevices and roosting habitat for bats as well as presence of bat sign (e.g., guano, staining, or vocalizations). Survey methods included walking the shoulder and median areas on SR-57 within the ROW. Vegetation communities and subcommunities were determined in general based on the Orange County Habitat Classification System Natural Resources GIS Project. Vegetation communities were mapped on a 1-inch = 200 feet aerial photograph. Habitat areas that were considered too small to map separately were included in nearby habitat types determined to be the most appropriate based on species composition. A follow-up windshield survey was conducted on August 7, 2013.

As part of the required informal Section 7 consultation with USFWS, an on-site meeting was conducted on July 25, 2012 with USFWS to discuss the potential effects to CAGN by Build Alternative 7A (Preferred Alternative). During the meeting, USFWS recommended measures to incorporate into Build Alternative 7A (Preferred Alternative)to avoid or minimize any CAGN effects. A BA was prepared to evaluate the effects of Build Alternative 7A (Preferred Alternative) and found that the effects are not likely to adversely affect CAGN and its designated critical habitat areas within the BSA. The USFWS concurred that Build Alternative 7A (Preferred Alternative) is not likely to adversely affect CAGN and its designated critical habitat areas within the BSA on October 8, 2015 (Appendix H).

Existing Conditions

As described in the NES, as well as Section 2.4.1, above, the BSA is located within the South Coast subregion of the Southwestern California region of the California Floristic Province. The South Coast subregion is characterized by valleys and small hills extending from the coast inland to the foothills of the Transverse and Peninsular Mountain Ranges. Much of the area is intensively developed for urban, suburban, and agricultural uses. The natural vegetation of the subregion consists primarily of chaparral, CSS, annual grasslands, and some riparian scrub and woodland. Much of the natural vegetation occurs in scattered, often fragmented patches on hills or in other areas not easily developed.

The BSA is in an urbanized area that no longer contains substantial wildlife habitat. The surrounding area west and south of the BSA is highly developed; however, the surrounding area east and north of the BSA is connected to a large, undeveloped area associated with the Puente/Chino Hills. This area serves as a significant wildlife corridor within the region and provides habitat to support several special-status plant and wildlife species.

The results of the literature review, provided in Tables 2.4.3-1 and 2.4.4-1, indicated the regional occurrence of 34 special-interest plant species and 36 special-interest animal species, including listed species and other species identified by resource agencies as special-interest.

The BSA does not contain suitable habitat to support any of the special-interest plant species. Sage scrub-grassland habitat occurs on steep slopes adjacent to SR-57 in the northern end of the BSA. It is largely dominated by nonnative annual grass species, including red brome, wild oats, and ripgut brome. The western slope also contains poison hemlock as a dominant species. Within the annual grassland matrix, there is approximately five percent cover of scattered scrub species. CSS species are very sparse within this community and it more closely resembles annual nonnative grassland habitat. Critical habitat for the CAGN is located within the BSA.

The BSA supports suitable habitat for a variety of special-status wildlife species. After a thorough literature review, it was determined that 72 special-status wildlife species occur or have the potential to occur within the vicinity of the BSA. A total of 12 of these species are federally and/or state-listed endangered or threatened, or proposed endangered or threatened, or are considered Fully Protected species by the State of California. No sensitive or special-interest animal species were observed or otherwise detected in the BSA at the time of the field visit. The BSA does not contain suitable habitat to support the Santa Ana sucker, Least Bell's vireo, or the southwestern willow flycatcher.

California Gnatcatcher and USFWS-Designated Critical Habitat

The CAGN was listed as threatened by the USFWS in March 1993. On February 7, 2000, approximately 513,650 acres in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties were designated as critical habitat for the CAGN. New boundaries of critical habitat totaling 495,795 acres were proposed in April 2003. On December 19, 2007, the USFWS designated 197,303 acres as revised final critical habitat. Figures 2.4-1a through 2.4-1d, Vegetation Communities, depict the location of designated CAGN critical habitat, which is located in the northern portion of the proposed project site. With the exception of the USFWS-designated critical habitat for CAGN, sage scrub-grassland within the proposed project boundaries is not protected by any federal, state, or local regulations.

The CAGN is a non-migratory songbird that typically nests and forages in moderately dense stands of CSS below an elevation of 2,500 feet in southern California. CAGN usually defend breeding territories ranging in size from 2 to 14 acres and occupy home ranges that vary in size from 13 to 39 acres. The breeding season of the CAGN generally extends from February 15 through August 31. After the chicks have fledged, juveniles remain closely associated with their parents for up to several months and may disperse up to nine miles from their natal territory.

Based on a habitat assessment and a review of existing information on the distribution of CAGN in the vicinity of the BSA, focused surveys for CAGN were not deemed necessary. The highly disturbed nature of sage scrub-grassland habitat within the BSA, low percentage of CSS shrub plant species within this habitat, and close proximity of this habitat to SR-57 do not provide suitable CAGN nesting habitat on the steep cut slopes immediately adjacent to SR-57 and only marginally suitable habitat in other portions of the BSA. It is suitable CAGN habitat for dispersing and foraging. Because focused surveys were not conducted due to personnel safety, timing, and costs, all sage scrub-grassland vegetation is assumed occupied by CAGN. In addition, the sage scrub-grassland vegetation within the CAGN-designated critical habitat does contain primary constituent elements (PCEs) for dispersing and foraging CAGN, as defined by USFWS. The PCEs for CAGN, as defined by USFWS, are:

1. Dynamic and successional sage scrub habitats: Venturan coastal sage scrub, Diegan coastal sage scrub, Riversidean sage scrub, maritime succulent scrub, Riversidean alluvial fan scrub, southern coastal bluff scrub, and coastal sage chaparral scrub in Ventura, Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties that provide space for individual and population growth, normal behavior, breeding, reproduction, nesting, dispersal and foraging; and

2. Non-sage scrub habitats such as chaparral, grassland, riparian areas, in proximity to sage scrub habitats as described for PCE 1 above that provide space for dispersal, foraging, and nesting.

The sage scrub-grassland within the USFWS-designated critical habitat does contain PCEs for dispersing and foraging CAGN, as defined by USFWS. Based on a habitat assessment and a review of existing information on the distribution of CAGN in the vicinity of the BSA, focused surveys for CAGN were not deemed necessary. However, because focused surveys were not conducted due to personnel safety, timing, and costs, all sage scrub-grassland vegetation is assumed occupied by CAGN.

Several occurrences of CAGN in the vicinity of the proposed project site are noted on the CNDDB, especially in nearby Carbon and Tonner Canyons. The nearest occurrence is located 0.5 mile northwest of the BSA in coastal sage scrub (CSS) immediately surrounding Humble Reservoir. The original surveys for this occurrence were conducted between 1999 and 2005. In 2005, three breeding pairs were observed in an area covered with CSS, mixed sage scrub, and coyote brush scrub. At the time of the surveys and recording of data into CNDDB, there was a direct habitat connection between the occurrence and the proposed project BSA; however, based on a review of historic aerials and observations made during the site visit, a large portion of the land around Carmichael Drive and Newhall Terrace has been graded and developed. This development isolates the proposed work areas from the known CNDDB occurrence.

There is one other occurrence within one mile of the BSA, located east of the BSA associated with CSS in an oil field. There has not been any further development in the vicinity of this occurrence since data were recorded, and CAGN are presumed to remain in this area; however, there is no suitable CAGN nesting on the steep cut slopes immediately adjacent to SR-57 and only marginally suitable habitat in other portions of the BSA. It is suitable CAGN habitat for dispersing and foraging.

While the sage scrub-grassland within the BSA contains essentially grassland in proximity to sage scrub habitats north and east of the BSA, the close proximity of this habitat to SR-57, a noisy, heavily-traveled transportation corridor, is expected to preclude CAGN from successfully using this habitat for dispersal, foraging, or nesting. However, because focused CAGN surveys were not conducted, the sage scrub-grassland vegetation in the project boundaries is assumed occupied by CAGN and addressed accordingly.

2.4.5.3 Environmental Consequences

Build Alternatives 7A and 9

No Threatened or Endangered species would occur within the BSA, refer to Table 2.4.5-1. However, USFWS-designated critical habitat for CAGN is located within the northern portion of the proposed project site. Direct and indirect impacts on CAGN designated critical habitat are expected to occur as a result of the proposed project. Figures 2.4-6a through 2.4-6d, Impacts to

Habitat Communities – Alternative 7A, and Figures 2.4-7a to 2.4-7d, Impacts to Habitat Communities – Alternative 9, depict temporary and permanent impacts resulting from Build Alternatives 7A and 9, respectively.

Table 2.4.5-1. Federal Special-Status Wildlife Species Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name (*Scientific Name*)	Status Listing	Habitat and Comments	Habitat	Rationale	Effect Determination
FISH					
Santa Ana sucker (*Catostomus santaanae*)	FT, SSC	Endemic to the Los Angeles Basin south coastal streams. It is usually found in fresh water with sand-rubble or boulder bottoms.	A	No suitable habitat in BSA.	The proposed project would have no effect on this species.
BIRDS					
Southwestern willow flycatcher (nesting) (*Empidonax traillii extimus*)	FE, CE	Rare and local breeder in riparian habitat usually with standing water, in the southwestern U.S. and (formerly?) northwestern Mexico. Winters in Central and South America.	A	No suitable habitat in BSA.	The proposed project would have no effect on this species.
Least Bell's vireo (nesting) (*Vireo bellii pusillus*)	FE, CE	Occurs in moist thickets and riparian areas that are predominantly composed of willow and mulefat.	A	No suitable habitat in BSA.	The proposed project would have no effect on this species.
Coastal California gnatcatcher (*Polioptila californica californica*)	FT, CSA	Obligate, permanent resident of CSS below 2,500 feet in southern California.	CH	Sage scrub-grassland in the BSA is highly disturbed and represents nonnative annual grassland more than CSS. No primary constituent elements present; see text for further discussion.	Not Likely to Adversely Affect.

Source: Natural Environment Study, February 2014; Biological Assessment, May 2015; IPAC List August 2015.

BSA = biological study area; CSS = coastal sage scrub; ft = feet; m = meters; U.S. = United States; USFWS = United States Fish and Wildlife Service

Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC); Federal Delisted (FD); California Endangered (CE); California Threatened (CT); California Fully Protected Species (CFP); California Special Animal (CSA), California Native Plant Society (CNPS), Sepcies of Special Concern (SSC); etc.

Habitat Present/Absent: Absent (A) – No habitat present and no further work needed; Habitat present (HP) – Habitat is or may be present; Species present (O) – The species was observed within the Biological Study Area (BSA) during surveys; Critical Habitat (CH) – Project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

Construction (Short-Term) Impacts

Although no direct effect of CAGN is expected due to the low quality of habitat within the BSA, effects of designated critical habitat would occur as a result of both Build Alternatives. Temporary impacts to USFWS designated critical habitat for CAGN would be 0.51 acre for Build Alternative 7 (Preferred Alternative). Areas of temporary effects would only be affected during construction to allow for construction and equipment staging. Build Alternatives 7A (Preferred Alternative) would result in a total temporary loss of 1.40 acres of disturbed sage scrub-grassland, of which 0.51 acre is USFWS designated critical habitat for CAGN. Mitigation measures would be incorporated into the proposed project to ensure impacts there are not adverse.

The USFWS determined that designated critical habitat within the BSA was subject to informal consultation under the Federal Endangered Species Act. A BA regarding Build Alternative 7A

(Preferred Alternative) was prepared and the USFWS reviewed the BA in June 2015. The USFWS concurred with the findings of the BA regarding Build Alternative 7A (Preferred Alternative) effects to CAGN and its designated critical habitat for CAGN in a letter dated October 8, 2015 (Appendix H). Compensatory mitigation to offset impacts to designated critical habitat for CAGN is required. For these areas, the mitigation ratios of 1:1 for temporary effects to sage scrub-grassland are consistent with USFWS standards, which are incorporated in the avoidance, minimization, and/or mitigation measures detailed below.

Operation (Long-Term) Impacts

Although no direct effects of CAGN is expected due to the low quality of habitat within the BSA, effects of designated critical habitat would occur as a result of both Build Alternatives. Permanent impacts to USFWS-designated critical habitat for CAGN would result in 0.01 acre under Build Alternative 7A (Preferred Alternative). Because of the low quality and the small amount of impacts to USFWS-designated CAGN critical habitat, less than 0.5 acre, proposed project impacts are not considered adverse. Build Alternative 7A (Preferred Alternative) would result in a total permanent loss of 0.15 acre of highly disturbed potential habitat, of which 0.01 acre is USFWS designated critical habitat for CAGN. Mitigation measures would be incorporated into the proposed project to ensure impacts are not adverse.

The USFWS determined that designated critical habitat within the BSA was subject to informal consultation under the Federal Endangered Species Act. A BA was regarding Build Alternative 7A (Preferred Alternative) prepared and the USFWS reviewed the BA in June 2015. The USFWS concurred with the findings of the BA regarding Build Alternative 7A (Preferred Alternative) effects to CAGN and its designated critical habitat in a letter dated October 8. 2015 (Appendix H). Compensatory mitigation to offset impacts to designated critical habitat for CAGN would be required. For these areas, the mitigation for Build Alternative 7A (Preferred Alternative) is 1.5 acres for permanent effects to sage scrub-grassland are consistent with USFWS standards, which are incorporated in the avoidance, minimization, and/or mitigation measures detailed below.

No Build Alternative

Under the No Build Alternative, no new construction would occur and there would be no new impacts to Threatened or Endangered species.

2.4.5.4 Avoidance, Minimization, and/or Mitigation Measures

In addition to implementation of Measures WQ-5, GEO-1, GEO-3, AQ-1, AN-1, AN-2, INV-1, and INV-2 the following measures have been identified.

TE-1 The following habitat replacement and maintenance shall be provided consistent with USFWS standards.

a. The City, with Caltrans Approval, will fund the enhancement of coastal CAGN habitat through off-site restoration and/or preservation of conservation lands. Permanent impacts to 0.15 acre of habitat suitable for the CAGN will be offset through the restoration and permanent conservation of 1.5 acres of coastal sage scrub habitat within designated CAGN critical habitat at Puente Hills Habitat Preservation Authority (Authority), or another location approved by the Carlsbad USFWS Office. Documentation that the habitat has been conserved

will be provided to the Carlsbad USFWS Office prior to the commencement of vegetation removal and project construction.

b. The City will submit final upland restoration plans to the Carlsbad USFWS Office for review and approval at least 30 days prior to initiating project impacts. The final plan will include the following information and conditions:

1. All habitat restoration/enhancement sites will be prepared for planting in a way that mimics natural habitat to the maximum extent practicable. All plantings will be installed in a way that mimics natural plant distribution and not in rows;

2. Planting palettes (plant species, size, and number/acre) and seed mix (plant species and pounds/acre). The plant palettes proposed in the draft plan will include native species specifically associated with the habitat type(s). Unless otherwise approved by the Carlsbad USFWS Office, only locally native species (no cultivars) obtained from the Chino/Puente Hills or other source within 15 miles of the Chino/Puente Hills will be used, unless otherwise approved by the Carlsbad USFWS Office. Native grass seed, which is wind pollinated, may be collected from anywhere in Southern California. The specific source location of all plant material and seed will be provided to the Carlsbad USFWS Office prior to use in restoration activities.

3. Container plant survival will be 60 percent of the initial plantings for the first five (5) years. At the first and second anniversary of plant installation, all dead plants will be replaced unless their function has been replaced by plants from seed or natural recruitment.

4. A final implementation schedule will indicate when all impacts, as well as restoration plating and irrigation will begin and end. Offsite restoration planting and irrigation will be completed during the concurrent or next planting season (i.e., late fall to early spring) after initiating project impacts.

5. The final restoration plan will include five (5) years of success criteria for restoration areas including: percent cover, evidence of natural recruitment of multiple species for all habitat types, zero (0) percent coverage will be maintained for woody California Invasive Plant Council's (Cal-IPAC's) "Invasive Plant Inventory" species, and no more than 15 percent coverage for other exotic/weed species.

6. A minimum of five (5) years of maintenance and monitoring of restoration areas, unless success criteria are met earlier and all artificial water supplies have been off for at least two (2) years.

7. A qualitative and quantitative vegetation monitoring plan with a map of proposed sampling locations. Photo points will be used for qualitative monitoring and stratified-random sampling will be used for all quantitative monitoring.

8. Contingency measures in the event of creation/restoration/enhancement failure.

9. Annual mitigation maintenance and monitoring reports will be submitted to the Carlsbad USFWS Office no later than December 1 of each year.

10. If maintenance of a coastal sage scrub restoration area is necessary between February 15 and August 31, a biologist with knowledge of the biology and ecology of CAGN and approved by the Carlsbad USFWS Office will survey for CAGN within the restoration area, access paths to it, and other areas susceptible to disturbances by site maintenance. Surveys will consist of three visits separated by two (2) weeks, starting March 1 of each maintenance/monitoring year. Work will be allowed to continue on the site during the survey period. However, if CAGN are found during any of the visits, the City and Caltrans will notify and coordinate with the Carlsbad USFWS Office to identify measures to avoid and/or minimize effects to the CAGN (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).

c. The City will prepare and implement perpetual management, maintenance, and monitoring plans for the 1.5 acre conservation area, with consideration of the fact that the Puente Hills Habitat Preservation Authority (Authority) property is already managed pursuant to the Authority's conservation mission. The City will also establish a non-wasting endowment for an amount approved by the Puente Hills Habitat Preservation Authority (Authority) based on Property Analysis Records (PAR) or similar cost estimation methods, to ensure that there is sufficient funding for perpetual management, maintenance and monitoring of the property. The City will submit draft long-term management plans for the property to the Carlsbad USFWS Office for review and approval. The long-term management plans will include, but not be limited to, the following: 1) the PAR or other cost estimation results for the non-wasting endowment; 2) the proposed land manger's name, qualifications, business address, and contact information; and 3) the method of protecting the resources in perpetuity (e.g., conservation easement), monitoring schedule, measures to prevent human and exotic species encroachment, funding mechanism, and contingency measures should problems occur. The long-term management plan will be provided and the endowment will be established prior to initiation of vegetation removal and construction activities for the project.

d. A perpetual biological conservation easement or other conservation mechanism acceptable to the Carlsbad USFWS Office will be recorded over the 1.5-acre conservation area. The conservation mechanisms will specify that no easements or activities (e.g., fuel modification zones, public trails, drainage facilitates, walls, maintenance access roads, utility easements) that will result in soil disturbance and/or native vegetation removal will be allowed within the biological conservation easement areas. The draft conservation mechanism will be provided to the Carlsbad USFWS Office for review and approval prior to initiation of vegetation removal and construction activities for the project. The City will also submit the final conservation mechanism to the Carlsbad USFWS Office.

e. All areas of temporary impact, totaling 1.4 acres, will be revegetated and restored with native species. These areas will be returned to original grade, as feasible. Prior to initiating project impacts, a restoration plan will be

developed for the temporary impact areas. The plan will be submitted to the Carlsbad USFWS Office for review and approval. This plan will include a detailed description of restoration methods, slope stabilization, and erosion control, criteria for restoration to be considered successful, and monitoring protocol(s). Following the completion of construction activities within each area of impact, the restoration plan will be implemented for a minimum of five (5) years, unless success criteria are met earlier and all artificial water has been off for at least two (2) years. Temporary impact areas will be planted as soon as possible following re-grading after completion of construction to prevent encroachment by nonnative plants.

TE-2 All lighting used during any nighttime construction (e.g., staging areas, equipment storage sites, roadway) adjacent to the sage scrub-grassland within California gnatcatcher-designated critical habitat will be directed toward the construction site and away from gnatcatcher-designated critical habitat to avoid and minimize artificial night lighting effects. Construction lighting will be the lowest illumination necessary for safety, and light glare shields will be used to reduce the extent of illumination into gnatcatcher-designated critical habitat.

Permanent lighting will be of the lowest illumination necessary for safety and will be directed toward the road and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. The City and Caltrans will review the permanent lighting plants for the project and then submit them to the Carlsbad USFWS Office for review and approval.

TE-3 Prior to any construction related activities, and under the supervision of the Project Biologist, the limits of project impacts (including construction staging areas and access routes) will be clearly delineated with bright orange plastic fencing, stakes, flags, or markers that will be installed in a manner that does not impact habitats to be avoided and such that they are clearly visible to personnel on foot and operating heavy equipment) will be installed around designated critical habitat (with constituent elements) adjacent to the proposed project footprint; these areas will be designated as Environmentally Sensitive Areas (ESAs) to be preserved. No grading or fill activity of any type will be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within these protected zones. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of cut or fill material in areas where vegetation is adjacent to planned grading activities.

TE-4 During construction, a qualified biologist (for this measure the Project Biologist shall be experienced in CAGN biology and ecology) approved by the Carlsbad USFWS Office will be onsite during: 1) initial clearing and grubbing; and 2) weekly during project construction within 200 feet of CAGN habitat to ensure compliance with all conservation measures. The Project Biologist will be familiar with the habitats, plants, and wildlife in the project area to ensure that issues relating to biological resources are appropriately and lawfully managed. The City and/or Caltrans will submit the biologists' name, address, telephone number, and work schedule on the project to the Carlsbad USFWS Office prior to initiating project impacts. The biologist will be provided with a copy of this consultation.

a. Under the supervision of the Project Biologist, the limits of project impacts (including construction staging areas and access routes) will be clearly delineated with bright orange plastic fencing, stakes, flags, or markers that will be installed in a manner that does not impact habitats to be avoided and such that they are clearly visible to personnel on foot and operating heavy equipment. If work occurs beyond the fenced or demarcated limits of impact, all work will cease until the problem has been remedied to the satisfaction of the Carlsbad USFWS Office. Temporary construction fencing and markers will be maintained in good repair until the completion of project construction and removed upon project completion.

b. The Project Biologist will submit a final report to the Carlsbad USFWS Office within 120 days of project completion including photographs of impact areas and adjacent habitat, documentation that authorized impacts were not exceeded, and documentation that general compliance with all conservation measures was achieved. The report will specify numbers, locations, and sex of CAGN (if observed), observed CAGN behavior (especially in relation to project activities), and remedial measures employed to avoid and minimize impacts to CAGN and their critical habitat. Raw field notes should be available upon request by the Carlsbad USFWS Office.

c. During construction the employee education program (training/awareness program) will be developed and implemented by the Project Biologist. Each employee (including temporary, contractors, and subcontractors) will receive a training/awareness program prior to working on the proposed project. They will be advised of the potential impact to the listed species and the potential penalties for taking such species. The training/awareness program will include, at minimum, the following: occurrence of the listed and sensitive species in the area (including photographs), their general ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area.

d. To avoid attracting predators of the CAGN the project site will be kept as clean of debris as possible. Food-related trash items will be kept in enclosed containers and regularly removed from the site.

e. Project personnel will be prohibited from bringing domestic pets to the construction site to ensure that domestic pets do not disturb or depredate wildlife in the adjacent native habitat.

TE-5 Implement Measures WQ-5, GEO-1, GEO-3, AQ-1, AN-1, AN-2, INV-1, and INV-2 as follows:

a. Implement Measure WQ-5. All equipment maintenance staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated disturbed/developed areas. They will be located such that runoff from the designated areas will not enter gnatcatcher-designated critical habitat.

b. Implement Measure GEO-1. If fills must be borrowed from, or disposed of offsite, the construction contractor will identify any necessary borrow and disposal sites and provide this information to the City and Caltrans for review. Caltrans will review borrow and disposal site information and submit the information to the Carlsbad USFWS Office. If borrow or disposal activities may affect a listed species or critical habitat, Caltrans will reinitiate Section 7 consultation.

c. Implement Measure GEO-3. Appropriate erosion and siltation controls will be installed prior to the onset of vegetation clearing and be maintained in good repair until the completion of project construction. Erosion and sediment control devices used for the project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.

d. Implement Measure AQ-1. Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures.

e. Implement Measures AN-1 and AN-2. The clearing and grubbing of native habitats for the project will be conducted between September 1 and February 14 to avoid the CAGN breeding season (or sooner than September 1 if the Project Biologist demonstrates to the satisfaction of the Carlsbad USFWS Office that all nesting is complete). If vegetation clearing must be conducted during breeding season, Caltrans will re-initiate consultation with the Carlsbad USFWS Office to address unanticipated effects to this species.

f. Implement Measure INV-1. If invasive weed species are already growing within the project area, special care will be taken during transport, use, and disposal of soils containing invasive weed seeds to ensure that invasive weeds are not spread into new areas by the project. All heavy equipment will be washed and cleaned of debris prior to entering a new area to minimize the spread of invasive weeds. Eradication strategies will be implemented should an invasion of nonnative plant species be observed in the project work area by the Project Biologist.

g. Implement Measure INV-2. No invasive species listed in the National Invasive Species Management Plan, State of California Noxious Weed List, or Cal-IPC Invasive Plant Inventory list will be included in the landscaping plans for the proposed project. Landscaping will not use plants that require intensive irrigation, fertilizers, or pesticides adjacent to preserve areas, and water runoff from landscaped areas will be directed away from adjacent native habitats and contained and/or treated within the development footprint. Caltrans will review the landscaping plans for the project and then submit them to the Carlsbad USFWS Office for review and approval.

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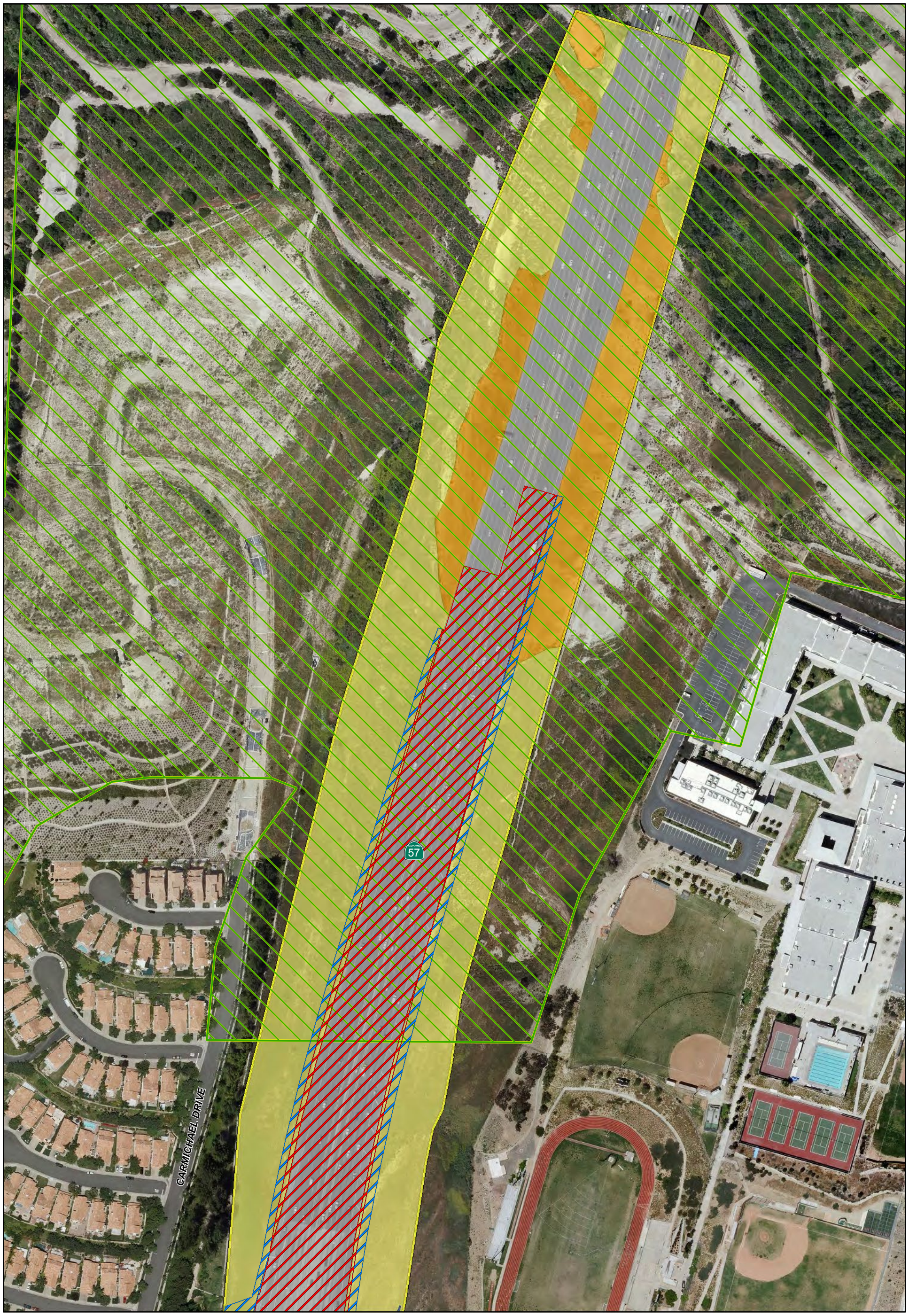

Source: Eagle Aerial, 2010; Federal Registry Critical Habitat, 2007.

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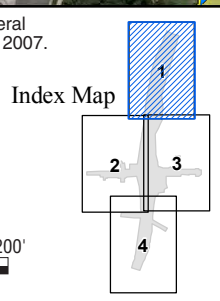

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LEGEND

- Biological Study Area
- Coastal California Gnatcatcher Final Critical Habitat, 12/19/07

IMPACTS TO LAND COVER • ALT 7A

- Permanent Impact
- Temporary Impact

LAND COVER

- Disturbed or Barren
- Ornamental Landscaping
- Ruderal
- Sage Scrub-Grassland
- Transportation
- Urban and Commercial
- Watercources

Sheet 1 of 4

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacts to Habitat Communities Alternative 7A

8/5/13 JN 10-107792-18226 MAS

Figure 2.4-6a

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Source: Eagle Aerial, 2010; Federal Registry Critical Habitat, 2007.

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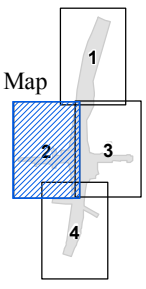

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LEGEND

- Biological Study Area
- Coastal California Gnatcatcher Final Critical Habitat, 12/19/07

IMPACTS TO LAND COVER • ALT 7A

- Permanent Impact
- Temporary Impact

LAND COVER

- Disturbed or Barren
- Ornamental Landscaping
- Ruderal
- Sage Scrub-Grassland
- Transportation
- Urban and Commercial
- Watercources

Sheet 2 of 4

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacts to Habitat Communities Alternative 7A

8/5/13 JN 10-107792-18226 MAS

Figure 2.4-6b

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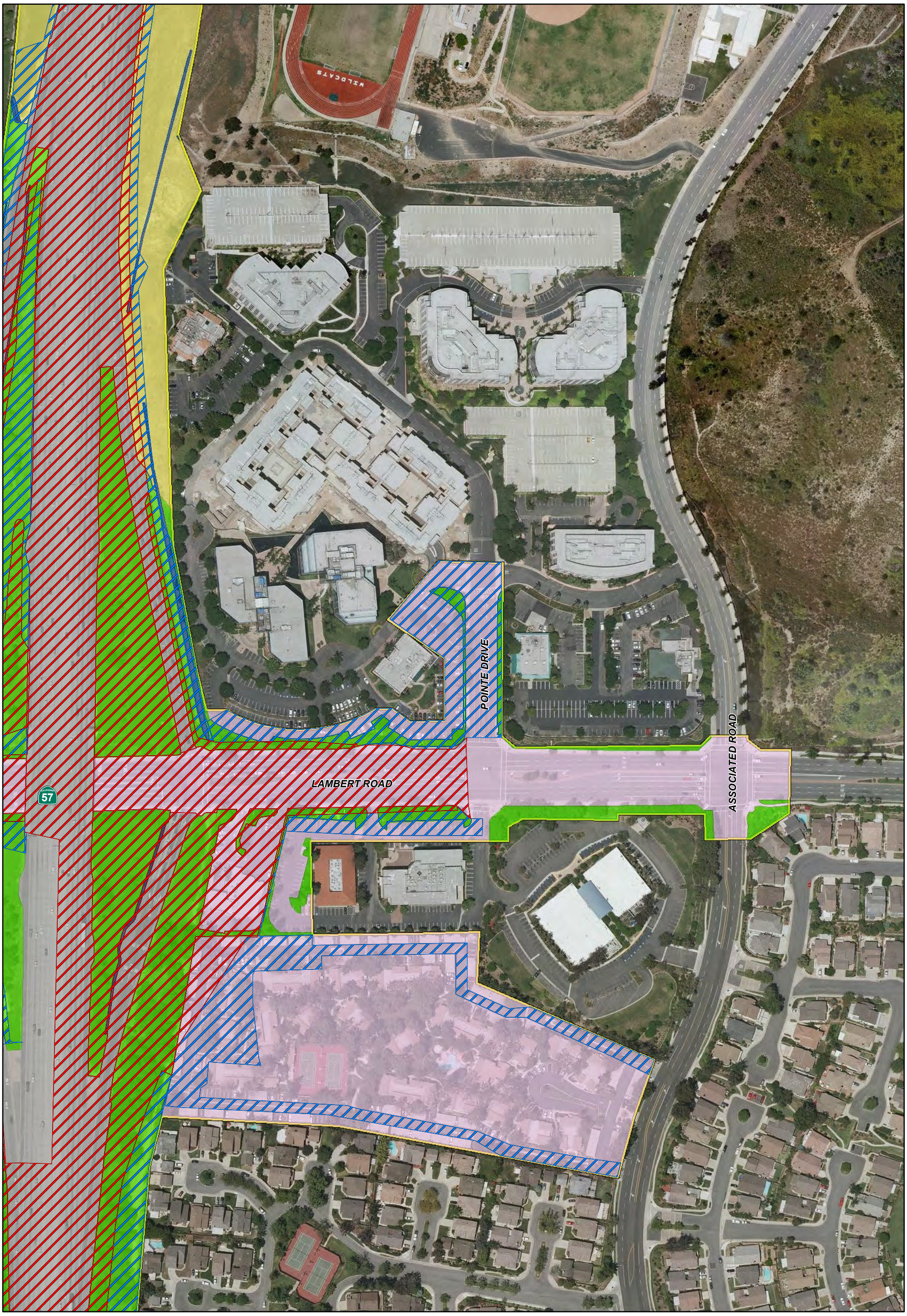
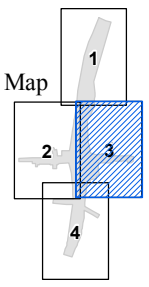


Source: Eagle Aerial, 2010; Federal Registry Critical Habitat, 2007.

Sheet 3 of 4

Index Map



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LEGEND

- Biological Study Area
- Coastal California Gnatcatcher Final Critical Habitat, 12/19/07

IMPACTS TO LAND COVER • ALT 7A

- Permanent Impact
- Temporary Impact

LAND COVER

- Disturbed or Barren
- Ornamental Landscaping
- Ruderal
- Sage Scrub-Grassland
- Transportation
- Urban and Commercial
- Watercources

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacts to Habitat Communities Alternative 7A

8/5/13 JN 10-107792-18226 MAS

Figure 2.4-6c

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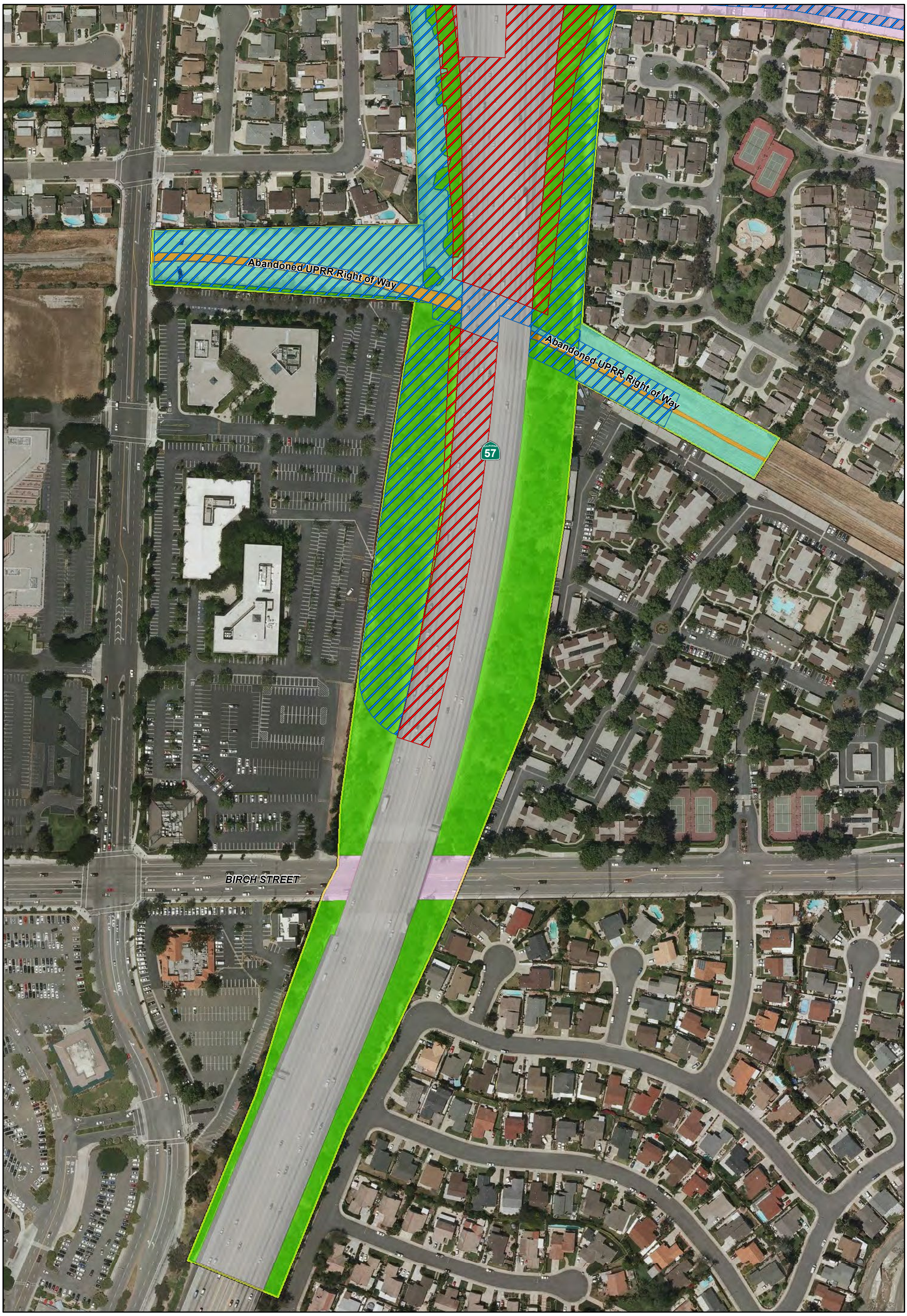

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Sheet 4 of 4

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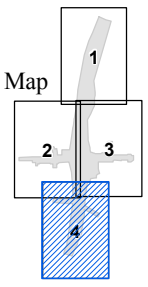

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LEGEND

- Biological Study Area
- Coastal California Gnatcatcher Final Critical Habitat, 12/19/07

IMPACTS TO LAND COVER • ALT 7A

- Permanent Impact
- Temporary Impact

LAND COVER

- Disturbed or Barren
- Ornamental Landscaping
- Ruderal
- Sage Scrub-Grassland
- Transportation
- Urban and Commercial
- Watercources

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacts to Habitat Communities Alternative 7A

8/5/13 JN 10-107792-18226 MAS

Figure 2.4-6d

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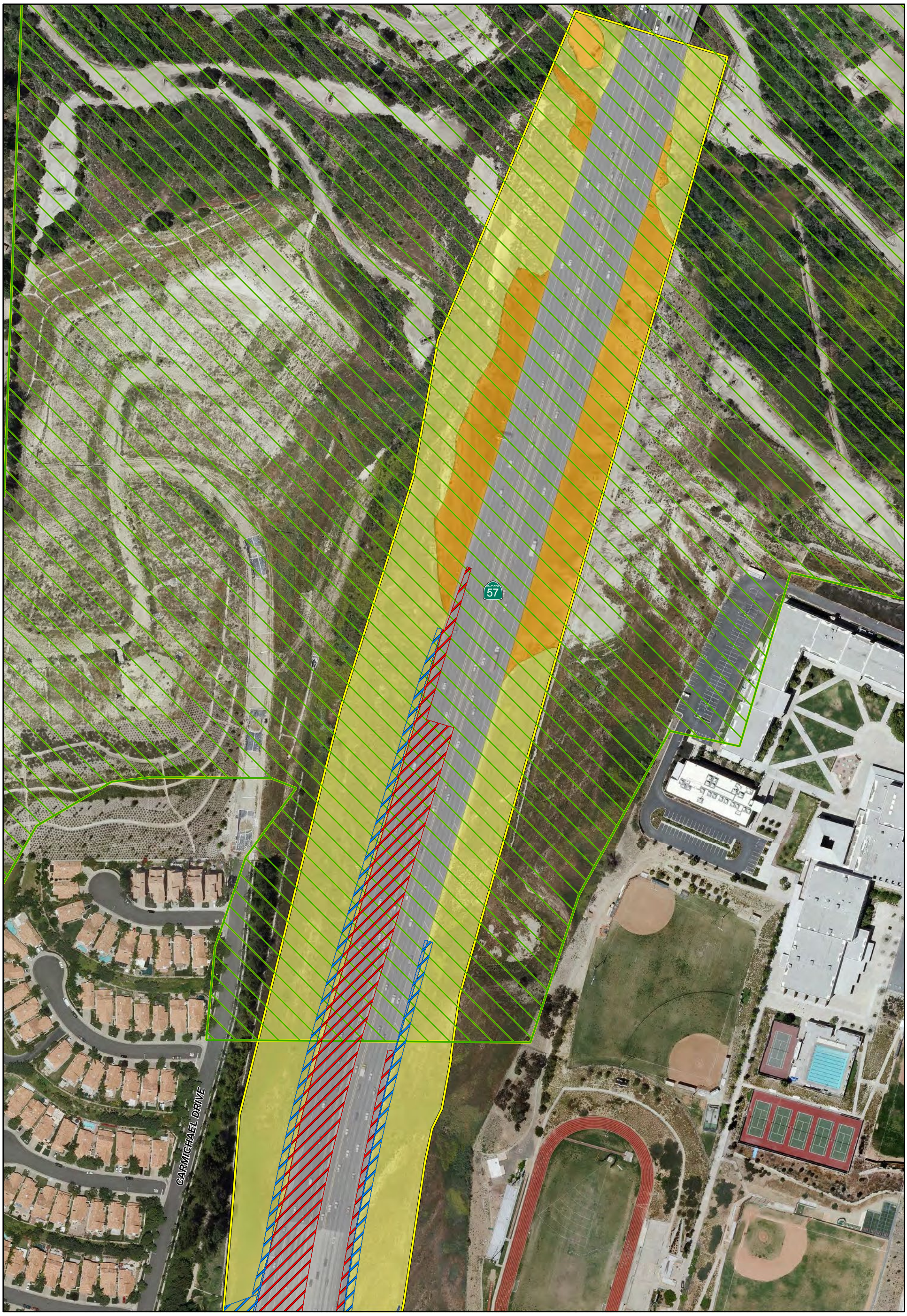

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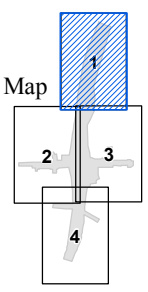

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LEGEND

- Biological Study Area
- Coastal California Gnatcatcher Final Critical Habitat, 12/19/07

IMPACTS TO LAND COVER • ALT 9

- Permanent Impact
- Temporary Impact

LAND COVER

- Disturbed or Barren
- Ornamental Landscaping
- Ruderal
- Sage Scrub-Grassland
- Transportation
- Urban and Commercial
- Watercources

Sheet 1 of 4

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacts to Habitat Communities Alternative 9

8/5/13 JN 10-107792-18226 MAS

Figure 2.4-7a

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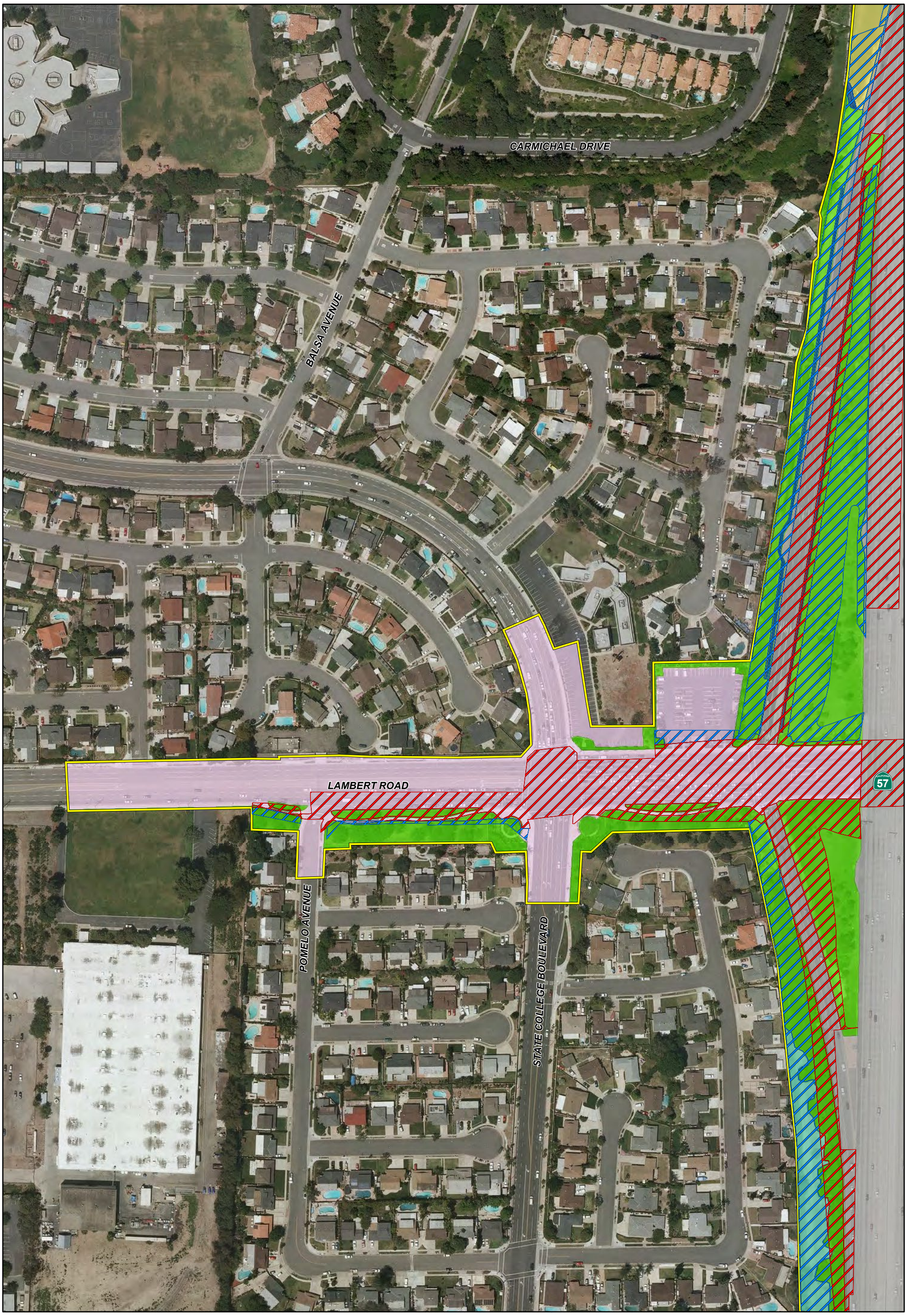
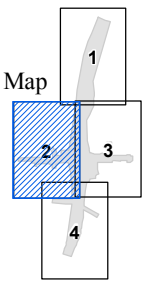


Source: Eagle Aerial, 2010; Federal Registry Critical Habitat, 2007.

Sheet 2 of 4

Index Map



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LEGEND

- Biological Study Area
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IMPACTS TO LAND COVER • ALT 9

- Permanent Impact
- Temporary Impact

LAND COVER

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- Ornamental Landscaping
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- Watercources

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacts to Habitat Communities Alternative 9

8/5/12 JN 10-107792-18226 MAS

Figure 2.4-7b

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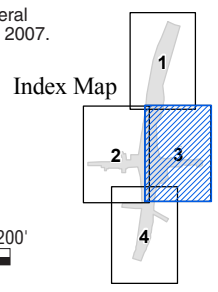
Source: Eagle Aerial, 2010; Federal Registry Critical Habitat, 2007.

Sheet 3 of 4

Index Map



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SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacts to Habitat Communities Alternative 9

8/5/13 JN 10-107792-18226 MAS

Figure 2.4-7c

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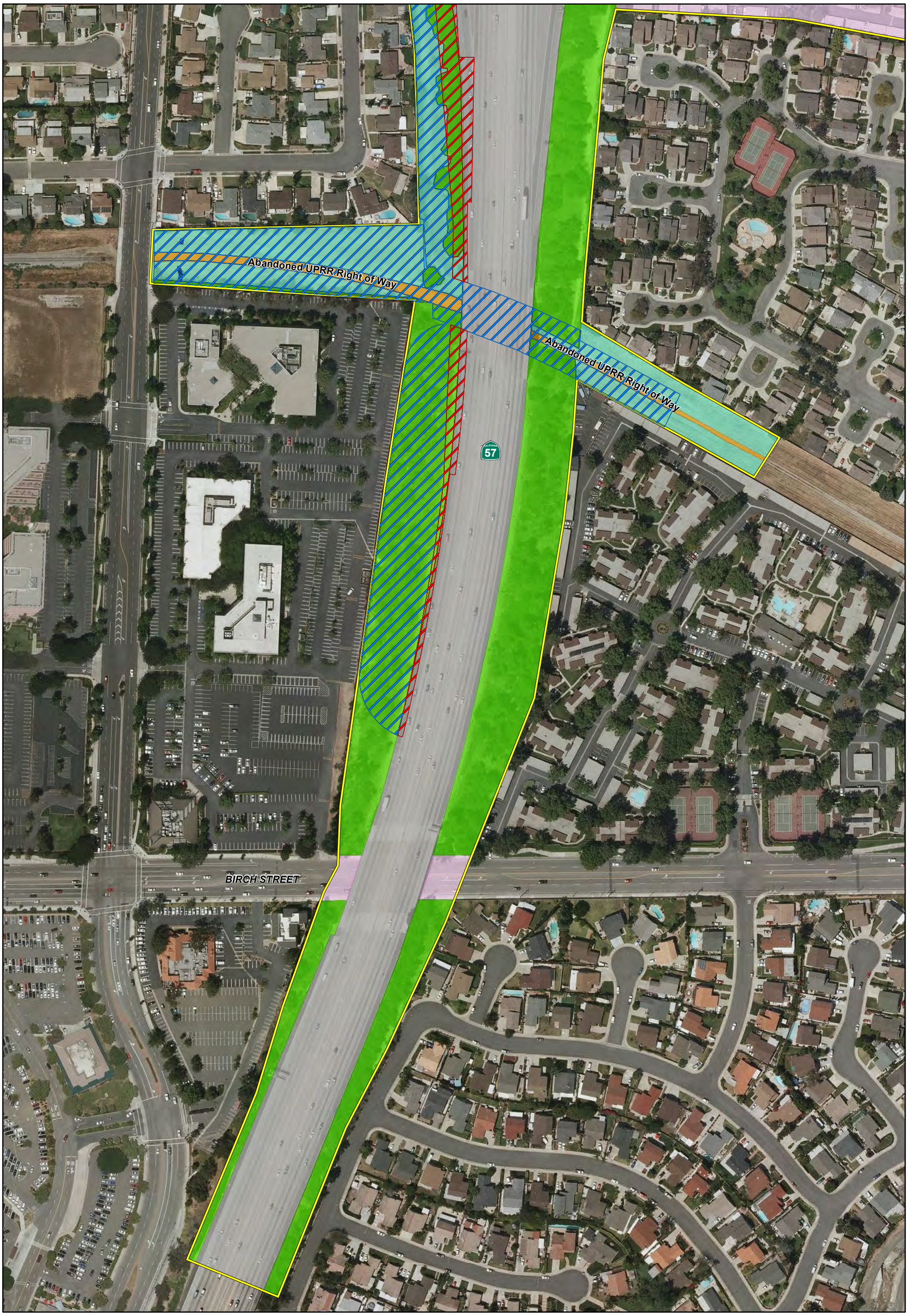
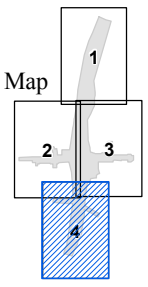


Source: Eagle Aerial, 2010; Federal Registry Critical Habitat, 2007.

Sheet 4 of 4

Index Map



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IMPACTS TO LAND COVER • ALT 9

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SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Impacts to Habitat Communities Alternative 9

8/5/13 JN 10-107792-18226 MAS

Figure 2.4-7d

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2.4.6 INVASIVE SPECIES

2.4.6.1 Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. 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." Federal Highway Administration (FHWA) guidance issued August 10, 1999 directs the use of the State’s invasive species list maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

2.4.6.2 Affected Environment

Landscaped area currently exists within the BSA, mainly related to the commercial and residential properties adjacent to the proposed project site; however, USFWS designated critical habitat for the CAGN is present at the northern end of the BSA; refer to Figures 2.4-1a through 2.4-1d, Vegetation Communities.

Exotic plant species exist within the nonnative plant communities throughout the BSA, within patches of native plant communities, and in areas that have been disturbed by human uses. Exotic species are typically more numerous adjacent to roads and developed areas and frequently border the ornamental landscape. In the past, these areas likely supported grasslands, oak woodland, CSS, chaparral, and riparian habitats. Consequently, scattered plant species associated with these plant communities are often found in these areas.

A total of 14 exotic plants occurring on the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory were identified in the BSA. Of these species, there are three with an overall high rating, seven with a moderate rating, and four with a limited rating. Invasive species that have severe ecological effects are given a high rating. Species with a high rating identified within the BSA are Hottentot-fig, English ivy, and red brome.

2.4.6.3 Environmental Consequences

A Jurisdictional Delineation was prepared in February 2012 and a Natural Environment Study (NES) was prepared in February 2014.

Build Alternatives 7A and 9

Construction (Short-Term) Impacts

Invasive plant species can travel on vehicles and in the loads they carry, and can be moved from site to site during spraying and mowing operations. Weed seeds can be inadvertently introduced into the corridor on equipment during construction and through the use of mulch, imported soil or gravel, and sod.

In compliance with Caltrans policy, the construction activities, landscaping and erosion control included in the proposed project would not use species listed as noxious weeds. Landscape designs would be submitted for review and approval by a qualified biologist. The review would

determine that no invasive, exotic plant species would be used in any proposed landscaping, and that suitable substitutes are proposed. Avoidance and minimization measures are provided and impacts during construction regarding the introduction of invasive species are not considered adverse.

Operation (Long-Term) Impacts

Operation and maintenance of both Build Alternatives, Alternatives 7A and 9, would not increase the threat of invasive species beyond the existing threat associated with vehicle and pedestrian use on SR-57 and Lambert Road. No new invasive species would be introduced into the project site. No invasive, exotic plant species would be used in any proposed landscaping. Avoidance and minimization measures have been provided regarding invasive species and impacts from invasive species are not considered adverse.

No Build Alternative

Under the No Build Alternative, no new construction would occur and there would be no new impacts to invasive species.

2.4.6.4 Avoidance, Minimization, and/or Mitigation Measures

INV-1 Prior to the start of any construction activities, a weed abatement program will be developed to minimize the importation of nonnative plant material during and after construction. If invasive weed species are already growing within the project area, special care will be taken during transport, use, and disposal of soils containing invasive weed seeds to ensure that invasive weeds are not spread into new areas by the project. All heavy equipment will be washed and cleaned of debris prior to entering a new area to minimize the spread of invasive weeds. Eradication strategies will be employed should an invasion occur. This weed abatement program will be approved by the City and Caltrans District 12 Environmental Branch.

INV-2 No invasive species listed in the National Invasive Species Management Plan, State of California Noxious Weed List, or Cal-IPC Invasive Plant Inventory list will be included in the landscaping plans for the proposed project. Landscaping will not use plants that require intensive irrigation, fertilizers, or pesticides adjacent to preserve areas, and water runoff from landscaped areas will be directed away from adjacent native habitats and contained and/or treated within the development footprint. Caltrans will review the landscaping plans for the project and then submit them to the Carlsbad USFWS Office for review and approval.

In compliance with the Executive Order on Invasive Species, EO 13112, and subsequent guidance from the Federal Highway Administration, the landscaping and erosion control included in the proposed project will not use species listed as invasive. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or adjacent to the construction areas. During construction protective measures will be taken to ensure that invasive species are not introduced or spread, including:

- During construction, the construction contractor will inspect and clean construction equipment at the beginning and end of each day and prior to transporting equipment from one project location to another.
- During construction, soil and vegetation disturbance will be minimized to the greatest extent feasible.
- During construction, the construction contractor will ensure that all active portions of the construction site are watered a minimum of twice daily or more often when needed due to dry or windy conditions to prevent excessive amounts of dust.
- During construction, the construction contractor will ensure that all material stockpiled is sufficiently watered or covered to prevent excessive amounts of dust.
- During construction, soil/gravel/rock will be obtained from weed-free sources.
- Only certified weed-free straw, mulch, and/or fiber rolls will be used for erosion control.
- After construction, affected areas adjacent to native vegetation will be revegetated with plant species approved by the Department's District Biologist that are native to the vicinity.
- After construction, all revegetated areas will avoid the use of species listed in the California Invasive Plant Council (Cal-IPC's) California Invasive Plant Inventory that have a high or moderate rating.

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