State Route 79 Realignment Project: Domenigoni Parkway to Gilman Springs Road

Riverside County, California

District 8-RIV-79-KP R25.4/R54.4 (PM R15.78/R33.80)

08-494000

PN 0800000784

Draft
Environmental Impact Report/Environmental Impact Statement
Volume 2

Prepared by the State of California Department of Transportation

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

Caltrans

February 2013

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3.3 Biological Environment

The discussion and analysis of the biological environment is based on the environmental review and conclusions presented in the Natural Environment Study (NES) of April 2010 and the NES Technical Report Addendum Memorandum of August 2010.

3.3.1 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. 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 in Threatened and Endangered Species, Section 3.3.5 (page 3-634). Wetlands and other waters are discussed in Section 3.3.2 (page 3-502).

3.3.1.1 Regulatory Setting

Many laws and policies pertain to the protection of natural communities and wildlife movement. The following are a few examples.

National Environmental Policy Act

The National Environmental Policy Act of 1969 (NEPA) provides an overall framework for the environmental evaluation of federal actions. NEPA declares a continuing federal policy "to use all practicable means and measures…to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations." NEPA directs "a systematic, interdisciplinary approach" to planning and decision making and requires environmental statements for "major Federal actions significantly affecting the quality of the human environment." Implementing regulations by the Council on Environmental Quality (CEQ) (40 CFR 1500-1508) requires federal agencies to identify and assess reasonable alternatives to proposed actions that will restore and enhance the quality of the human environment and avoid or minimize adverse environmental impacts. Federal agencies are further directed to emphasize significant environmental issues in project planning and to integrate impact studies required by other environmental laws and Executive Orders into the NEPA process.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) establishes state policy to prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures. CEQA applies to actions directly undertaken, financed, or permitted by state lead agencies. Regulations for

implementation are found in the CEQA Guidelines published by the Resources Agency. These guidelines establish an overall process for the environmental evaluation of projects, which is similar to the process promulgated under NEPA. The guidelines make provisions for joint NEPA/CEQA documents.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act was established in 1991 in an effort to conserve natural communities at the ecosystem scale while accommodating compatible land use. Natural Community Conservation Planning (NCCP) is based on this law and is broader in its orientation and objectives than the California Endangered Species Act (CESA) and Federal Endangered Species Act (FESA). The NCCP seeks to anticipate and prevent controversies and gridlock caused by listing of species by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

An NCCP program is prepared pursuant to a planning agreement entered into in accordance with Section 2810 of the California Department of Fish and Game (CDFG) Code. The NCCP shall identify and provide for those measures necessary to conserve and manage natural biological diversity within the plan area while allowing compatible and appropriate economic development, growth, and other human uses (California Fish and Game Code, Section 2800-2835).

Local Tree Ordinances

In Riverside County, native oak trees with diameters greater than 5.1 centimeters (2 inches) at breast height are protected. The Riverside County Planning Department provides project design and impact avoidance guidelines to address the treatment of oak woodlands and help reduce project impacts on oak trees to a level of insignificance. This ordinance does not apply to the Project (a state project), but RCTC will consider its requirements during final design and construction.

Western Riverside County Multiple Species Habitat Conservation Plan

The Project is located in southwestern Riverside County and is a covered activity, as outlined in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP contains policies on the preservation of natural communities and wildlife movement corridors within the study area (see Figure 3.3-1).

The MSHCP is a comprehensive, multijurisdictional Habitat Conservation Plan (HCP) focusing on the conservation of species and their associated habitats in western Riverside County. It is one of several large, multijurisdictional habitat-planning efforts in Southern California with the overall goal of maintaining biological and ecological diversity within a region undergoing rapid urban development. The MSHCP will allow Riverside County and its cities to better control local land use decisions and maintain a strong economic climate in the region while addressing the requirements of CESA and FESA. Further details about the MSHCP are presented in Section 3.3.1.3 (page 3-459). The Department will conduct Section 7 Consultation with the United States Fish and Wildlife Service (USFWS) following MSHCP Consistency and Determination of Biologically Equivalent or Superior Preservation (DBESP) approvals and identification of a Preferred Alternative.

3.3.1.2 Affected Environment

Natural Communities and Wildlife Movement

The affected environment discussion for natural communities and wildlife movement is based on the findings in the Natural Environment Study of April 2010, the NES Technical Report Addendum Memorandum of August 2010, and the Final Rare Plant Survey Report of December 4, 2007.

Study Area

The study area for natural communities and wildlife movement was chosen based on potential direct and indirect impacts to these resources. Therefore, the study area contains both a direct impact area and an indirect impact area, as described below. Quantities presented in Table 3.3-1 (page 3-443) are totals (direct and indirect) for each resource in the entire study area and should not be confused with what would actually be impacted, as shown in Table 3.3-3 (page 3-471). The study area for natural communities and wildlife movement contains a 152.4-m (500-ft) area adjacent to the direct impact area to account for indirect impacts. The 152.4-m (500-ft) buffer was initially created based on guidelines presented by the California Burrowing Owl Consortium (CBOC) for analyzing indirect impacts to burrowing owls because the Project crossed burrowing owl survey areas identified in the MSHCP. According to CBOC's guidelines, the "buffer zone is included to account for adjacent burrows and foraging habitat outside the project area and impacts from factors such as noise and vibration due to heavy equipment which could impact resources outside the project area." For the same reasons, the Department and the appropriate resource agencies determined that the 152.4 m (500 ft) buffer was also sufficient for analyzing impacts to all sensitive terrestrial animal species, including indirect impacts and wildlife movement. The overall study area for wildlife movement is referred to as the Terrestrial Wildlife Study Area (TWSA) (Figure 3.3-3).

Natural Communities

The study area for natural communities contains the direct impact area, represented by the Project Impact Area (PIA), utility relocation areas, connections to Hemet Channel outside the Project right-of-way (ROW), and traffic detours, as well as a 30.5-meter (m) (100-foot [ft]) buffer adjacent to the direct impact area and the two additional study areas.

The two additional study areas for natural communities were chosen because of the potential for indirect impacts as a result of changes in hydrology. The first additional study area is located on the west side of the San Diego Canal between the San Jacinto Branch Line and SR 74/Florida Avenue. This indirect impact area, referred to as Additional Indirect Impact Study Area 1, includes the Metropolitan Water District (MWD) Upper Salt Creek Reserve, the adjacent alkali grassland vernal pool complexes west of the San Diego Canal between Stetson Road and SR 74/Florida Avenue, and the vernal pools north of Stowe Road adjacent to California Avenue. The second additional study area includes the Stoney Mountain Preserve, which is located on the east side of Warren Road and south of Esplanade Avenue. This area is referred to as Additional Indirect Impact Study Area 2.

The direct impact area, the 30.5-m (100-ft) buffer, and the two additional study areas are collectively referred to as the Rare Plant Aquatic Resource Study Area (RPARSA) because it also was used to evaluate wetlands and other waters, plant species, vernal pool branchiopods, and amphibians (Figure 3.3-2).

Wildlife Movement

The study area for wildlife movement contains the direct impact area, represented by the PIA, utility relocation areas, connections to Hemet Channel outside the Project ROW, and traffic detours, as well as the 152.4-m (500-ft) area adjacent to the direct impact area.

The Southwestern Riverside County Multi-Species Reserve (SWRCMSR) implements the Stephens' Kangaroo Rat (SKR) Habitat Conservation Plan (HCP). The SWRCMSR is one of the reserves established under the SKR HCP. The purpose of the SWRCMSR is to protect biological habitat and its associated species. However, the SWRCMSR is not itself a wildlife refuge, nor is it part of a wildlife refuge. The Riverside County Habitat Conservation Agency (RCHCA) sits on the Reserve Management Committee (RMC) along with the Riverside County Regional Park and Open Space District, USFWS, CDFG, and Metropolitan Water District. The recreational facility inside the Reserve that is near the Project includes the North Hills Trail. This facility is operational. Coordination with the RCHCA confirmed that the North Hills Trail is outside the Project study area and that the Project will not result in any impacts (permanent or temporary) to recreational resources in the SWRCMSR (RCHCA 2010).

Study Methods for Natural Communities

Vegetation types, including natural sensitive plant communities with special management or regulatory status in the study area, were mapped onto aerial photographs and verified in the field during the rare plant surveys. Field notes and photographs of the study area were also used to verify that vegetation was mapped correctly.

The MSHCP habitat type descriptions were used as a starting point for characterizing and describing the vegetation types observed in the study area. The MSHCP vegetation types were then modified as needed using Holland and other classifications (Ducks 1996, RCIP 2003, Holland 1986, CDFG 1998, Klein 2005, WRCHC 1995, White 1997) to describe the habitats at a finer scale. Detailed descriptions of vegetation in the Project area are provided in NES Appendix C. Plant communities described as sensitive in the MSHCP or included in the CDFG List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database (CNDDB) were also considered sensitive (CDFG 2003) and are discussed in this section.

Study Methods for Wildlife Movement

The wildlife corridor analysis considered the following sources of information.

- Various requirements for private and public development, including transportation projects, that have been established by the MSHCP and state and federal agencies
- The nature and locations of existing and predicted wildlife movement corridors
- The nature and locations of existing barriers to wildlife movement
- The expected effects of the Project on identified corridors/zones
- General approaches to mitigate expected or potential degradation or loss of existing corridors/zones over time

The corridor analysis also took into consideration future (long-term) land uses proposed for the Project area in the San Jacinto and Riverside County General Plans (County 2003a, County 2003b, County 2003c, San Jacinto 2006) and the effect these developments would have on wildlife movement across the Project area.

All sections of the Project alternatives were visited during small mammal trapping studies in 2005 and 2006. Existing and potential wildlife crossings and general (broader) crossing zones, as well as locations exhibiting complete or partial barriers to wildlife movement, were checked for signs of wildlife activity during subsequent field visits to the study area. The types and conditions of habitats, and the presence of diagnostic sign such as tracks, scat, and road kills, in the different sections of the Project study area formed the basis for the corridor assessment in relation to the defined wildlife-movement categories. A field review of the proposed culverts and bridge features was conducted with a Project engineer, and potential areas of opportunity for and constraints to wildlife movement also were mapped.

Wildlife movement was analyzed using five wildlife movement categories. These categories were based on wildlife crossing guidelines found in MSHCP Section 7.5.2, Guidelines for Construction of Wildlife Crossings, and consist of Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, Insects, and Passive Dispersers.

Avian Wildlife includes species such as the white-faced ibis, ground-dwelling species such as burrowing owls, and species with limited flight capabilities such as roadrunners and California quail. Avian Wildlife also includes non-avian flying species such as bats. Large Mammalian Wildlife includes species ranging from mountain lions and mule deer to medium-sized wildlife with the ability to travel long distances, such as coyotes and bobcats. Small Mammalian, Reptile, and Amphibian Wildlife includes species that are vole (or rodent) sized and smaller, such as Los Angeles pocket mice, snakes, toads, and frogs. Insects includes winged invertebrates, such as bees, butterflies, and flies. Passive Dispersers includes species, such as plants and vernal pool fairy shrimp, that are not able to actively disperse and rely on contiguous habitats.

Natural Communities within the RPARSA

Eighteen vegetation types, including four agricultural and two ornamental subtypes, and nine sensitive natural plant communities, are present in the study area (CDFG 1993, CDFG 2003, CDFG 2007). The amount of vegetation in each of the Build alternatives and design options, including the number of sensitive natural plant communities, is provided in Table 3.3-1 (page 3-443). Detailed plant community descriptions, including a list of the dominant plant species observed in each vegetation type, are provided in NES Appendix C.

The Western Riverside County MSHCP (RCIP 2003) does not provide any specific sensitivity rankings for plant communities; however, the sensitivity of natural community types has been inferred using several conservation goals in the MSHCP. Nine habitats are native to the region and are considered sensitive natural communities (CDFG 1993, 2003, 2007). These sensitive plant communities include:

- Alkali grassland
- Alkali playa
- Cottonwood willow riparian forest

- Emergent wetland
- Mulefat scrub
- Riversidian sage scrub
- Seasonal wetland
- Vernal pool
- Willow riparian scrub and forest

The most extensive habitats in the study area are agricultural (dryland farming), annual grassland, and ruderal (vegetation growing where the natural cover has been disturbed by humans). These plant communities are present on the valley floor throughout the entire study area. Pasture lands (agricultural) are present in a few areas, particularly north of Devonshire Avenue, and the agricultural-developed (e.g., poultry farms) category was identified in the northern part of the study area.

Additional Indirect Impact Study Areas 1 and 2 contain six sensitive natural plant communities (alkali grassland, alkali playa, seasonal wetlands, vernal pools, emergent wetland, and Riversidian sage scrub). Extensive stands of alkali grassland are present east of California Avenue, between the San Jacinto Branch Line and Florida Avenue, in Additional Indirect Impact Study Area 1. Patches of seasonal wetlands (including vernal pools) and alkali playa habitats are distributed throughout the alkali grasslands in this area. These sensitive natural plant communities are also present in Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve, south of Esplanade Avenue. Combined, these areas support several hundred populations of special status plants, as described in Section 3.3.3 (page 3-521).

Calculations for vernal pool vegetation, vernal pool features, and vernal pool branchiopods in Table 3.3-1 (page 3-443) may differ due to resource-specific requirements and definitions. Vernal pool branchiopod habitat is based on the extent of surface ponding, whereas wetland features include areas of wetland vegetation and saturated surface soils, which may not support prolonged surface ponding that is sufficient to support branchiopods. Although the distribution of vernal pool vegetation is associated with vernal pool branchiopod habitat and wetland features, it may also occur in other seasonally moist areas that are not sufficiently ponded to qualify as branchiopod habitat or as a wetland feature.

Table 3.3-1 Summary of Biological Affected Environment for Project Alternatives and Design Options

Affected Environment	Project Alternative				
	No Build Alternative	**Build Alternative 1a**	**Build Alternative 1b and Design Option 1b1**	**Build Alternative 2a**	**Build Alternative 2b and Design Option 2b1**
		Roadway Segments A, E, G, I, J, L, N Utility Relocation Areas 1 and 2 Connections 1 and 2 to Hemet Channel Outside Project ROW Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Area 2	Roadway Segments B, C, G, I, K, M, N Utility Relocations Areas 1 and 2 Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Area 2	Roadway Segments A, F, H, I, K, L, N Utility Relocation Areas 1 and 2 Connection 3 to Hemet Channel Outside Project ROW Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Areas 1 and 2	Roadway Segments B, D, H, I, J, M, N Utility Relocation Areas 1 and 2 Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Areas 1 and 2
Natural Communities					
Grasslands and Ruderal					
Alkali Grassland (Akg)[a]	NA	19.0 ha (47.1 ac)	14.4 ha (35.7ac)	80.3 ha (198.5 ac)	75.0 ha (185.4 ac)
Annual Grassland (Angr)	NA	82.9 ha (204.8 ac)	99.1 ha (244.8 ac)	127.0 ha (313.7 ac)	147.8 ha (365.3 ac)
Ruderal (Ru)	NA	73.9 ha (182.5 ac)	74.8 ha (184.8 ac)	65.8 ha (162.7 ac)	68.7 ha (169.7 ac)
Scrub Habitats					
Mesic and Xeric Riversidian Sage Scrub (Rss)[a]	NA	59.7 ha (147.4 ac)	57.1 ha (141.1 ac)	73.6 ha (181.9 ac)	71.1 ha (175.6 ac)
Annual Grassland/Riversidian Sage Scrub (Sage Scrub) – Ecotone (Ag/Rss)	NA	10.2 ha (25.1 ac)	10.7 ha (26.4 ac)	13.3 ha (32.8 ac)	13.8 ha (34.1 ac)
Riparian Vegetation					
Cottonwood-Willow Riparian Forest (Cwrf)[a]	NA	0.8 ha (1.9 ac)	0.8 ha (1.9 ac)	0.8 ha (1.9 ac)	0.8 ha (1.9 ac)
Mulefat Scrub (Ms)[a]	NA	0.004 ha (0.01 ac)	0.004 ha (0.01 ac)	0.004 ha (0.01 ac)	0.004 ha (0.01 ac)
Riparian Herb (Rh)	NA	1.0 ha (2.5 ac)	1.1 ha (2.6 ac)	1.0 ha (2.5 ac)	1.2 ha (3.1 ac)
Tamarisk Scrub (Tms)	NA	0.5 ha (1.2 ac)	0.5 ha (1.3 ac)	0.5 ha (1.3 ac)	0.5 ha (1.2 ac)
Willow Riparian Scrub and Forest (Wr)[a]	NA	1.5 ha (3.8 ac)	1.9 ha (4.6 ac)	1.5 ha (3.8 ac)	1.9 ha (4.6 ac)
Mesic or Seasonal Wetland Vegetation					
Alkali Playa (Ap)[a]	NA	1.0 ha (2.4 ac)	1.0 ha (2.5 ac)	16.6 ha (40.9 ac)	16.5 ha (40.9 ac)
Seasonal Wetland (Sw)[a, b]	NA	5.0 ha (12.4 ac)	5.33 ha (13.0 ac)	6.9 ha (17.0 ac)	7.3 ha (18.0 ac)
Ruderal Alkali Flat (Raf)	NA	0.1 ha (0.2 ac)	0.6 ha (1.6 ac)	0.1 ha (0.2 ac)	0.8 ha (2.0 ac)
Vernal Pool (Vp)[a, g]	NA	2.4 ha (5.9 ac)	2.4 ha (6.0 ac)	8.9 ha (22.0 ac)	8.8 ha (21.9 ac)
Emergent Wetland					
Emergent Wetland (EmW)[a, b]	NA	0.2 ha (0.5 ac)	0.1 ha (0.2 ac)	0.4 ha (0.9 ac)	0.3 ha (0.7 ac)
Agricultural Subtypes					
Agricultural – Developed (AgDev)	NA	15.9 ha (39.2 ac)	15.8 ha (39.1 ac)	15.9 ha (39.2 ac)	15.8 ha (39.1 ac)
Agricultural – Dryland Farming (Ag df)	NA	162.0 ha (400.3 ac)	162.8 ha (402.3 ac)	173.5 ha (428.8 ac)	163.5 ha (404.1 ac)
Agricultural – Irrigated Crops (Ag Ic)	NA	70.2 ha (173.4 ac)	22.2 ha (54.8 ac)	67.8 ha (167.6 ac)	22.7 ha (56.2 ac)
Agricultural – Pasture (Ag Pas)	NA	18.3 ha (45.2 ac)	22.0 ha (54.3 ac)	17.8 ha (44.0 ac)	22.4 ha (55.4 ac)
Ornamental Vegetation Subtypes					
Ornamental Vegetation (Orn)	NA	3.2 ha (7.8 ac)	3.2 ha (7.8 ac)	3.4 ha (8.4 ac)	3.5 ha (8.6 ac)
Eucalyptus Woodland (EuW)	NA	2.1 ha (5.3 ac)	4.7 ha (11.6 ac)	2.2 ha (5.4 ac)	4.3 ha (10.7 ac)
Developed					
Developed (Dev)	NA	79.5 ha (196.5 ac)	69.7 ha (172.3 ac)	72.3 ha (178.7 ac)	68.9 ha (170.2 ac)
Disturbed					
Disturbed (Dis)	NA	14.4 ha (35.7 ac)	14.3 ha (35.3 ac)	13.8 ha (34.0 ac)	12.9 ha (31.9 ac)
Unvegetated Habitats					
Open Water (Ow)	NA	5.2 ha (12.8 ac)	8.5 ha (20.9 ac)	5.2 ha (12.8 ac)	8.5 ha (20.9 ac)
Watercourse (Wc)	NA	1.3 ha (3.2 ac)	0.5 ha (1.2 ac)	1.7 ha (4.3 ac)	0.9 ha (2.2 ac)

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Wetlands and Other Waters					
Salt Creek Channel	NA	1.7 ha (4.3 ac)	1.6 ha (4.0 ac)	1.7 ha (4.3 ac)	1.8 ha (4.5 ac)
Hemet Channel	NA	1.0 ha (2.5 ac)	0.5 ha (1.3 ac)	1.4 ha (3.6 ac)	0.9 ha (2.3 ac)
Vernal Pools[g]	NA	1.8 ha (4.5 ac)	1.8 ha (4.5 ac)	8.1 ha (19.9 ac)	8.1 ha (19.9 ac)
Seasonal Wetlands	NA	0.5 ha (1.3 ac)	0.5 ha (1.3 ac)	2.5 ha (6.3ac)	2.5 ha (6.3 ac)
Agricultural Seasonal Wetlands	NA	4.0 ha (9.8 ac)	4.0 ha (9.9 ac)	4.1 ha (10.2 ac)	4.1 ha (10.2 ac)
Drainage Ditches	NA	2.3 ha (5.8 ac)	2.5 ha (6.1 ac)	3.4 ha (8.2 ac)	3.5 ha (8.6ac)
Riparian Seasonal Wetlands	NA	1.2 ha (2.9 ac)	1.3 ha (3.1 ac)	1.2 ha (2.9 ac)	1.3 ha (3.3 ac)
Constructed Ponds	NA	1.1 ha (2.6 ac)	2.6 ha (6.4 ac)	1.1 ha (2.7 ac)	2.6 ha (6.4 ac)
Open Water	NA	0.04 ha (0.1 ac)	0.04 ha (0.1 ac)	0.04 ha (0.1 ac)	0.04 ha (0.1 ac)
Erosional Channels	NA	0.2 ha (0.4 ac)	0.2 ha (0.4 ac)	0.1 ha (0.2 ac)	0.1 ha (0.2 ac)
MSHCP Habitats					
Riparian/Riverine Habitat	NA	4.5 ha (11.2 ac)	4.8 ha (11.8 ac)	4.5 ha (11.2 ac)	5.0 ha (12.3 ac)
Vernal Pool Habitat	NA	2.0 ha (4.8 ac)	2.0 ha (4.8 ac)	8.2 ha (20.3 ac)	8.2 ha (20.3 ac)
Rare Plant Populations/Individuals[d]					
Scientific Name / **Common Name** / **Federal/ State/ CNPS Status Codes**[e] / **MSHCP Status and Special Conditions**[f]					
Atriplex parishii / Parish's Brittlescale / -/-/1B.1 / CA, PS	NA	NA	NA	13/1,320	13/1,320
Atriplex serenana var. *davidsonii* / Davidson's Saltscale / -/-/1B.2 / CA, PS	NA	1/6	1/6	60/12,142	60/12,142
Calochortus plummerae / Plummer's Mariposa Lily / -/-/1B.2 / CO	NA	1/2	1/2	NA	NA
Centromadia pungens ssp. *Laevis* / Smooth Tarplant / -/-/1B.1 / CA, PS, RRVP	NA	270/110,101	269/424,895	354/288,288	346/613,336
Chorizanthe parryi var. *parryi* / Parry's Spineflower / -/-/3.2 / CO	NA	27/112,536	26/111,996	37/16,971	36/16,431
Chorizanthe polygonoides var. *longispina* / Long-Spined Spineflower / -/-/1B.2 / Covered	NA	4/4,465	4/4,465	27/15,564	27/15,564
Deinandra paniculata / Paniculate Tarplant / -/-/4.2 / Not Included in MSHCP	NA	29/21,012	27/7,827	41/46,758	39/33,495
Harpagonella palmeri / Palmer's Grapplinghook / -/-/4.2 / Covered	NA	NA	NA	1/375	1/375
Hordeum intercedens / Vernal Barley / -/-/3.2 / PS, RRVP	NA	16/1,249,380	20/1,248,680	29/10,840,492	32/10,839,292

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Lasthenia glabrata ssp. *Coulteri*	Coulter's Goldfields	-/-/1B.1	CA, PS	NA	22/5,380	3/29,331	42/568,725	23/592,676
Lepidium virginicum var. *robinsonii*	Robinson's Peppergrass	-/-/1B.2	Not Included in MSHCP	NA	16/79,124	16/79,124	19/7,872	19/7,872
Microseris douglasii ssp. *Platycarpha*	Small-Flowered Microseris	-/-/4.2	CO	NA	NA	NA	1/15	1/15
Myosurus minimus ssp. *apus*	Little Mousetail	-/-/3.1	CA, PS	NA	31/64,001	31/64,001	122/446,887	122/445,590
TOTAL NUMBER SPECIES OBSERVED				**0**	**11**	**11**	**16**	**16**
TOTAL NUMBER OF POPULATIONS OBSERVED				**0**	**431**	**412**	**1,026**	**999**
TOTAL NUMBER OF INDIVIDUALS OBSERVED				**0**	**1,651,954**	**1,976,274**	**12,339,404**	**12,673,400**
Animal Species								
Burrowing Owl				NA	5 pairs and a single male RIV-BUO-005 RIV-BUO-006 RIV-BUO-023 RIV-BUO-024 RIV-BUO-052 RIV-BUO-053 (single male)	7 pairs RIV-BUO-005 RIV-BUO-006 RIV-BUO-023 RIV-BUO-024 RIV-BUO-041 RIV-BUO-042 RIV-BUO-052	7 pairs and a single male RIV-BUO-004 RIV-BUO-005 RIV-BUO-023 RIV-BUO-031 RIV-BUO-041 RIV-BUO-052 RIV-BUO-053 (single male) RIV-BUO-056	8 pairs RIV-BUO-004 RIV-BUO-005 RIV-BUO-023 RIV-BUO-031 RIV-BUO-041 RIV-BUO-042 RIV-BUO-052 RIV-BUO-056
Excellent Quality Burrowing Owl Habitat				NA	325.79 ha (805.04 ac)	304.45 ha (752.30 ac)	333.59 ha (824.32 ac)	312.33 ha (771.79 ac)
Suitable Quality Burrowing Owl Habitat				NA	725.01 ha (1,791.54 ac)	700.76 ha (1,731.62 ac)	699.05 ha (1,727.39 ac)	650.79 ha (1,608.13 ac)
Excluded Burrowing Owl Habitat				NA	224.68 ha (555.19 ac)	217.94 ha (538.54 ac)	232.46 ha (574.42 ac)	233.51 ha (577.01 ac)
Non-MSHCP Nesting Raptors				NA	9 pairs red-tailed hawks	12 pairs 2 pairs barn owls 10 pairs red-tailed hawks	13 pairs 4 pairs barn owls 9 pairs red-tailed hawks	12 pairs 2 pairs barn owls 10 pairs red-tailed hawks
MSHCP Nesting Raptors				NA	3 pairs white-tailed kites	2 pairs white-tailed kites	6 pairs 1 pair Cooper's hawks 5 pairs white-tailed kites	3 pairs 1 pair Cooper's hawks 2 pairs white-tailed kites
Raptor Foraging Habitat				NA	988.99 ha (2,443.84 ac)	948.20 ha (2,343.05 ac) OR 948.21 (2,343.10)	980.87 ha (2,423.76 ac)	916.36 ha (2,264.36 ac) OR 916.37 (2,264.41)
Los Angeles Pocket Mouse				NA	Present	Present	Present	Present
Los Angeles Pocket Mouse Habitat				NA	2.7 ha (6.7 ac)	2.7 ha (6.7 ac)	2.7 ha (6.7 ac)	2.7 ha (6.7 ac)
Threatened and Endangered Species								
San Jacinto Valley Crownscale (*Atriplex coronata* var. *notatior*)				NA	13/6,749	13/6,749	237/64,065	237/64,065
Spreading Navarretia (*Navarretia fossalis*)				NA	NA	NA	32/30,826	32/30,826

Table 3.3-1 Summary of Biological Affected Environment for Project Alternatives and Design Options

Affected Environment	Project Alternative				
	No Build Alternative	**Build Alternative 1a**	**Build Alternative 1b and Design Option 1b1**	**Build Alternative 2a**	**Build Alternative 2b and Design Option 2b1**
		Roadway Segments A, E, G, I, J, L, N Utility Relocation Areas 1 and 2 Connections 1 and 2 to Hemet Channel Outside Project ROW Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Area 2	Roadway Segments B, C, G, I, K, M, N Utility Relocations Areas 1 and 2 Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Area 2	Roadway Segments A, F, H, I, K, L, N Utility Relocation Areas 1 and 2 Connection 3 to Hemet Channel Outside Project ROW Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Areas 1 and 2	Roadway Segments B, D, H, I, J, M, N Utility Relocation Areas 1 and 2 Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Areas 1 and 2
California Orcutt Grass (*Orcuttia californica*)	NA	NA	NA	2/4,266	2/4,266
Thread-Leaved Brodiaea (*Brodiaea filifolia*)	NA	NA	NA	9/231	9/231
Quino Checkerspot Butterfly Suitable Habitat	NA	554.1 ha (1369.3 ac)	584.4 ha (1444.1 ac)	524.0 ha (1294.8 ac)	566.4 ha (1399.7 ac)
Coastal California Gnatcatcher Suitable Habitat	NA	135.3 ha (334.3 ac)	127.9 ha (316.1 ac)	132.5 ha (327.5 ac)	125.2 ha (309.4 ac)
Vernal Pool Branchiopods[9]	NA	NA	NA	0.72 ha (1.79 ac)	0.72 ha (1.79 ac)
Stephens' Kangaroo Rat Habitat	NA	235.1 ha (581.0 ac)	232.3 ha (573.9 ac)	231.8 ha (572.9 ac)	227.7 ha (562.6 ac)
Least Bell's Vireo and Southwestern Willow Flycatcher	NA	NA	NA	NA	NA
Least Bell's Vireo and Southwestern Willow Flycatcher Habitat	NA	10.99 ha (27.16 ac)	16.93 ha (41.84 ac)	10.99 ha (27.16 ac)	16.93 ha (41.84 ac)
Critical Habitat					
Spreading Navarretia Critical Habitat	NA	1.9 ha (4.8 ac)	1.9 ha (4.8 ac)	135.1 ha (333.7 ac)	135.1 ha (333.7 ac)
Wildlife Movement					
MSHCP Cores and Linkages					
Existing Constrained Linkage B (Salt Creek)	NA	5 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects; Passive Dispersers	5 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers
Existing Constrained Linkage C (San Jacinto River)	NA	5 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers
Local Corridors					
Newport Road Hills to Patton Road Corridor	NA	4 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects	4 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects	4 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects	4 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects
Hemet Channel Corridor	NA	5 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers
San Jacinto Branch Line Corridor	NA	3 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian

Table 3.3-1 Summary of Biological Affected Environment for Project Alternatives and Design Options

Affected Environment	Project Alternative				
	No Build Alternative	Build Alternative 1a	Build Alternative 1b and Design Option 1b1	Build Alternative 2a	Build Alternative 2b and Design Option 2b1
		Roadway Segments A, E, G, I, J, L, N Utility Relocation Areas 1 and 2 Connections 1 and 2 to Hemet Channel Outside Project ROW Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Area 2	Roadway Segments B, C, G, I, K, M, N Utility Relocations Areas 1 and 2 Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Area 2	Roadway Segments A, F, H, I, K, L, N Utility Relocation Areas 1 and 2 Connection 3 to Hemet Channel Outside Project ROW Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Areas 1 and 2	Roadway Segments B, D, H, I, J, M, N Utility Relocation Areas 1 and 2 Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Areas 1 and 2
Double Butte to West Hemet Hills Corridor	NA	3 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian
West Hemet Hills to Hemet-Ryan Airport Corridor	NA	4 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects	4 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects	4 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects	4 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects
West Hemet Hills to Lakeview Mountains Corridor	NA	2 Categories of Wildlife Movement Avian Large Mammal	2 Categories of Wildlife Movement Avian Large Mammal	2 Categories of Wildlife Movement Avian Large Mammal	2 Categories of Wildlife Movement Avian Large Mammal
Lakeview Mountains to Tres Cerritos Hills Corridor	NA	2 Categories of Wildlife Movement Avian Large Mammal	2 Categories of Wildlife Movement Avian Large Mammal	2 Categories of Wildlife Movement Avian Large Mammal	2 Categories of Wildlife Movement Avian Large Mammal
Colorado River Aqueduct Corridor	NA	3 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement Avian Large Mammal Small Mammal, Reptile, and Amphibian
Wildlife Movement Summary					
MSHCP Cores and Linkages	NA	2 Linkages Existing Constrained Linkage B (Salt Creek) Existing Constrained Linkage C	2 Linkages Existing Constrained Linkage B (Salt Creek) Existing Constrained Linkage C	2 Linkages Existing Constrained Linkage B (Salt Creek) Existing Constrained Linkage C	2 Linkages Existing Constrained Linkage B (Salt Creek) Existing Constrained Linkage C
Local Corridors	NA	8 Corridors Newport Road Hills to Patton Road Hemet Channel San Jacinto Branch Line Double Butte to West Hemet Hills West Hemet Hills to Hemet-Ryan Airport West Hemet Hills to Lakeview Mountains Lakeview Mountains to Tres Cerritos Hills Colorado River Aqueduct Corridor	8 Corridors Newport Road Hills to Patton Road Hemet Channel San Jacinto Branch Line Double Butte to West Hemet Hills West Hemet Hills to Hemet-Ryan Airport West Hemet Hills to Lakeview Mountains Lakeview Mountains to Tres Cerritos Hills Colorado River Aqueduct Corridor	8 Corridors Newport Road Hills to Patton Road Hemet Channel San Jacinto Branch Line Double Butte to West Hemet Hills West Hemet Hills to Hemet-Ryan Airport West Hemet Hills to Lakeview Mountains Lakeview Mountains to Tres Cerritos Hills Colorado River Aqueduct Corridor	8 Corridors Newport Road Hills to Patton Road Hemet Channel San Jacinto Branch Line Double Butte to West Hemet Hills West Hemet Hills to Hemet-Ryan Airport West Hemet Hills to Lakeview Mountains Lakeview Mountains to Tres Cerritos Hills Colorado River Aqueduct Corridor

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

Note: NA – Not Applicable. Biological resource was not observed.

Vegetation map codes correspond to those shown on the vegetation maps (Figures 3.3-5 through 3.3-10).

Five special-status plant species were only observed within Additional Indirect Impact Areas 1 or 2, and they were not identified within the Project Design Features. These are: Parish's brittlescale (*Atriplex parishii*), thread-leaved brodiaea (*Brodiaea filifolia*), Palmer's grapplinghook (*Harpagonella palmeri*), spreading navarretia (*Navarretia fossalis*), and California Orcutt grass (*Orcuttia californica*).

Developed areas, including roads and residences, are included in this tabular summary and are shown on vegetation maps, but they are not considered plant communities.

Build Alternatives 1a and 1b include Additional Indirect Impact Area 2 (Stoney Mountain Preserve); Build Alternatives 2a and 2b include Additional Indirect Impact Study Areas 1 and 2.

Information is presented first for the base condition of Build Alternatives 1b and 2b, followed by Design Options 1b1 and 2b1. If there is no variation between the base condition and the design options, the information is given only once.

Table 3.3-1 Summary of Biological Affected Environment for Project Alternatives and Design Options

Affected Environment	Project Alternative				
	No Build Alternative	**Build Alternative 1a**	**Build Alternative 1b and Design Option 1b1**	**Build Alternative 2a**	**Build Alternative 2b and Design Option 2b1**
		Roadway Segments A, E, G, I, J, L, N Utility Relocation Areas 1 and 2 Connections 1 and 2 to Hemet Channel Outside Project ROW Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Area 2	Roadway Segments B, C, G, I, K, M, N Utility Relocations Areas 1 and 2 Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Area 2	Roadway Segments A, F, H, I, K, L, N Utility Relocation Areas 1 and 2 Connection 3 to Hemet Channel Outside Project ROW Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Areas 1 and 2	Roadway Segments B, D, H, I, J, M, N Utility Relocation Areas 1 and 2 Short-Term and Long-Term Traffic Detours Additional Indirect Impact Study Areas 1 and 2

ac = acre(s)

ha = hectare(s)

m^2 = square meter(s)

[a]Vegetation types are considered sensitive if they are denoted as sensitive in the CDFG List of Natural Communities (CDFG 1993, 2003; CNPS 2005) or they are considered sensitive in the MSHCP (RCIP 2003).

[b]Community present only in the indirect impact study area.

[c]The MSHCP defines riparian areas as "lands which contain habitat dominated trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source." Therefore, for the purpose of this evaluation, natural riparian areas as well as seasonal wetlands, construed ponds, and drainage ditches that support trees, shrubs or persistent emergent vegetation such as cattails and bulrushes were included as riparian habitat.

[d]All numbers are presented by the number of plant populations/number of individuals for each Build alternative.

[e]***Status Codes*:**

Federal Status

FE – Federally listed as endangered

FT – Federally listed as threatened

State Status

SE – State listed as endangered

ST – State listed as threatened

California Native Plant Society (CNPS) Status (CNPS 2007)

1A – Plants Presumed Extinct in California

1B – Plants Rare, Threatened, or Endangered in California and Elsewhere

2 – Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3 – Plants About Which We Need More Information – A Review List

4 – Plants of Limited Distribution – A Watch List

CNPS Threat Rank (Suffixes to CNPS List Status Codes):

.1 – Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)

.2 – Fairly endangered in California (20-80% occurrences threatened)

.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

[f]**Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) Definitions (RCIP 2003)**

Special Conditions of MSHCP Covered Species:

CA – Surveys may be required for these species within locations shown on survey maps as described in Section 6.3.2 of the MSHCP. This includes the list of additional survey needs and procedures species and the Criteria Area Species (see MSHCP pages 6-63 to page 6-65) and the MSHCP Errata Letter, dated August 9, 2004.

CO – These Covered Species will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met. Species-specific conservation objectives for these species are presented in Section 9.0 of the MSHCP. Refer to Table 9-3 of the MSHCP for specific conservation objectives that must be met for these species prior to including them on the list of Covered Species Adequately Conserved.

Covered – Species addressed in the MSHCP and included in the 10(a)(1)(B) permit. Also includes species that will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met.

NE – Surveys may be required for these species in Narrow Endemic plant species survey areas, as described in Section 6.1.3 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

PS – Planning Species – Subsets of Covered Species that are identified to provide guidance for Reserve Assembly in Cores and Linkages and/or Area Plans per Volume I, Section 3, of the MSHCP (RCIP 2003) and the MSHCP Errata Letter, dated August 9, 2004.

RRVP – These species should be protected as they are associated with riparian/riverine areas and vernal pools as described in Section 6.1.2 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

[g]Calculations for vernal pool vegetation, vernal pool features, and vernal pool branchiopods may be different due to resource-specific requirements and definitions.

Patches of small, seasonal wetlands are distributed throughout the study area, with most of them in the northern part. In the southern part of the study area, seasonal wetlands are mainly associated with Salt Creek Channel and Hemet Channel.

Riparian habitats are limited in the study area. A few small patches of cottonwood willow riparian forest, willow riparian scrub and forest, and mulefat scrub are present in the northern part of the study area, between North Ramona Boulevard and the San Jacinto River. Some small wetlands are interspersed with these riparian habitats, particularly in the area near North Ramona Boulevard.

Non-native habitats such as ornamental landscaping (including eucalyptus woodland) and disturbed habitats are common (but not extensive) near roads and residences throughout the study area. Extensive areas of Riversidian sage scrub habitat are present in the hills south of Domenigoni Parkway, the West Hemet Hills, and the Tres Cerritos Hills. A transitional habitat composed of sage scrub and annual grassland is present along the lower hill slopes.

Wildlife Corridors in the Terrestrial Wildlife Study Area

This section includes an overview of wildlife movement, followed by discussions of wildlife movement for each Build alternative and design option. Although impacts to wildlife movement were evaluated only in the TWSA, the habitat regions, barriers, linkages, and local corridors that provide wildlife connectivity in the region are shown in Figure 3.3-4.

Existing Habitat Regions

The Project study area contains numerous types of developed areas that restrict wildlife movement. These areas include cultivated fields, uncultivated fields, feedlots, sod farms, and various types and sizes of urban and residential parcels. The Project would also pass between or through undeveloped (that is, less disturbed, more remote, or both) areas that have been identified as habitat regions. The habitat regions pertaining to wildlife movement in the study area are illustrated in Figure 3.3-4.

The habitat regions consist of well-developed stands of sage scrub habitat intermixed with grasslands, as well as varying levels of topographic relief that provide secluded locations for resting and denning for the various wildlife species that frequent them. Although various lands that are scattered across the Project area outside the habitat regions contain a variety of avian, amphibian, reptile, and mammal species that are able to survive in more disturbed conditions, the habitat regions would be the only locations in which larger mammal species would find sufficient shelter for denning and breeding.

Movement between such natural habitat areas is critical to the survival of a wide range of terrestrial mammal species, for both regular home-range movement and longer periods of dispersal. Movement among natural habitat areas is also important to all animal groups because it allows for periodic exchange of genetic material (gene flow), which is necessary for the long-term survival of animal populations (Soule 1987).

Existing Barriers to Wildlife Movement

Wildlife movement in the Project area is constrained primarily by existing residential developments, but also by intensive agricultural practices (cultivation) in the more rural areas.

In addition to the constraints from residential development and agriculture, the ability for wildlife to move across the remaining suitable landscape is severely limited (with or without the proposed Project) due to a network of roads, canals, and associated chain-link fences. Impassable linear barriers in and near the study area include the San Diego Canal and associated fencing (four sets of fences along the canal), the Casa Loma Canal and associated fencing (four sets of fences along the canal), the Diamond Valley Reservoir fencing, Domenigoni Parkway and associated fencing, and SR 74/Florida Avenue traffic and associated fencing. Barriers to wildlife movement are illustrated in Figure 3.3-4.

Existing Wildlife Corridors and Connective Features in the Study Area

A number of existing wildlife corridors and connective features traverse the study area. These include existing constrained linkages identified by the MSHCP and local corridor/connectors identified for the Project.

MSHCP Cores and Linkages

The MSHCP Conservation Area is composed of a variety of cores and linkages. Those identified in the Project study area are described below and are shown in Figure 3.3-1 and Figure 3.3-4.

Linkages

A linkage is a connection between core areas that has adequate size, configuration, and vegetation characteristics to provide "live-in" habitat or genetic flow for identified planning species. Live-in habitat refers to areas with suitable living conditions. Areas identified as linkages in the MSHCP may provide movement habitat but not live-in habitat for some species, thereby functioning more as movement corridors. It is expected that every linkage could provide live-in habitat for at least one species.

A constrained linkage is a constricted connection that is expected to provide for movement of identified planning species between core areas where options for the connection are limited due to existing patterns of use.

Existing Constrained Linkage B (Salt Creek)

Existing Constrained Linkage B is coterminous with Salt Creek. This linkage provides for movement of species between the Hemet area in the east, the central region of the MSHCP Plan Area, and Canyon Lake in the west. It is constrained to the north and south by existing urban and agricultural land uses. This route, which is wide and adequately bridged by the major roads, provides access to water, food, cover, foraging areas, and breeding habitats for many species. However, the lack of cover in the channel (except for low grasses) and small amount of surface water make this linkage of limited use to most wildlife.

Planning species for Existing Constrained Linkage B (Salt Creek) can be divided into two categories of wildlife movement—Small Mammalian, Reptile, and Amphibian Wildlife (e.g., Los Angeles pocket mouse) and Passive

Dispersers (e.g., vernal pool fairy shrimp, smooth tarplant, vernal barley, and Coulter's goldfields). In addition to the planning species identified in the MSHCP, this linkage is likely used for Avian Wildlife (e.g., burrowing owl), Large Mammalian Wildlife (e.g., coyote), and Insect movement.

Existing Constrained Linkage C (San Jacinto River)

Existing Constrained Linkage C consists of the middle segment of the San Jacinto River, which is located in the northeastern region of the MSHCP Plan Area. This public/quasi-public linkage connects MSHCP Proposed Core 5 in the east (upper San Jacinto River area) with MSHCP Proposed Constrained Linkage 20 to the west. It is also connected to MSHCP Proposed Core 3 (Badlands/Potrero area) via MSHCP Proposed Constrained Linkage 21. Like Existing Constrained Linkage B (Salt Creek), Existing Constrained Linkage C is constrained on all sides by existing development. However, unlike Salt Creek, this constrained linkage is largely surrounded by open space and conservation land use. Existing Constrained Linkage C provides both a seasonal water source and a good regional linkage between the San Bernardino Mountains and the Potrero area. The San Jacinto River serves as a local and regional wildlife movement corridor for species that use upland alluvial and riverine habitats on a regional scale. These species include small rodents to large and meso predators such as coyotes, bobcats, and foxes. Resident small mammals such as the Los Angeles pocket mouse use the alluvial fan scrub along the terraces and levee walls in this area.

Planning species for Existing Constrained Linkage C can be divided into three categories of wildlife movement—Avian Wildlife (e.g., white-faced ibis), Small Mammalian, Reptile, and Amphibian Wildlife (e.g., Los Angeles pocket mouse), and Passive Dispersers (e.g., San Jacinto Valley crownscale). In addition to the planning species identified in the MSHCP, this linkage is likely used for Large Mammalian Wildlife (e.g., mountain lion, coyote, bobcat, fox) and Insect movement.

Local Corridors

In addition to the major regional MSHCP cores and linkages, eight smaller local connective features with potential wildlife movement are present in the Project study area. These local corridors were identified based on existing habitat regions and barriers to wildlife movement and are listed below:

- Newport Road Hills to Patton Road Corridor (1)
- Hemet Channel Corridor (2)
- San Jacinto Branch Line Corridor (3)
- Double Butte to West Hemet Hills Corridor (4)
- West Hemet Hills to Hemet-Ryan Airport Corridor (5)
- West Hemet Hills to Lakeview Mountains Corridor (6)
- Lakeview Mountains to Tres Cerritos Hills Corridor (7)
- Colorado River Aqueduct Corridor (8)

The local corridors are illustrated in Figure 3.3-4.

Newport Road Hills to Patton Road Corridor (1)

The formerly contiguous area of upland sage scrub and rock outcrop habitats north of Newport Road and south of Patton Road is bisected by existing SR 79, which has created a partial barrier to the east-west movement of animals between these features. The movement of wildlife between the Diamond Valley Reservoir hills and SR 79 is ultimately blocked by the San Diego Canal and associated double fencing. Nonetheless, some animals probably move across existing SR 79 in this area to access local undeveloped habitats on either side of the road.

Four categories of wildlife movement are likely to use the Newport Road Hills to Patton Road Corridor—Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, and Insects. Because this corridor is intersected by the existing SR 79 roadway and does not contain contiguous habitat, Passive Dispersers are not expected to use the corridor without assistance from the other categories.

Hemet Channel Corridor (2)

Although this irrigation channel is short and consists mostly of unvegetated sandy alluvium, it is important locally because it connects the longer San Jacinto Branch Line Corridor to the even larger and regionally more important Existing Constrained Linkage B (Salt Creek). The channel may also be appealing to wildlife such as bobcats and foxes, which are accustomed to traveling out of human view. The seasonal presence of water in the channel is another likely attraction for species such as coyotes.

Five categories of wildlife movement are likely to use the Hemet Channel Corridor—Avian Wildlife, Large Mammalian Wildlife (e.g., coyotes, bobcats, foxes), Small Mammalian, Reptile, and Amphibian Wildlife, Insects, and Passive Dispersers.

San Jacinto Branch Line Corridor (3)

The San Jacinto Branch Line Corridor, which is located alongside railroad tracks, is largely unvegetated due to compacted soils and gravel cover, but it provides a continuous east-west connection from the city of Hemet airport area to the Double Butte area near Winchester. This corridor is probably used only by wide-ranging species such as coyotes and foxes, but it could also be used by small mammals from time to time. The wildlife and habitat in the airport area (e.g., burrowing owls, vernal pools, wildlife foraging habitat) are connected to the larger upland habitats to the west via this corridor.

Three categories of wildlife movement are likely to use the San Jacinto Branch Line Corridor—Avian Wildlife (e.g., burrowing owl), Large Mammalian Wildlife (e.g., coyotes and foxes), and Small Mammalian, Reptile, and Amphibian Wildlife (e.g., spadefoot toad). Because this corridor is largely unvegetated and does not contain contiguous habitat, Insects and Passive Dispersers are not expected to use it. In any event, Passive Dispersers are not expected to use the corridor without assistance from the other categories.

Double Butte to West Hemet Hills Corridor (4)

This corridor is a wide area of agricultural land that connects the upland sage scrub habitat in the West Hemet Hills north of Stowe Road and west of California Avenue and the 700-hectare (ha) (1,700-acre [ac]) Double Butte region to the west. This area, located between Stowe Road and Stetson Road, currently has no residential housing,

and the only substantial obstacle to wildlife movement is Patterson Avenue, which is two lanes. Although the agricultural fields may not provide adequate cover for many species, nocturnal movement may be prevalent in this area because of the lack of artificial light, residences, and other human influences.

Three categories of wildlife movement are likely to use the Double Butte to West Hemet Hills Corridor—Avian Wildlife (e.g., burrowing owl), Large Mammalian Wildlife (e.g., coyotes and foxes), and Small Mammalian, Reptile, and Amphibian Wildlife. Insects and Passive Dispersers are not expected to use this corridor because it is largely active agriculture and is intersected by Patterson Avenue. In any event, Passive Dispersers are not expected to use the corridor without assistance from the other categories.

West Hemet Hills to Hemet-Ryan Airport Corridor (5)

Currently, the West Hemet Hills north of Stowe Road and west of California Avenue (discussed previously) are directly connected to a system of lowland vernal pools east of California Avenue and west of the San Diego Canal. Access to the Hemet airport area and the lowland/vernal pool complexes east of the San Diego canal is currently blocked by the canal and its four parallel fences. The only east-west access across the canal and fences is a narrow area where Stetson Road crosses over the canal. This crossing is probably used primarily by coyotes, although smaller mammals may also cross the canal there. The West Hemet Hills to Hemet-Ryan Airport Corridor is significant because it connects upland sage scrub habitats with lowland grasslands, which are often important for foraging carnivores and raptors. This corridor also connects to the MSHCP Proposed Noncontiguous Habitat Block 7.

Four categories of wildlife movement are likely to use the West Hemet Hills to Hemet-Ryan Airport Corridor—Avian Wildlife (e.g., burrowing owl), Large Mammalian Wildlife (e.g., coyotes), Small Mammalian, Reptile, and Amphibian Wildlife, and Insects. Because this corridor requires wildlife to move along Stetson Road to cross the San Diego Canal and does not contain contiguous habitat, Passive Dispersers are not expected to use it without assistance from the other categories.

West Hemet Hills to Lakeview Mountains Corridor (6)

The area north of Stowe Road, south of Florida Avenue, and west of California Avenue is a relatively large, intact, and minimally disturbed tract of land that consists mostly of hills with high-quality sage scrub habitat. Much of this area is privately owned, so it is not included as a conservation area in the MSHCP. Although larger mammals, such as coyotes, are most likely to use this corridor, it has become increasingly isolated from the Lakeview Mountains to the northwest because SR 74/Florida Avenue has been widened and chain-link fencing has been installed in some locations. Many of the semirural lands north of SR 74/Florida Avenue have been recently developed into residential housing, which has created a severe bottleneck for any species that might still successfully cross Florida Avenue.

Two categories of wildlife movement are likely to use the West Hemet Hills to Lakeview Mountains Corridor—Avian Wildlife and Large Mammalian Wildlife (e.g., coyotes). The other categories are not expected to use this corridor because it has no contiguous habitat and many obstacles are present in the corridor (e.g., SR 74/Florida

Avenue and residential development). In any event, Passive Dispersers are not expected to use the corridor without assistance from other categories.

Lakeview Mountains to Tres Cerritos Hills Corridor (7)

The Tres Cerritos Hills constitute a relatively small patch (less than 200 ha [500 ac]) of sage scrub/rocky outcrop habitat. This habitat is surrounded by housing developments, local schools, the San Diego Canal, and Warren Road. The San Diego Canal and an associated set of four fences severely constrict any east-west movement, and passage is only possible in a few areas. The only connection from Tres Cerritos Hills to the larger habitat area in the Lakeview Mountains to the west is across Warren Road and over the San Diego Canal via a small gated bridge near Hidden Springs Road. Although this is an improbable pathway for most species except the coyote and possibly an occasional bobcat or other medium-sized mammal, it remains the sole connection available to Tres Cerritos Hills.

Two categories of wildlife movement are likely to use the Lakeview Mountains to Tres Cerritos Hills Corridor—Avian Wildlife and Large Mammalian Wildlife. Because this corridor requires species to move along roads and bridges to cross the San Diego Canal, is constrained by existing dispersal barriers, and does not contain contiguous habitat, categories are not expected to use it. In any event, Passive Dispersers are not expected to use the corridor without assistance from other categories.

Colorado River Aqueduct Corridor (8)

Although the corridor created by the Colorado River Aqueduct has little in the way of live-in wildlife habitat for many species, it provides a rare east-west passage between the upland habitats in the Lakeview Mountains and the lowland agricultural fields toward the San Jacinto River farther east. This is an important corridor for such wide-ranging species as coyotes and bobcats, as well as for dispersal movements of smaller mammals.

Three categories of wildlife movement are likely to use the Colorado River Aqueduct Corridor—Avian Wildlife, Large Mammalian Wildlife (e.g., coyotes and bobcats), and Small Mammalian, Reptile, and Amphibian Wildlife. Because this corridor is largely unvegetated and does not contain contiguous habitat, Insects and Passive Dispersers are not expected to use the it. In any event, Passive Dispersers are not expected to use the corridor without assistance from the other categories.

Natural Communities in the Project Build Alternatives and Design Options

Eighteen vegetation types (including the four agricultural subtypes and both ornamental vegetation subtypes) are present in the study area. Nine of the vegetation types are sensitive natural communities (Table 3.3-1 [page 3-443]). The distribution of vegetation types is shown in Figures 3.3-5 through 3.3-10.

No Build Alternative

The affected environment under the No Build Alternative would maintain existing conditions, and the roadway would be unchanged.

Build Alternative 1a

Non-Native Habitats

The predominant non-native vegetation types in the study area for this Build alternative are agricultural (dryland farming and irrigated crops), annual grassland, and ruderal. Other disturbed habitats such as pasture and agricultural (developed) are also very common. Ornamental vegetation, including eucalyptus woodland, is scattered throughout the study area. Riparian herb and ruderal alkali-flat vegetation types are located in the Salt Creek Channel, south of Domenigoni Parkway. Tamarisk scrub was identified east of the San Diego Canal, north of Esplanade Avenue, and in a large disturbed area south of North Ramona Boulevard, where several mesic plant communities are interspersed in a complex mosaic.

Sensitive Natural Communities

Alkali grassland, alkali playa, and vernal pool habitats are present in Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve, which is part of the study area for Build Alternative 1a. The distribution of wetland communities is more limited elsewhere in the study area. Vegetation that is characteristic of mesic areas, including seasonal wetland, vernal pool, and alkali playas, was identified south of East Newport Road near Florida Avenue, west of the San Diego Canal and south of Tres Cerritos Avenue, north and south of Esplanade Avenue, and south of North Ramona Boulevard, adjacent to Sanderson Avenue near the northern tip of the study area. Alkali grasslands are located west of the Tres Cerritos Hills adjacent to the east side of the San Diego Canal, near Esplanade Avenue, west of Odell Avenue, and near North Ramona Boulevard in the northern part of the study area. A small area with emergent wetland vegetation is present just west of the Eastern Municipal Water District (EMWD) Regional Water Reclamation Facility. Several riparian and wetland habitats are present in a complex mosaic in a disturbed area south of North Ramona Boulevard and the Colorado River Aqueduct and include alkali grassland, riparian (mulefat scrub, willow riparian scrub and forest, and cottonwood-willow riparian forest), and seasonal wetlands. Willow riparian scrub and forest and cottonwood willow riparian forest habitat are present at the very northern tip of the study area.

The hills south of Domenigoni Parkway, the West Hemet Hills, and the base of the Tres Cerritos Hills adjacent to the San Diego Canal are dominated by Riversidian sage scrub.

Build Alternative 1b

Non-Native Habitats

The dominant non-native plant communities in the study area for Build Alternative 1b include agricultural (dryland farming), annual grassland, ruderal, and disturbed habitats. Irrigated crops, pasture, and agricultural (developed) habitats are also prevalent. Ornamental landscaping, including eucalyptus woodland, was identified in a few locations scattered throughout the study area.

Small patches of riparian herb and ruderal alkali-flat vegetation were identified on the slopes of the Salt Creek Channel south of Domenigoni Parkway. Tamarisk scrub was observed in the northern part of the study area, east

of the San Diego Canal and in a disturbed area south of North Ramona Boulevard and the Colorado River Aqueduct.

Sensitive Natural Communities

Like Build Alternative 1a, this study area includes Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve. Three natural plant communities, alkali grassland, alkali playa, and vernal pool, are present in the Preserve. These plant communities support several wetland-dependent special-status plants, as described in Section 3.3.3 (page 3-521).

The distribution of sensitive natural wetland plant communities elsewhere in the Build Alternative 1b study area is more limited. A few small areas of seasonal wetland vegetation were identified south of East Newport Road, at the base of the northern slopes of the West Hemet Hills, north of Florida Avenue, northwest of Esplanade Avenue, and in a few locations east of Sanderson Road between Cottonwood Avenue and the northern end of the study area. Small areas that support emergent wetland vegetation are located east of Sanderson Avenue and north and south of Scott Street. Vernal pool vegetation is very limited in the study area for this Build alternative, occurring only near Patton Avenue.

Small patches of alkali grassland habitat are located adjacent to the San Diego Canal, near Stoney Mountain Preserve and Tres Cerritos Hills, and northwest of Esplanade Avenue. Riparian plant communities (willow riparian scrub and forest, cottonwood-willow riparian forest, and mulefat scrub) are limited to the very northern extent of the study area, near North Ramona Boulevard and south of the San Jacinto River. The hills south of Domenigoni Parkway, West Hemet Hills, and the slopes at the base of Tres Cerritos Hills support dense stands of Riversidian sage scrub habitat.

Design Option 1b1

The study areas for Build Alternative 1b and Design Option 1b1 are the same. Thus the discussion presented for Build Alternative 1b also applies to Design Option 1b1.

Build Alternative 2a

Non-Native Habitats

Two agricultural subtypes (dryland farming and irrigated crops) are the predominant vegetation types in the study area for Build Alternative 2a; however, the other two (developed and pasture) are also common. Large patches of annual grassland and ruderal vegetation are scattered throughout the study area. Ornamental landscaping, including eucalyptus woodland, was identified in several locations.

Riparian herb and ruderal alkali-flat vegetation are present in one location, adjacent to the Salt Creek Channel in the southern part of the study area. A small patch of tamarisk scrub habitat was identified on the east side of the San Diego Canal, north of Esplanade Avenue and east of Warren Road. Tamarisk scrub was also found south of North Ramona Boulevard and the Colorado River Aqueduct, along with cottonwood-willow riparian forest and other riparian habitats.

Sensitive Natural Communities

The study area for Build Alternative 2a includes Additional Indirect Impact Study Areas 1 and 2, which encompass the Stowe Road Vernal Pool Complex and Stoney Mountain Preserve. These contain large areas with sensitive alkali grassland, seasonal wetland, vernal pool, and alkali playa habitats. Alkali grassland was also found adjacent to the San Diego Canal near the Tres Cerritos Hills, in the vicinity of Esplanade Avenue near the Stoney Mountain Preserve, east of Warren Road and south of Ramona Expressway, and near North Ramona Boulevard.

Small patches of mesic vegetation (seasonal wetlands) are scattered throughout the study area for Build Alternative 2a. The most extensive wetland areas are in the northern part of the study area. Vernal pool and alkali playa vegetation were found near Esplanade Avenue and adjacent to the Stoney Mountain Preserve. These sensitive wetland plant communities provide habitat for several hundred populations of wetland-dependent special-status plants, as described in Section 3.3.3 (page 3-521).

Riparian habitats (including mulefat scrub, willow riparian scrub and forest, and cottonwood-willow riparian forest) were observed in the northern part of the study area for this Build alternative, near North Ramona Boulevard and north of Ramona Expressway. A small area with emergent wetland vegetation is present just west of the EMWD Regional Water Reclamation Facility.

Extensive stands of Riversidian sage scrub habitat are present in the hills south of Domenigoni Parkway, in the West Hemet Hills, and along the base of the Tres Cerritos Hills. Large expanses of Riversidian sage scrub habitat are also present on the lower hill slopes north of Stowe Road in the West Hemet Hills in Additional Indirect Impact Study Area 1.

Build Alternative 2b

Non-Native Habitats

The dominant non-native plant communities in the study area for Build Alternative 2b include agricultural lands (dryland farming), annual grassland, and ruderal habitats. The three other agricultural subtypes (irrigated crops, pasture, and agricultural developed) are also common, as is the disturbed vegetation category. Small areas of ornamental landscaping vegetation, including eucalyptus woodland, were seen in several locations throughout the study area. A small patch of tamarisk scrub habitat was found on the east side of the San Diego Canal, north of Esplanade Avenue and east of Warren Road. Tamarisk scrub was also found in a disturbed area south of North Ramona Boulevard and the Colorado River Aqueduct. Riparian herb was found east of Sanderson Avenue and north and south of Scott Street, and both riparian herb and ruderal alkali flat vegetation were found adjacent to Salt Creek Channel.

Sensitive Natural Communities

Similar to Build Alternative 2a, the study area for Build Alternative 2b includes Additional Indirect Impact Study Areas 1 and 2. The dominant vegetation type in these areas is alkali grassland habitat, with large expanses of alkali playa interspersed with seasonal wetlands and vernal pools. These natural community types compose large

areas of very important wetland-dependent special-status plant species habitat, as described in Section 3.3.3 (page 3-521).

Alkali grassland habitat was also found adjacent to the San Diego Canal near the Tres Cerritos Hills, in the vicinity of Esplanade Avenue near the Stoney Mountain Preserve, and near North Ramona Boulevard.

A few small seasonal wetland areas were found south of East Newport Road. Seasonal wetland vegetation was also found at the base of the northern slopes of the West Hemet Hills, north of Devonshire and adjacent to the San Diego Canal, northwest of Esplanade Avenue and adjacent to the Stoney Mountain Preserve, and in a few locations between Cottonwood Avenue and the northern end of the study area. Small areas that support emergent wetland vegetation are located east of Sanderson Avenue and north and south of Scott Street.

Aside from Additional Indirect Impact Study Areas 1 and 2, vernal pool vegetation is limited in the study area for this Build alternative, occurring in just two locations. The first is near Patton Avenue, and the second is northwest of Esplanade Avenue, in an area of alkali playa and alkali grassland habitat.

Riparian plant communities (willow riparian scrub, forest and cottonwood willow riparian forest, and mulefat scrub) are limited to the northern part of the study area, near North Ramona Boulevard and south of the San Jacinto River.

Extensive stands of Riversidian sage scrub habitat are present in the hills south of Domenigoni Parkway, in the West Hemet Hills, and along the base of the Tres Cerritos Hills. Riversidian sage scrub habitat was also found on the lower slopes north of Stowe Road in the West Hemet Hills, in Additional Indirect Impact Study Area 1.

Design Option 2b1

The study areas for Build Alternative 2b and Design Option 2b1 are the same. Thus the discussion presented for Build Alternative 2b also applies to Design Option 2b1.

Wildlife Corridors in the Project Alternatives and Design Options

No Build Alternative

The affected environment under the No Build Alternative would maintain existing conditions, and the roadway would be unchanged.

All Build Alternatives and Design Options

The study area for the Build alternatives and design options contains two MSHCP Existing Constrained Linkages and eight local corridors. As stated earlier, the species most likely to use MSHCP Existing Constrained Linkages B and C include Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, Insects, and Passive Dispersers.

The eight local corridors identified in the study area for all of the Build alternatives and design options and the wildlife movement categories most likely to use them are:

- Newport Road Hills to Patton Road
  - Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, and Insects
- Hemet Channel
  - Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, Insects, and Passive Dispersers
- San Jacinto Branch Line
  - Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife
- Double Butte to West Hemet Hills
  - Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife
- West Hemet Hills to Hemet-Ryan Airport
  - Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, and Insects
- West Hemet Hills to Lakeview Mountains
  - Avian Wildlife and Large Mammalian Wildlife
- Lakeview Mountains to Tres Cerritos Hills
  - Avian Wildlife and Large Mammalian Wildlife
- Colorado River Aqueduct
  - Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife

3.3.1.3 Environmental Consequences

Impacts to natural communities and wildlife movement were based on field data and information presented in the MSHCP. The MSHCP and reference documents can be found online at: http://www.rctlma.org/mshcp/index.html. The following describes the MSHCP and applicable policies.

MSHCP

The MSHCP Plan Area encompasses about 509,418 ha (1,258,800 ac) in western Riverside County, from which about 202,345 ha (500,000 ac) will contribute toward assembly of the overall MSHCP Conservation Area. About 140,426 ha (347,000 ac) of conservation are expected on public lands, with another 61,917 ha (153,000 ac) of new conservation obtained from applying MSHCP Criteria. MSHCP Conservation criteria have been developed for individual 64.75-ha (160-ac) U.S. Geological Survey (USGS) map quarter-section Cells (i.e., areas legally defined by section, township, and range) or Cell Groupings. These Criteria Cells provide a basis for determining impacts to and avoidance, minimization, and mitigation for MSCHP Conservation Area resources.

The MSHCP serves as an HCP pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act of 1973 (FESA), as well as an NCCP under the Natural Communities Conservation Plan Act of 2001. The MSHCP allows

federal and state agencies to authorize "take" of plant and wildlife species identified within the plan area. USFWS and CDFG have authority to regulate the take of threatened, endangered, and rare species. Under the MSHCP, the wildlife agencies will grant "Take Authorization" for otherwise lawful actions—such as public and private development that may incidentally take or harm individual species or their habitat outside the MSHCP Conservation Area—in exchange for the assembly and management of a coordinated MSHCP Conservation Area. The MSHCP Conservation Area is expected to be assembled over time based on the criteria and assurances incorporated into the MSHCP (RCIP 2003). The MSHCP and its policies were adopted on June 17, 2004.

All of the Build alternatives and design options are consistent with the description of the Project in Section 7.3.5, Planned Roads, of the MSHCP. By being included in the MSHCP, it was evaluated with respect to the conservation of biological resources throughout the MSHCP planning process. As a result, the proposed Project is considered a Covered Activity within the Criteria Area. Covered Activities are certain activities within the MSHCP Plan Area that will receive Take Authorization under the Section 10(a) Permit and the NCCP Permit, provided these activities are otherwise lawful (RCIP 2003). By being a Covered Activity, the process of obtaining Take Authorization for threatened or endangered species is streamlined. The MSHCP is divided into individual area plans, which are further divided into subunits. The subunits contain various wildlife corridors, habitat blocks, and planning species. The Project would be located in the Harvest Valley/Winchester Area Plan (HVWAP) and the San Jacinto Valley Area Plan (SJVAP), specifically, in Subunit 2 of the HVWAP and Subunits 1 and 4 of the SJVAP. In Subunit 2 of the HVWAP, the Project would cross a portion of Noncontiguous Habitat Block 7 and Existing Constrained Linkage B (Salt Creek). In Subunits 1 and 4 of the SJVAP, the Project would cross a portion of Noncontiguous Habitat Blocks 6 and 7 and Existing Constrained Linkage C (Figure 3.3-1).

The Planning Species and Biological Issues and Considerations for these subunits are presented below, along with Planning Species only for Noncontiguous Habitat Blocks 6 and 7 and Existing Constrained Linkages B and C.

Subunit 2 of HVWAP

A list of Planning Species for this subunit (Subset of Covered Species that are identified to provide guidance for Reserve Assembly in Cores and Linkages and/or Area Plans) is provided below.

- Burrowing owl
- Mountain plover
- Riverside fairy shrimp
- Vernal pool fairy shrimp
- California Orcutt grass
- Davidson's saltscale
- Little mousetail
- Spreading navarretia
- Thread-leaved brodiaea
- Vernal barley

A list of Biological Issues and Considerations for this subunit (biological factors to be used in assembly of the MSHCP Conservation Area) is provided below.

- Conserve alkali soils supporting California Orcutt grass, Davidson's saltscale, little mousetail, thread-leaved brodiaea, vernal barley, and spreading navarretia
- Conserve existing vernal pool complexes
- Maintain vernal pool hydrology
- Maintain Core Area[12] for vernal pool fairy shrimp and Riverside fairy shrimp
- Conserve grassland habitat for wintering mountain plover and burrowing owl

Subunit 1 of SJVAP

A list of Planning Species for this subunit is provided below.

- Arroyo toad
- Bell's sage sparrow
- Burrowing owl
- Cactus wren
- Loggerhead shrike
- Mountain plover
- Southern California rufous-crowned sparrow
- White-faced ibis
- Bobcat
- Los Angeles pocket mouse
- Mountain lion
- San Bernardino kangaroo rat
- Stephens' kangaroo rat
- Coulter's goldfields
- Davidson's saltscale
- San Jacinto Valley crownscale
- Spreading navarretia
- Vernal barley
- Wright's trichocoronis

A list of Biological Issues and Considerations for this subunit is provided below.

- Conserve Willow-Domino-Travers soils supporting sensitive plants such as spreading navarretia, San Jacinto Valley crownscale, Coulter's goldfields, Davidson's saltscale, vernal barley, and Wright's trichocoronis

[12]An MSHCP "Core Area" is a block of habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species.

- Conserve intact upland Habitat in the southern Badlands for the benefit of burrowing owl, Bell's sage sparrow, raptors, and other species
- Conserve open grasslands and sparse shrublands that support populations of Stephens' kangaroo rat, with a focus on suitable Habitat in the southern Badlands
- Maintain Core Area for bobcat
- Maintain Core and Linkage Habitat for mountain lion
- Maintain Core Area for the San Bernardino kangaroo rat
- Determine presence of potential Core Area for the Los Angeles pocket mouse along the San Jacinto River and its tributaries

Subunit 4 of SJVAP

A list of Planning Species for this subunit is provided below.

- Burrowing owl
- Mountain plover
- Vernal pool fairy shrimp
- California Orcutt grass
- Davidson's saltscale
- Little mousetail
- Spreading navarretia
- Thread-leaved brodiaea
- Vernal barley
- San Jacinto Valley crownscale

A list of Biological Issues and Considerations for this subunit is provided below.

- Conserve alkali soils supporting California Orcutt grass, Davidson's saltscale, little mousetail, thread-leaved brodiaea, vernal barley, San Jacinto Valley crownscale, and spreading navarretia
- Conserve existing vernal pool complexes
- Maintain vernal pool hydrology
- Maintain Core Area for vernal pool fairy shrimp and Riverside fairy shrimp
- Conserve grassland habitat for wintering mountain plover and burrowing owl

Existing Constrained Linkage B (Salt Creek)

A list of Planning Species for this linkage is provided below.

- Vernal pool fairy shrimp

- Riverside fairy shrimp
- Los Angeles pocket mouse
- San Jacinto Valley crownscale
- Parish's brittlescale
- Davidson's saltscale
- Thread-leaved brodiaea
- Smooth tarplant
- Vernal barley
- Coulter's goldfields
- Little mousetail
- Spreading navarretia
- California Orcutt grass
- Wright's trichocoronis

Existing Constrained Linkage C (San Jacinto River)

A list of Planning Species for this linkage is provided below.

- Arroyo toad
- Los Angeles pocket mouse
- Mountain plover
- White-faced ibis
- San Jacinto Valley crownscale
- Parish's brittlescale
- Davidson's saltscale
- Thread-leaved brodiaea
- Coulter's goldfields
- Spreading navarretia

Noncontiguous Habitat Block 6

A list of Planning Species for this block is provided below.

- Vernal pool fairy shrimp
- Burrowing owl
- Mountain plover
- Loggerhead shrike
- Davidson's saltscale
- Thread-leaved brodiaea
- Vernal barley
- Little mousetail

- Spreading navarretia
- California Orcutt grass

Noncontiguous Habitat Block 7

A list of Planning Species for this block is provided below.

- Vernal pool fairy shrimp
- Burrowing owl
- Mountain plover
- Loggerhead shrike
- Munz's onion
- Spreading navarretia
- California Orcutt grass
- San Jacinto Valley crownscale

Criteria Area Cells

Criteria Area Cells provide a means to guide assembly of the Additional Reserve Lands. Additional Reserve Lands are defined in the MSHCP as, "conserved habitat totaling approximately 153, 000 acres that are needed to meet the goals and objectives of the MSHCP and comprised of approximately 56,000 acres of State and federal acquisition and mitigation for State Permittees, and approximately 97,000 acres contributed by Local Permittees." The Project study area includes 14 Criteria Area Cells: 2364, 2461, 2666, 2774, 2775, 2878, 3291, 3584, 3683, 3684, 3791, 3887, 3891, and 4007. The conservation goals for these Cells are summarized in Table 3.3-2. The locations of the cells are shown in Figure 3.3-1. The Project is a Covered Activity in the MSHCP Criteria Area and is documented and subject to the terms listed in Section 7.3.5 of the MSHCP. While impacts from Covered Activities were anticipated within Criteria Area Cells, it is important that actual Project impacts are consistent with the conservation that was estimated and that the connectivity between different Cell Groups is maintained. Based on the requirements stated in Section 7.3.5 of the MSCHP, a qualitative assessment was prepared for one Criteria Area Cell (3887) and is included in NES Appendix A, Stowe Road Mitigation Impact Assessment.

Table 3.3-2 Criteria Cells and Proposed Conservation Goals

Cell ID	Subunit	Cell Group	USGS Section	Quarter Section	Cell Criteria
2364	1	M	08	SE	Conservation within this Cell Group will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on chaparral and coastal sage scrub habitat. Areas conserved within this Cell Group will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell Groups L to the west, F to the north, O to the east, and B in the Pass Area Plan, also to the east. Conservation within this Cell Group will range from 35 to 45 percent of the Cell Group focusing in the northern portion of the Cell Group.
2461	1	N/A	16	NW	Conservation within this Cell will contribute to assembly of Existing Constrained Linkage C. Conservation within this Cell will focus on Riversidian alluvial fan sage scrub habitat along the San Jacinto River. Areas conserved within this Cell will be connected to Riversidian alluvial fan sage scrub habitat proposed for conservation in Cell 2462 to the east

Table 3.3-2 Criteria Cells and Proposed Conservation Goals

Cell ID	Subunit	Cell Group	USGS Section	Quarter Section	Cell Criteria
					and to Riversidian alluvial fan sage scrub, riparian scrub, woodland, and forest habitat proposed for conservation in Cell 2365 to the north. Conservation within this Cell will range from 5 to 15 percent of the Cell focusing in the northeastern portion of the Cell.
2666	4	V	19	NW	Conservation within this Cell Group will contribute to assembly of Proposed Noncontiguous Habitat Block 6. Conservation within this Cell Group will focus on grassland habitat and agricultural land. Conservation within this Cell Group will range from 70 to 80 percent of the Cell Group focusing in the northern portion of the Cell Group.
2774	4	V	19	SW	Conservation within this Cell Group will contribute to assembly of Proposed Noncontiguous Habitat Block 6. Conservation within this Cell Group will focus on grassland habitat and agricultural land. Conservation within this Cell Group will range from 70 to 80 percent of the Cell Group focusing in the northern portion of the Cell Group.
2775	4	N/A	19	SE	Conservation within this Cell will contribute to assembly of Proposed Noncontiguous Habitat Block 6. Conservation within this Cell will focus on water and riparian scrub, woodland, and forest habitat. Areas conserved within this Cell will be connected to water habitat proposed for conservation in Cell 2878 to the south. Conservation within this Cell will range from 30 to 40 percent of the Cell focusing in the southern portion of the Cell.
2878	4	N/A	30	NE	Conservation within this Cell will contribute to assembly of Proposed Noncontiguous Habitat Block 6. Conservation within this Cell will focus on water habitat. Areas conserved within this Cell will be connected to water habitat proposed for conservation in Cell 2775 to the north. Conservation within this Cell will range from 10 to 20 percent of the Cell focusing in the northern portion of the Cell.
3291	4	N/A	06	NW	Stoney Mountain Preserve is located within this Criteria Area Cell. Conservation within this Cell Group will contribute to assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell Group will focus on grassland habitat. Conservation within this Cell Group will be approximately 5 percent of the Cell Group focusing in the western portion of the Cell Group.
3584	4	D	12	SE	Conservation within this Cell Group will contribute to assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell Group will focus on playas/vernal pool habitat and agricultural land. Areas conserved within this Cell Group will be connected to playas/vernal pool habitat proposed for conservation in Cell 3793 to the east, in Cells 3891 and 3892 to the south, and in Cells 3684 and 3791, both in the Harvest Valley/Winchester Area Plan to the west. Conservation within this Cell Group will range from 70 to 80 percent of the Cell Group focusing in the central portion of the Cell Group.
3683	2	N/A	13	NW	Conservation within this Cell will focus on assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell will focus on playas, vernal pools, and a variety of upland habitat. Areas conserved within this Cell will be connected to wetlands proposed for conservation in Cell 3684 to the east and to uplands and wetlands proposed for conservation in Cell 3791 to the south. Conservation within this Cell will range from 65 to 75 percent focusing on the eastern portion of the Cell.
3684	4	D	13	NE	Conservation within this Cell Group will contribute to assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell Group will focus on playas/vernal pool habitat and agricultural land. Areas conserved within this Cell Group will be connected to playas/vernal pool habitat proposed for conservation in Cell 3793 to the east, in Cells 3891 and 3892 to the south, and in Cells 3684 and 3791 both in the Harvest Valley/Winchester Area Plan to the west. Conservation within this Cell Group will range from 70 to 80 percent of the Cell Group focusing in the central portion of the Cell Group.

Table 3.3-2 Criteria Cells and Proposed Conservation Goals

Cell ID	Subunit	Cell Group	USGS Section	Quarter Section	Cell Criteria
3791	4	D	13	SW	Conservation within this Cell Group will contribute to assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell Group will focus on playas/vernal pool habitat and agricultural land. Areas conserved within this Cell Group will be connected to playas/vernal pool habitat proposed for conservation in Cell 3793 to the east, in Cells 3891 and 3892 to the south, and in Cells 3684 and 3791, both in the Harvest Valley/Winchester Area Plan to the west. Conservation within this Cell Group will range from 70 to 80 percent of the Cell Group focusing in the central portion of the Cell Group.
3887	2	N/A	23	NE	The Stowe Road Vernal Pool Complex is located within this Cell. Conservation within this Cell will focus on assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell will focus on playas and vernal pools, coastal sage scrub, grassland, and chaparral. Areas conserved within this Cell will be connected to wetlands proposed for conservation to the east, northeast, and southeast in Cells 3891, 3791, and 4007. Conservation within this Cell will range from 45 to 55 percent focusing on the eastern portion of the Cell.
3891	4	N/A	24	NW	Conservation within this Cell will contribute to assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell will focus on playas/vernal pool habitat. Areas conserved within this Cell will be connected to playas/vernal pool habitat proposed for conservation in Cell Group D to the north, in Cell 3892 to the east, in Cell 4007 to the south, and in Cell 3891 in the Harvest Valley/Winchester Area Plan to the west. Conservation within this Cell will range from 45 to 55 percent of the Cell focusing in the eastern portion of the Cell.
4007	4	N/A	24	SW	Conservation within this Cell will contribute to assembly of Proposed Noncontiguous Habitat Block 7. Conservation within this Cell will focus on playas/vernal pool habitat. Areas conserved within this Cell will be connected to playas/vernal pool habitat proposed for conservation in Cell 3891 to the north and in Cell 4007 in the Harvest Valley/Winchester Area Plan to the west. Conservation within this Cell will be approximately 5 percent of the Cell focusing in the northern portion of the Cell.

Source: Western Riverside County Multiple Species Habitat Conservation Plan, RCIP 2003; Natural Environment Study, April 2010

Note: ID = Identification

N/A = Not Applicable; these are individual cells.

NE = Northeast

NW = Northwest

SE = Southwest

SW = Southwest

USGS = U.S. Geological Survey

MSHCP Guidelines for Construction of Wildlife Crossings

All of the Build alternatives and design options would cross Existing Constrained Linkage B (Salt Creek) and, therefore, must consider the construction of wildlife crossings. Section 7.5.2 of the MSHCP provides guidelines on the construction of wildlife crossings for roads that could present an impediment to wildlife movement. Guidelines are to be applied where wildlife movement is known to exist or in portions of the Criteria Area that have been assembled to provide wildlife movement.

Specific Crossing Design

Wildlife crossing designs may be developed in support of avian, large mammalian, small mammalian, reptile, and amphibian, or insect crossings. Crossing designs and considerations include the following.

- **Underpass/Undercrossing** – Any bridge structure under a roadway that may be used by wildlife; large structures would be required to enable crossing by large mammals; smaller undercrossings could be used by medium-sized wildlife.
- **Culvert** – Enclosed concrete or metal structures can enable crossing by medium-sized to small wildlife, including amphibians, reptiles, and some avian species (roadrunners or quail); the length of a culvert can be critical to whether or how much it will be used; for smaller wildlife, barriers could be necessary to direct them to culvert openings, and placement of crossings within the habitat is important.
- **Overpass/Overcrossing** – Any bridge structure over a road or freeway that is intended only for wildlife crossing; overcrossings would usually be naturally vegetated structures so that they look like seamless extensions of habitat to wildlife.

The locations and designs of crossing facilities must take key movement routes, natural topography and features, adjacent habitat, and species objectives and constraints into account.

General Considerations

Guidelines for wildlife crossings are provided in the MSHCP. A summary of these general considerations is included below.

- Overall assessment of crossing needs on an entire-road basis
- Spacing and mixture of crossing types
- Walls and features to direct small wildlife toward crossings
- Regular small culvert installation for small wildlife
- Placement at known travel routes or natural pinch points
- Large mammal crossings approximately every mile or small to medium-sized mammal crossings approximately every 305 meters (m) (1,000 feet [ft])
- Measures to minimize human disturbance near crossings
- Vegetative or fence windrows to direct insects to crossings
- Size dimensions for large mammal crossings
- Wildlife overpass dimensions
- Wire fencing to guide large wildlife to crossings
- Measures to allow trapped wildlife to escape

Urban/Wildlands Interface Policy

Section 6.1.4 of the MSHCP contains the urban/wildlands interface policy and provides guidelines intended to address indirect effects associated with development near the MSHCP Conservation Area (RCIP 2003). These guidelines are reproduced below.

Drainage

Proposed Developments in proximity to the MSHCP Conservation Area shall incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way when compared with existing conditions. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into the MSHCP Conservation Area. Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within the MSHCP Conservation Area. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. Regular maintenance shall occur to ensure effective operations of runoff control systems.

Toxics

Land uses proposed in proximity to the MSHCP Conservation Area that use chemicals or generate bioproducts such as manure that are potentially toxic or may adversely affect wildlife species, Habitat or water quality shall incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area. Measures such as those employed to address drainage issues shall be implemented.

Lighting

Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. Shielding shall be incorporated in project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.

Noise

Proposed noise generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations and guidelines related to land use noise standards. For planning purposes, wildlife within the MSHCP Conservation Area should not be subject to noise that would exceed residential noise standards.

Invasives

When approving landscape plans for Development that is proposed adjacent to the MSHCP Conservation Area, Permittees shall consider the invasive, non-native plant species listed in Table 6-2 [MSHCP Section 6.1.4] *and shall require revisions to landscape plans (subject to the limitations of their jurisdiction) to avoid the use of invasive species for the portions of Development that are adjacent to the MSHCP Conservation Area. Considerations in reviewing the applicability of this list shall include proximity of planting areas to the MSHCP Conservation Areas, species considered in the planting plans, resources being protected within the MSHCP*

Conservation Area and their relative sensitivity to invasion, and barriers to plant and seed dispersal, such as walls, topography and other features.

Barriers

Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass or dumping in the MSHCP Conservation Area. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage and/or other appropriate mechanisms.

Grading/Land Development

Manufactured slopes associated with proposed site development shall not extend into the MSHCP Conservation Area.

Guidelines for the Siting and Design of Planned Roads within the Criteria Area and Public/Quasipublic Lands:

Section 7.5.1 of the MSHCP provides guidelines for planned roadways to minimize impacts to sensitive species and habitats known to occur in the vicinity of the planned roadway. These guidelines include the following.

- *Planned roads will be located in the least environmentally sensitive location Feasible, including disturbed and developed areas or areas that have been previously altered. Alignments will follow existing roads, easements, right-of-ways, and disturbed areas, as appropriate to minimize habitat fragmentation.*
- *Planned roads will avoid, to the greatest extent Feasible, impacts to Covered Species and wetlands. If wetlands avoidance is not possible, then any impacts to wetlands will require issuance of and mitigation in accordance with a federal 404 and/or state 1600 permit.*
- *Design of planned roads will consider wildlife movement requirements, as further outlined below under Guidelines for Construction of Wildlife Corridors.*
- *Narrow Endemic Plant Species[13] will be avoided; if avoidance is not Feasible, then mitigation as described in the Narrow Endemics Plant Policy will be implemented.*
- *Any construction, maintenance and operation activities that involves clearing of natural vegetation will be conducted outside the active breeding season (March 1 through June 30).*
- *Prior to design and construction of transportation facilities, biological surveys will be conducted within the study area for the facility including vegetation mapping and species surveys and/or wetland delineations. The appropriate biological surveys to be conducted will be based on field conditions and recommendations of the project manager in consultation with a qualified biologist. The results of the biological resources investigations will be mapped and documented. The documentation will include preliminary conclusions and recommendations regarding potential effects of facility construction on MSHCP Conservation Area resources and methods to avoid and minimize impacts to MSHCP Conservation Area resources in conjunction with project siting, design, construction and operation. The project biologist will work with facility designers during the design and construction phase to ensure implementation of Feasible recommendations.*

[13]A Narrow Endemic Plant Species is a species that is confined to a specific geographic region, soil type, and/or habitat.

Biological surveys and vegetation mapping were conducted prior to preliminary design of the Project to provide recommendations on Project siting, design, construction, and operation of the roadway. Additionally, avoidance, minimization, and mitigation measures were included as feasible for potential impacts to MSHCP Conservation Area resources.

Impacts

The following sections describe the potential permanent (direct and indirect) and temporary impacts to natural communities from each of the Project alternatives and design options. All quantities are expressed in both metric and customary values. Conversions from metric to customary values that appear similar may differ due to rounding.

Permanent Impacts

For this analysis, all areas that support natural communities inside the PIA were considered to be permanently lost as a result of building and operating the roadway. Direct impacts to natural communities, such as permanent loss of habitat, are those impacts that can be expected from the removal and disturbance of the land that are associated with construction and operation. Indirect impacts would result from the Project, be reasonably foreseeable, and could occur later or would be farther away from the Project than direct impacts. For this analysis, permanent indirect impacts could include alteration of wetland hydrology or the establishment or encroachment of invasive plants that eventually outcompete native species or degrade habitat quality. Permanent indirect impacts could occur within the 30.5-m (100-ft) indirect impact area adjacent to the PIA or within Additional Indirect Impact Study Areas 1 and 2.

As stated in Section 3.3.1.2 (page 3-439), 18 vegetation types (including four agricultural subtypes and two types of ornamental vegetation) are present in the study area. Nine of these are considered sensitive natural communities. The locations of vegetation types in the study area are shown in Figures 3.3-5 through 3.3-10.

Only impacts to the following nine sensitive natural communities are described in further detail in this analysis:

- Alkali grassland
- Alkali playa
- Cottonwood-willow riparian forest
- Emergent wetland
- Mulefat scrub
- Riversidian sage scrub
- Seasonal wetland
- Vernal pool
- Willow riparian scrub and forest

These sensitive natural plant communities support a diverse assemblage of plant and wildlife species, many of which are unique to the Project study area or have special status. A summary of impacts to vegetation in the Project alternatives and design options is provided in Table 3.3-3 (page 3-471).

Table 3.3-3 Summary of Potential Permanent and Temporary Impacts to the Biological Environment for Project Alternatives and Design Options

Impacts	Project Alternative				
	No Build Alternative	Build Alternative 1a	Build Alternative 1b and Design Option 1b1	Build Alternative 2a	Build Alternative 2b and Design Option 2b1
		Roadway Segments A, E, G, I, J, L, N, Additional Indirect Impact Study Area 2, Utility Relocation Areas 1 and 2 Connections 1 and 2 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours	*Roadway Segments B, C, G, I, K, M, N, Additional Indirect Impact Study Area 2, Utility Relocations Areas 1 and 2 Short-term and Long-Term Traffic Detours*	*Roadway Segments A, F, H, I, K, L, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Connection 3 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	*Roadway Segments B, D, H, I, J, M, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Short-Term and Long-Term Traffic Detours*
Permanent, Direct					
Vegetation					
Alkali Grassland (Akg)	NI	9.8 ha (24.3 ac)	6.5 ha (16.1 ac)	10.0 ha (24.7 ac)	6.4 ha (15.8 ac)
Alkali Playa (Ap)	NI	0.002 ha (0.01 ac)	0.002 ha (0.01 ac)	0.002 ha (0.01 ac)	0.002 ha (0.01 ac)
Cottonwood-Willow Riparian Forest (Cwrf)	NI	0.5 ha (1.3 ac)	0.5 ha (1.2 ac)	0.5 ha (1.3 ac)	0.5 ha (1.2 ac)
Emergent Wetland (EmW)	NI	NI	NI	NI	NI
Mulefat Scrub (Ms)	NI	0.004 ha (0.01 ac)	NI	0.004 ha (0.01 ac)	NI
Riversidian Sage Scrub (Rss)	NI	50.5 ha (124.8 ac)	47.9 ha (118.3 ac)	40.9 ha (101.0 ac)	38.3 ha (94.5 ac)
Seasonal Wetland (Sw)	NI	2.9 ha (7.2 ac)	3.3 ha (8.2 ac)	3.0 ha (7.3 ac)	3.4 ha (8.4 ac)
Vernal Pool (Vp)[a]	NI	0.8 ha (2.0 ac)	0.004 ha (0.01 ac)	0.004 ha (0.01 ac)	0.8 ha (2.0 ac)
Willow Riparian (Scrub and Forest) (Wr)	NI	1.0 ha (2.4 ac)	1.0 ha (2.4 ac)	1.0 ha (2.4 ac)	1.0 ha (2.4 ac)
Wetlands and Other Waters					
Vernal Pools[a]	NI	0.81 ha (1.99 ac)	0.004 ha (0.01 ac)	0.004 ha (0.01 ac)	0.81 ha (1.99 ac)
Seasonal Wetlands	NI	0.38 ha (0.93 ac)	0.38 ha (0.93 ac)	0.43 ha (1.06 ac)	0.43 ha (1.06 ac)
Agricultural Seasonal Wetlands	NI	3.66 ha (9.05 ac)	3.66 ha (9.05ac)	3.66 ha (9.05 ac)	3.66 ha (9.05 ac)
Drainage Ditches	NI	2.05 ha (5.09 ac)	1.78 ha (4.43 ac)	1.99 ha (4.96 ac)	1.86 ha (4.62 ac)
Riparian Seasonal Wetlands	NI	0.64 ha (1.58 ac)	0.64 ha (1.58 ac)	0.64 ha (1.59 ac)	0.64 ha (1.59 ac)
Constructed Ponds	NI	1.07 ha (2.63 ac)	2.57 ha (6.33 ac)	1.07 ha (2.63 ac)	2.57 ha (6.35 ac)
Erosional Drainages	NI	0.13 ha (0.31 ac)	0.13 ha (0.31 ac)	0.03 ha (0.08 ac)	0.03 ha (0.08 ac)
MSHCP Habitats					
Riparian/Riverine Habitat	NI	1.69 ha (4.18 ac)	1.67 ha (4.14 ac)	1.69 ha (4.18 ac)	1.67 ha (4.13 ac)
Vernal Pool Habitat[a]	NI	0.93 ha (2.28 ac)	0.14 ha (0.33 ac)	0.12 ha (0.30 ac)	0.95 ha (2.31 ac)
Rare Plant Populations/Individuals[b]					

Scientific Name	Common Name	Federal/ State/CNPS Status Codes[c]	MSHCP Status and Special Conditions[d]					
Atriplex parishii	Parish's Brittlescale	-/-/1B.1	CA, PS	NI	NI	NI	NI	NI
Atriplex serenana var. *davidsonii*	Davidson's Saltscale	-/-/1B.2	CA, PS	NI	1/6	1/6	1/6	1/6
Calochortus plummerae	Plummer's Mariposa Lily	-/-/1B.2	CO	NI	1/2	1/2	NI	NI
Centromadia pungens ssp. *laevis*	Smooth Tarplant	-/-/1B.1	CA, PS, RRVP	NI	168/73,072	149/373,322	163/71,715	155/374,837
Chorizanthe parryi var. *parryi*	Parry's Spineflower	-/-/3.2	CO	NI	24/110,966	23/110,426	32/13,629	31/13,089
Chorizanthe polygonoides var. *longispina*	Long-Spined Spineflower	-/-/1B.2	Covered	NI	2/815	2/815	24/14,651	24/14,651

Table 3.3-3 Summary of Potential Permanent and Temporary Impacts to the Biological Environment for Project Alternatives and Design Options

Impacts				Project Alternative				
				No Build Alternative	**Build Alternative 1a** *Roadway Segments A, E, G, I, J, L, N, Additional Indirect Impact Study Area 2, Utility Relocation Areas 1 and 2 Connections 1 and 2 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	**Build Alternative 1b and Design Option 1b1** *Roadway Segments B, C, G, I, K, M, N, Additional Indirect Impact Study Area 2, Utility Relocations Areas 1 and 2 Short-term and Long-Term Traffic Detours*	**Build Alternative 2a** *Roadway Segments A, F, H, I, K, L, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Connection 3 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	**Build Alternative 2b and Design Option 2b1** *Roadway Segments B, D, H, I, J, M, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Short-Term and Long-Term Traffic Detours*
Deinandra paniculata	Paniculate Tarplant	-/-/4.2	Not Included in MSHCP	NI	20/8,729	14/1,288	20/29,629	14/22,188
Harpagonella palmeri	Palmer's Grapplinghook	-/-/4.2	Covered	NI	NI	NI	NI	NI
Hordeum intercedens	Vernal Barley	-/-/3.2	PS, RRVP	NI	6/8,425	5/5,425	3/3,925	6/8,425
Lasthenia glabrata ssp. *coulteri*	Coulter's Goldfields	-/-/1B.1	CA, PS	NI	20/4,785	2/28,079	20/4,785	3/28,081
Lepidium virginicum var. *robinsonii*	Robinson's Peppergrass	-/-/1B.2	Not Included in MSHCP	NI	14/79,074	14/79,074	16/7,700	16/7,700
Microseris douglasii ssp. *platycarpha*	Small-Flowered Microseris	-/-/4.2	CO	NI	NI	NI	1/15	1/15
Myosurus minimus ssp. *apus*	Little Mousetail	-/-/3.1	CA, PS	NI	1/10,000	1/10,000	1/10,000	1/10,000
Animal Species								
Burrowing Owl				NI	1 pair: RIV-BUO-023 (2006 nest)	1 pair: RIV-BUO-023 (2006 nest)	2 pairs: RIV-BUO-031 RIV-BUO-056	2 pairs: RIV-BUO-031 RIV-BUO-056
Excellent Quality Burrowing Owl Habitat				NI	4.03 ha (9.95 ac)	9.52 ha (23.54 ac)	31.13 ha (76.92 ac)	33.07 ha (81.72 ac)
Suitable Quality Burrowing Owl Habitat				NI	49.38 ha (122.02 ac)	58.26 ha (143.96 ac)	52.95 ha (130.84 ac)	61.01 ha (150.77 ac)
Non-MSHCP Nesting Raptors				NI	5 pairs: 1 pair barn owls 4 pairs red-tailed hawks	5 pairs: 1 pair barn owls 4 pairs red-tailed hawks	5 pairs: 1 pair barn owls 4 pairs red-tailed hawks	5 pairs: 1 pair barn owls 4 pairs red-tailed hawks
MSHCP Nesting Raptors				NI	0 pairs	0 pairs	0 pairs	0 pairs
Raptor Foraging Habitat				NI	142.33 ha (351.70 ac)	107.01 ha (264.42 ac) OR 107.35 ha (265.25 ac)[e]	142.33 ha (351.70 ac)	107.01 ha (264.42 ac) OR 107.35 ha (265.25 ac)[e]
Los Angeles Pocket Mouse				NI	Present	Present	Present	Present
Los Angeles Pocket Mouse Habitat				NI	1.0 ha (2.6 ac)	1.0 ha (2.6 ac)	1.0 ha (2.6 ac)	1.0 ha (2.6 ac)
Bats				NI	Removal of roosting habitat	Removal of roosting habitat	Removal of roosting habitat	Removal of roosting habitat
Threatened and Endangered Species								
Vernal Pool Branchiopods[a]				NI	NI	NI	NI	NI
Stephens' Kangaroo Rat Habitat				NI	101.3 ha (250.4 ac)	100.0 ha (247.1 ac)	87.5 ha (216.1 ac)	86.0 ha (212.5 ac)
Quino Checkerspot Butterfly Suitable Habitat				NA	169.7 ha (419.5 ac)	175.1 ha (432.7 ac) OR 175.3 ha (433.2 ac)[e]	150.2 ha (371.0 ac)	162.7 ha (401.9 ac) OR 162.9 ha (402.4 ac)[e]
Coastal California Gnatcatcher Suitable Habitat				NA	58.5 ha (144.7 ac)	56.2 ha (138.9 ac)	46.1 ha (114.0 ac)	43.8 ha (108.3 ac)
San Jacinto Valley Crownscale				NI	4/589	4/589	4/589	4/589
Spreading Navarretia				NI	NI	NI	NI	NI
California Orcutt Grass				NI	NI	NI	NI	NI

Table 3.3-3 Summary of Potential Permanent and Temporary Impacts to the Biological Environment for Project Alternatives and Design Options

Impacts	Project Alternative				
	No Build Alternative	Build Alternative 1a *Roadway Segments A, E, G, I, J, L, N, Additional Indirect Impact Study Area 2, Utility Relocation Areas 1 and 2 Connections 1 and 2 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	Build Alternative 1b and Design Option 1b1 *Roadway Segments B, C, G, I, K, M, N, Additional Indirect Impact Study Area 2, Utility Relocations Areas 1 and 2 Short-term and Long-Term Traffic Detours*	Build Alternative 2a *Roadway Segments A, F, H, I, K, L, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Connection 3 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	Build Alternative 2b and Design Option 2b1 *Roadway Segments B, D, H, I, J, M, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Short-Term and Long-Term Traffic Detours*
Critical Habitat					
Spreading Navarretia Critical Habitat	NI	0.9 ha (2.3 ac)	0.9 ha (2.3 ac)	1.0 ha (2.4 ac)	1.0 ha (2.4 ac)
Wildlife Movement					
MSHCP Cores and Linkages					
Existing Constrained Linkage B (Salt Creek)	NI	NI	NI	NI	NI
Existing Constrained Linkage C (San Jacinto River)	NI	NI	NI	NI	NI
Local Corridors					
Newport Road Hills to Patton Road Corridor	NI	2 Categories of Wildlife Movement: Small Mammal, Reptile, and Amphibian; Insects	NI	2 Categories of Wildlife Movement: Small Mammal, Reptile, and Amphibian; Insects	NI
Hemet Channel Corridor	NI	NI	NI	NI	NI
San Jacinto Branch Line Corridor	NI	NI	NI OR 2 Categories of Wildlife Movement: Large Mammal; Small Mammal, Reptile, and Amphibian[e]	NI	NI OR 2 Categories of Wildlife Movement: Large Mammal; Small Mammal, Reptile, and Amphibian[e]
Double Butte to West Hemet Hills Corridor	NI	2 Categories of Wildlife Movement: Large Mammal; Small Mammal, Reptile, and Amphibian	2 Categories of Wildlife Movement: Large Mammal; Small Mammal, Reptile, and Amphibian	NI	NI
West Hemet Hills to Hemet-Ryan Airport Corridor	NI	NI	NI	1 Category of Wildlife Movement: Large Mammal	1 Category of Wildlife Movement: Large Mammal
West Hemet Hills to Lakeview Mountains Corridor	NI	1 Category of Wildlife Movement: Large Mammal	1 Category of Wildlife Movement: Large Mammal	NI	NI
Lakeview Mountains to Tres Cerritos Hills Corridor	NI	1 Category of Wildlife Movement: Large Mammal	1 Category of Wildlife Movement: Large Mammal	1 Category of Wildlife Movement: Large Mammal	1 Category of Wildlife Movement: Large Mammal
Colorado River Aqueduct Corridor	NI	NI	NI	NI	NI
Wildlife Movement Summary					
MSHCP Cores and Linkages	NI	NI	NI	NI	NI
Local Corridors	NI	4 Corridors: Newport Road Hills to Patton Road Hills Double Butte to West Hemet Hills West Hemet Hills to Lakeview Mountains Area Lakeview Mountains to Tres Cerritos Hills	3 Corridors: Double Butte to West Hemet Hills West Hemet Hills to Lakeview Mountains Area Lakeview Mountains to Tres Cerritos Hills OR 4 Corridors: San Jacinto Branch Line Double Butte to West Hemet Hills West Hemet Hills to Lakeview Mountains Area Lakeview Mountains to Tres Cerritos Hills[e]	3 Corridors: Newport Road Hills to Patton Road Hills West Hemet Hills to Hemet-Ryan Airport Lakeview Mountains to Tres Cerritos Hills	2 Corridors: West Hemet Hills to Hemet-Ryan Airport Lakeview Mountains to Tres Cerritos Hills OR 4 Corridors: Hemet Channel San Jacinto Branch Line West Hemet Hills to Hemet-Ryan Airport Lakeview Mountains to Tres Cerritos Hills[e]

Table 3.3-3 Summary of Potential Permanent and Temporary Impacts to the Biological Environment for Project Alternatives and Design Options

Impacts	Project Alternative				
	No Build Alternative	**Build Alternative 1a** *Roadway Segments A, E, G, I, J, L, N, Additional Indirect Impact Study Area 2, Utility Relocation Areas 1 and 2 Connections 1 and 2 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	**Build Alternative 1b and Design Option 1b1** *Roadway Segments B, C, G, I, K, M, N, Additional Indirect Impact Study Area 2, Utility Relocations Areas 1 and 2 Short-term and Long-Term Traffic Detours*	**Build Alternative 2a** *Roadway Segments A, F, H, I, K, L, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Connection 3 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	**Build Alternative 2b and Design Option 2b1** *Roadway Segments B, D, H, I, J, M, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Short-Term and Long-Term Traffic Detours*
Permanent, Indirect					
Vegetation					
Alkali Grassland (Akg)	NI	4.9 ha (12.0 ac)	3.6 ha (8.8 ac)	12.9 ha (31.8 ac)	11.2 ha (27.6 ac)
Alkali Playa (Ap)	NI	0.03 ha (0.07 ac)	0.06 ha (0.2 ac)	0.1 ha (0.2 ac)	0.03 ha (0.07 ac)
Cottonwood-Willow Riparian Forest (Cwrf)	NI	0.2 ha (0.6 ac)	0.3 ha (0.7 ac)	0.2 ha (0.6 ac)	0.3 ha (0.7 ac)
Emergent Wetland (EmW)	NI	0.2 ha (0.5 ac)	0.1 ha (0.2 ac)	0.2 ha (0.5 ac)	0.09 ha (0.2 ac)
Mulefat Scrub (Ms)	NI	0.0	0.004 ha (0.01 ac)	0.0	0.004 ha (0.01 ac)
Riversidian Sage Scrub (Rss)	NI	9.2 ha (22.7 ac)	9.3 ha (22.9 ac)	25.4 ha (62.7 ac)	25.5 ha (62.9 ac)
Seasonal Wetland (Sw)	NI	2.1 ha (5.2 ac)	1.9 ha (4.8 ac)	2.0 ha (5.0 ac)	2.0 ha (5.0 ac)
Vernal Pool (Vp)[a]	NI	0.3 ha (0.6 ac)	0.3 ha (0.8 ac)	1.3 ha (3.3 ac)	1.3 ha (3.2 ac)
Willow Riparian (Scrub and Forest) (Wr)	NI	0.6 ha (1.4 ac)	0.9 ha (2.2 ac)	0.6 ha (1.4 ac)	0.9 ha (2.2 ac)
Wetlands and Other Waters					
Vernal Pools[a]	NI	NI	NI	0.98 ha (2.43 ac)	0.98 ha (2.43 ac)
MSHCP Habitats					
Vernal Pool Habitat[a]	NI	NI	NI	0.98 ha (2.43 ac)	0.98 ha (2.43 ac)
Rare Plant Populations/Individuals[b]					
Scientific Name / **Common Name** / **Federal/State/ CNPS Status Codes**[c] / **MSHCP Status and Special Conditions**[d]					
Atriplex parishii Parish's Brittlescale -/-/1B.1 CA, PS	NI	NI	NI	NI	NI
Atriplex serenana var. *davidsonii* Davidson's Saltscale -/-/1B.2 CA, PS	NI	NI	NI	NI	NI
Calochortus plummerae Plummer's Mariposa Lily -/-/1B.2 CO	NI	NI	NI	NI	NI
Centromadia pungens ssp. *laevis* Smooth Tarplant -/-/1B.1 CA, PS, RRVP	NI	80/26,512	102/156,666	94/31,841	97/152,589
Chorizanthe parryi var. *parryi* Parry's Spineflower -/-/3.2 CO	NI	3/1,570	3/1,570	4/264	4/264
Chorizanthe polygonoides var. *longispina* Long-Spined Spineflower -/-/1B.2 Covered	NI	2/3,801	2/3,801	3/913	3/913
Deinandra paniculata Paniculate Tarplant -/-/4.2 Not Included in MSHCP	NI	17/12,645	15/5,706	19/12,795	17/5,856
Harpagonella palmeri Palmer's Grapplinghook -/-/4.2 Covered	NI	NI	NI	1/500	1/500
Hordeum intercedens Vernal Barley -/-/3.2 PS, RRVP	NI	6/10,496	11/12,796	11/5,022,997	11/5,017,297
Lasthenia glabrata ssp. *coulteri* Coulter's Goldfields -/-/1B.1 CA, PS	NI	3/650	2/1,046	3/650	1/1,044

Table 3.3-3 Summary of Potential Permanent and Temporary Impacts to the Biological Environment for Project Alternatives and Design Options

Impacts				Project Alternative				
				No Build Alternative	Build Alternative 1a *Roadway Segments A, E, G, I, J, L, N, Additional Indirect Impact Study Area 2, Utility Relocation Areas 1 and 2 Connections 1 and 2 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	Build Alternative 1b and Design Option 1b1 *Roadway Segments B, C, G, I, K, M, N, Additional Indirect Impact Study Area 2, Utility Relocations Areas 1 and 2 Short-term and Long-Term Traffic Detours*	Build Alternative 2a *Roadway Segments A, F, H, I, K, L, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Connection 3 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	Build Alternative 2b and Design Option 2b1 *Roadway Segments B, D, H, I, J, M, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Short-Term and Long-Term Traffic Detours*
Lepidium virginicum var. *robinsonii*	Robinson's Peppergrass	-/-/1B.2	Not Included in MSHCP	NI	2/50	2/50	3/172	3/172
Microseris douglasii ssp. *platycarpha*	Small-Flowered Microseris	-/-/4.2	CO	NI	NI	NI	NI	NI
Myosurus minimus ssp. *apus*	Little Mousetail	-/-/3.1	CA, PS	NI	1/8,589	1/9,886	14/12,750	14/11,395
Animal Species[f]								
Burrowing Owl				NI	5 pairs and a single male: RIV-BUO-005 RIV-BUO-006 RIV-BUO-023 (2005 nest) RIV-BUO-024 RIV-BUO-052 RIV-BUO-053 (single male)	6 pairs: RIV-BUO-005 RIV-BUO-006 RIV-BUO-023 (2005 nest) RIV-BUO-024 RIV-BUO-042 RIV-BUO-052	4 pairs and a single male: RIV-BUO-004 RIV-BUO-005 RIV-BUO-023 RIV-BUO-052 RIV-BUO-053 (single male)	5 pairs: RIV-BUO-004 RIV-BUO-005 RIV-BUO-023 RIV-BUO-042 RIV-BUO-052
Non-MSHCP Nesting Raptors				NI	7 pairs: 2 pairs barn owls 5 pairs red-tailed hawks	7 pairs: 1 pair barn owls 6 pairs red-tailed hawks	7 pairs: 2 pairs barn owls 5 pairs red-tailed hawks	7 pairs: 1 pair barn owls 6 pairs red-tailed hawks
MSHCP Nesting Raptors				NI	2 pairs white-tailed kites	1 pair white-tailed kites	4 pairs: 1 pair Cooper's hawks 3 pairs white-tailed kites	3 pairs: 1 pair Cooper's hawks 2 pairs white-tailed kites
Los Angeles Pocket Mouse				NI	Present	Present	Present	Present
Los Angeles Pocket Mouse Habitat				NI	0.9 ha (2.2 ac)	0.9 ha (2.2 ac)	0.9 ha (2.2 ac)	0.9 ha (2.2 ac)
Threatened and Endangered Species[f]								
Vernal Pool Branchiopods[a]				NI	NI	NI	0.72 ha (1.79 ac)	0.72 ha (1.79 ac)
Stephens' Kangaroo Rat Habitat				NI	133.8 ha (330.6 ac)	132.3 ha (326.8 ac)	144.4 ha (356.8 ac)	141.7 ha (350.1 ac)
Quino Checkerspot Butterfly Suitable Habitat				NA	79.33 ha (196.02ac)	85.08 ha (210.25 ac) OR 85.13 ha (210.37 ac)[e]	235.39 ha (581.69 ac)	239.94 ha (592.91 ac) OR 239.99 ha (593.03 ac)[e]
Coastal California Gnatcatcher Suitable Habitat				NA	11.29 ha (27.90 ac)	11.58 ha (28.62 ac)	40.74 ha (100.68 ac)	41.04 ha (101.41 ac)
San Jacinto Valley Crownscale				NI	11/6,138	11/6,138	32/6,548	32/6,548
Spreading Navarretia				NI	NI	NI	15/28,533	15/28,533
California Orcutt Grass				NI	NI	NI	2/4,266	2/4,266
Critical Habitat								
Spreading Navarretia Critical Habitat				NI	1.0 ha (2.4 ac)	1.0 ha (2.4 ac)	134.1 ha (331.3 ac)	134.1 ha (331.3 ac)

Table 3.3-3 Summary of Potential Permanent and Temporary Impacts to the Biological Environment for Project Alternatives and Design Options

Impacts	Project Alternative				
	No Build Alternative	**Build Alternative 1a** *Roadway Segments A, E, G, I, J, L, N, Additional Indirect Impact Study Area 2, Utility Relocation Areas 1 and 2 Connections 1 and 2 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	**Build Alternative 1b and Design Option 1b1** *Roadway Segments B, C, G, I, K, M, N, Additional Indirect Impact Study Area 2, Utility Relocations Areas 1 and 2 Short-term and Long-Term Traffic Detours*	**Build Alternative 2a** *Roadway Segments A, F, H, I, K, L, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Connection 3 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	**Build Alternative 2b and Design Option 2b1** *Roadway Segments B, D, H, I, J, M, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Short-Term and Long-Term Traffic Detours*
Wildlife Movement					
MSHCP Cores and Linkages					
Existing Constrained Linkage B (Salt Creek)	NI	4 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects	4 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects	4 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects	4 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects
Existing Constrained Linkage C (San Jacinto River)	NI	NI	NI	NI	NI
Local Corridors					
Newport Road Hills to Patton Road Corridor	NI	2 Categories of Wildlife Movement: Avian Large Mammal	4 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects	2 Categories of Wildlife Movement: Avian Large Mammal	4 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects
Hemet Channel Corridor	NI	4 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects	5 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	4 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects
San Jacinto Branch Line Corridor	NI	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian OR 1 Category of Wildlife Movement: Avian[e]	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian OR 1 Category of Wildlife Movement: Avian[e]
Double Butte to West Hemet Hills Corridor	NI	1 Category of Wildlife Movement: Avian	1 Category of Wildlife Movement: Avian	NI	NI
West Hemet Hills to Hemet-Ryan Airport Corridor	NI	NI	NI	2 Categories of Wildlife Movement: Avian Small Mammal, Reptile, and Amphibian	2 Categories of Wildlife Movement: Avian Small Mammal, Reptile, and Amphibian
West Hemet Hills to Lakeview Mountains Corridor	NI	1 Category of Wildlife Movement: Avian	1 Category of Wildlife Movement: Avian	NI	NI
Lakeview Mountains to Tres Cerritos Hills Corridor	NI	1 Category of Wildlife Movement: Avian	1 Category of Wildlife Movement: Avian	1 Category of Wildlife Movement: Avian	1 Category of Wildlife Movement: Avian
Colorado River Aqueduct Corridor	NI	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian

Table 3.3-3 Summary of Potential Permanent and Temporary Impacts to the Biological Environment for Project Alternatives and Design Options

Impacts	Project Alternative				
	No Build Alternative	**Build Alternative 1a** *Roadway Segments A, E, G, I, J, L, N, Additional Indirect Impact Study Area 2, Utility Relocation Areas 1 and 2 Connections 1 and 2 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	**Build Alternative 1b and Design Option 1b1** *Roadway Segments B, C, G, I, K, M, N, Additional Indirect Impact Study Area 2, Utility Relocations Areas 1 and 2 Short-term and Long-Term Traffic Detours*	**Build Alternative 2a** *Roadway Segments A, F, H, I, K, L, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Connection 3 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	**Build Alternative 2b and Design Option 2b1** *Roadway Segments B, D, H, I, J, M, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Short-Term and Long-Term Traffic Detours*
Wildlife Movement Summary					
MSHCP Cores and Linkages	NI	1 Linkage: Existing Constrained Linkage B	1 Linkage: Existing Constrained Linkage B	1 Linkage: Existing Constrained Linkage B	1 Linkage: Existing Constrained Linkage B
Local Corridors	NI	7 Corridors: Newport Road Hills to Patton Road Hemet Channel San Jacinto Branch Line Double Butte to West Hemet Hills West Hemet Hills to Lakeview Mountains Lakeview Mountains to Tres Cerritos Hills Colorado River Aqueduct	7 Corridors: Newport Road Hills to Patton Road Hemet Channel San Jacinto Branch Line Double Butte to West Hemet Hills West Hemet Hills to Lakeview Mountains Lakeview Mountains to Tres Cerritos Hills Colorado River Aqueduct	6 Corridors: Newport Road Hills to Patton Road Hemet Channel San Jacinto Branch Line West Hemet Hills to Hemet-Ryan Airport Lakeview Mountains to Tres Cerritos Hills Colorado River Aqueduct	6 Corridors: Newport Road Hills to Patton Road Hemet Channel San Jacinto Branch Line West Hemet Hills to Hemet-Ryan Airport Lakeview Mountains to Tres Cerritos Hills Colorado River Aqueduct
Temporary					
Wetlands and Other Waters					
Salt Creek Channel[a]	NI	1.15 ha (2.85 ac)	1.12 ha (2.77 ac)	1.15 ha (2.85 ac)	1.27 ha (3.15 ac)
Hemet Channel[a]	NI	NI	0.29 ha (0.72 ac)	0.75 ha (1.85 ac)	0.53 ha (1.32 ac)
MSHCP Habitats					
Riparian/Riverine Habitat[a]	NI	1.15 ha (2.85 ac)	1.12 ha (2.77 ac)	1.15 ha (2.85 ac)	1.27 ha (3.15 ac)
Animal Species[f]					
Burrowing Owl	NI	5 pairs and a single male: RIV-BUO-005 RIV-BUO-006 RIV-BUO-023 RIV-BUO-024 RIV-BUO-052 RIV-BUO-053 (single male)	6 pairs: RIV-BUO-005 RIV-BUO-006 RIV-BUO-023 RIV-BUO-024 RIV-BUO-042 RIV-BUO-052	4 pairs and a single male: RIV-BUO-004 RIV-BUO-005 RIV-BUO-023 RIV-BUO-052 RIV-BUO-053 (single male)	5 pairs: RIV-BUO-004 RIV-BUO-005 RIV-BUO-023 RIV-BUO-042 RIV-BUO-052
Non-MSHCP Nesting Raptors	NI	7 pairs: 2 pairs barn owls 5 pairs red-tailed hawks	7 pairs: 1 pair barn owls 6 pairs red-tailed hawks	7 pairs: 2 pairs barn owls 5 pairs red-tailed hawks	7 pairs: 1 pair barn owls 6 pairs red-tailed hawks
MSHCP Nesting Raptors	NI	3 pairs white-tailed kites	2 pairs white-tailed kites	5 pairs: 1 pair Cooper's hawks 4 pairs white-tailed kites	3 pairs: 1 pair Cooper's hawks 2 pairs white-tailed kites
Bats	NI	Roost sites and foraging areas	Roost sites and foraging areas	Roost sites and foraging areas	Roost sites and foraging areas
Los Angeles Pocket Mouse	NI	Present	Present	Present	Present
Los Angeles Pocket Mouse Habitat	NI	0.9 ha (2.2 ac)	0.9 ha (2.2 ac)	0.9 ha (2.2 ac)	0.9 ha (2.2 ac)
Threatened and Endangered Species[f]					
Stephens' Kangaroo Rat Habitat	NI	133.8 ha (330.6 ac)	132.3 ha (326.8 ac)	144.4 ha (356.8 ac)	141.7 ha (350.1 ac)
Quino Checkerspot Butterfly Suitable Habitat	NA	79.33 ha (196.02ac)	85.08 ha (210.25 ac) OR 85.13 ha (210.37 ac)[e]	235.39 ha (581.69 ac)	239.94 ha (592.91 ac) OR 239.99 ha (593.03 ac)[e]
Coastal California Gnatcatcher Suitable Habitat	NA	11.29 ha (27.90 ac)	11.58 ha (28.62 ac)	40.74 ha (100.68 ac)	41.04 ha (101.41 ac)

Table 3.3-3 Summary of Potential Permanent and Temporary Impacts to the Biological Environment for Project Alternatives and Design Options

Impacts	Project Alternative				
	No Build Alternative	**Build Alternative 1a** *Roadway Segments A, E, G, I, J, L, N, Additional Indirect Impact Study Area 2, Utility Relocation Areas 1 and 2 Connections 1 and 2 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	**Build Alternative 1b and Design Option 1b1** *Roadway Segments B, C, G, I, K, M, N, Additional Indirect Impact Study Area 2, Utility Relocations Areas 1 and 2 Short-term and Long-Term Traffic Detours*	**Build Alternative 2a** *Roadway Segments A, F, H, I, K, L, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Connection 3 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	**Build Alternative 2b and Design Option 2b1** *Roadway Segments B, D, H, I, J, M, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Short-Term and Long-Term Traffic Detours*
Wildlife Movement					
MSHCP Cores and Linkages					
Existing Constrained Linkage B (Salt Creek)	NI	5 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers
Existing Constrained Linkage C (San Jacinto River)	NI	5 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers
Local Corridors					
Newport Road Hills to Patton Road Corridor	NI	2 Categories of Wildlife Movement: Avian Large Mammal	4 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects	2 Categories of Wildlife Movement: Avian Large Mammal	4 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects
Hemet Channel Corridor	NI	5 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers	5 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian Insects Passive Dispersers
San Jacinto Branch Line Corridor	NI	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian
Double Butte to West Hemet Hills Corridor	NI	1 Category of Wildlife Movement: Avian	1 Category of Wildlife Movement: Avian	NI	NI
West Hemet Hills to Hemet-Ryan Airport Corridor	NI	NI	NI	3 Categories of Wildlife Movement: Avian Small Mammal, Reptile, and Amphibian Insects	3 Categories of Wildlife Movement: Avian Small Mammal, Reptile, and Amphibian Insects
West Hemet Hills to Lakeview Mountains Corridor	NI	1 Category of Wildlife Movement: Avian	1 Category of Wildlife Movement: Avian	NI	NI
Lakeview Mountains to Tres Cerritos Hills Corridor	NI	1 Category of Wildlife Movement: Avian	1 Category of Wildlife Movement: Avian	1 Category of Wildlife Movement: Avian	1 Category of Wildlife Movement: Avian
Colorado River Aqueduct Corridor	NI	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian	3 Categories of Wildlife Movement: Avian Large Mammal Small Mammal, Reptile, and Amphibian

Table 3.3-3 Summary of Potential Permanent and Temporary Impacts to the Biological Environment for Project Alternatives and Design Options

Impacts	Project Alternative				
	No Build Alternative	**Build Alternative 1a** *Roadway Segments A, E, G, I, J, L, N, Additional Indirect Impact Study Area 2, Utility Relocation Areas 1 and 2 Connections 1 and 2 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	**Build Alternative 1b and Design Option 1b1** *Roadway Segments B, C, G, I, K, M, N, Additional Indirect Impact Study Area 2, Utility Relocations Areas 1 and 2 Short-term and Long-Term Traffic Detours*	**Build Alternative 2a** *Roadway Segments A, F, H, I, K, L, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Connection 3 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	**Build Alternative 2b and Design Option 2b1** *Roadway Segments B, D, H, I, J, M, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Short-Term and Long-Term Traffic Detours*
Wildlife Movement Summary					
MSHCP Cores and Linkages	NI	2 Linkages: Existing Constrained Linkage B (Salt Creek) Existing Constrained Linkage C	2 Linkages: Existing Constrained Linkage B (Salt Creek) Existing Constrained Linkage C	2 Linkages: Existing Constrained Linkage B (Salt Creek) Existing Constrained Linkage C	2 Linkages: Existing Constrained Linkage B (Salt Creek) Existing Constrained Linkage C
Local Corridors	NI	7 Corridors: Newport Road Hills to Patton Road Hemet Channel San Jacinto Branch Line Double Butte to West Hemet Hills West Hemet Hills to Lakeview Mountains Lakeview Mountains to Tres Cerritos Hills Colorado River Aqueduct	7 Corridors: Newport Road Hills to Patton Road Hemet Channel San Jacinto Branch Line Double Butte to West Hemet Hills West Hemet Hills to Lakeview Mountains Lakeview Mountains to Tres Cerritos Hills Colorado River Aqueduct	6 Corridors: Newport Road Hills to Patton Road Hemet Channel San Jacinto Branch Line West Hemet Hills to Hemet-Ryan Airport Lakeview Mountains to Tres Cerritos Hills Colorado River Aqueduct	6 Corridors: Newport Road Hills to Patton Road Hemet Channel San Jacinto Branch Line West Hemet Hills to Hemet-Ryan Airport Lakeview Mountains to Tres Cerritos Hills Colorado River Aqueduct

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

Note: NI – No Impact. Biological resource was not observed and impacts are not anticipated.

The vegetation included in this table includes resources present in the PIA, utility relocation areas, and connections to Hemet Channel outside the Project ROW. Resources within the 30.5-m (100-ft) indirect impact area adjacent to the PIA, unique design features, and Additional Indirect Impact Study Areas 1 and 2 are not included in this tabular summary for temporary impacts.

Vegetation map codes correspond to those shown on the vegetation maps (Figures 3.3-5 through 3.3-10).

Developed areas, including roads and residences, are included in this tabular summary and are shown on vegetation maps, but they are not considered a plant community.

Annual grassland is not considered sensitive, but a goal of the MSHCP is to conserve annual grassland because ecologically it provides foraging habitat for a variety of wildlife species and it is habitat for some sensitive plant species.

Open water and watercourse areas are shown on the vegetation maps but these types are not vegetated and they are, therefore, not considered plant communities.

This impact analysis assumes that rare plants would be permanently impacted and temporary impacts would not occur.

Some populations are also included in the direct impact calculations because some populations span the PIA and the Roadway Segments indirect impact area.

Information is presented first for the base condition of Build Alternatives 1b and 2b, followed by OR and the information for Design Options 1b1 and 2b1. If there is no variation between the base condition and the design options, the information is given only once.

[a]Calculations for vernal pool vegetation, vernal pool features, and vernal pool branchiopods may be different due to resource-specific requirements and definitions.

[b]All numbers are presented by the number of plant populations/number of individuals for each Build alternative.

[c]**Status Codes:**

Federal Status

FE – Federally listed as endangered

FT – Federally listed as threatened

State Status

SE – State listed as endangered

ST – State listed as threatened

California Native Plant Society (CNPS) Status (CNPS 2007)

1A – Plants presumed extinct in California

1B – Plants rare, threatened, or endangered in California; but more common elsewhere

2 – Plants rare, threatened, or endangered in California; but more common elsewhere

3 – Plants about which we need more information – a review list

4 – Plants of limited distribution – a watch list

CNPS Threat Rank (Suffixes to CNPS List Status Codes):

.1 – Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)

.2 – Fairly endangered in California (20-80% occurrences threatened)

.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Table 3.3-3 Summary of Potential Permanent and Temporary Impacts to the Biological Environment for Project Alternatives and Design Options

Impacts	Project Alternative				
	No Build Alternative	**Build Alternative 1a** *Roadway Segments A, E, G, I, J, L, N, Additional Indirect Impact Study Area 2, Utility Relocation Areas 1 and 2 Connections 1 and 2 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	**Build Alternative 1b and Design Option 1b1** *Roadway Segments B, C, G, I, K, M, N, Additional Indirect Impact Study Area 2, Utility Relocations Areas 1 and 2 Short-term and Long-Term Traffic Detours*	**Build Alternative 2a** *Roadway Segments A, F, H, I, K, L, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Connection 3 to Hemet Channel Outside the Project ROW Short-Term and Long-Term Traffic Detours*	**Build Alternative 2b and Design Option 2b1** *Roadway Segments B, D, H, I, J, M, N, Additional Indirect Impact Study Area 1 and 2, Utility Relocation Areas 1 and 2 Short-Term and Long-Term Traffic Detours*

[d]**Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) Definitions (Dudek 2003)**

Special Conditions of MSHCP Covered Species:

CA – Surveys may be required for these species within locations shown on survey maps as described in Section 6.3.2 of the MSHCP. This includes the list of additional survey needs and procedures species and the Criteria Area Species (see MSHCP pages 6-63 to 6-65) and the MSHCP Errata Letter, dated August 9, 2004.

CO – These Covered Species will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met. Species-specific conservation objectives for these species are presented in Section 9.0 of the MSHCP. Refer to Table 9-3 of the MSHCP for specific conservation objectives that must be met for these species prior to including them on the list of Covered Species Adequately Conserved.

Covered – Species addressed in the MSHCP and included in the 10(a)(1)(B) permit. Also includes species that will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met.

NE – Surveys may be required for these species within Narrow Endemic Plant Species survey areas as described in Section 6.1.3 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

PS – Planning Species - Subsets of Covered Species that are identified to provide guidance for Reserve Assembly in Cores and Linkages and/or Area Plans per Volume I, Section 3, of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

RRVP – These species should be protected as they are associated with riparian/riverine areas and vernal pools as described in Section 6.1.2 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

[e]Project study area measurements are presented first for the base condition of the roadway segments, followed by design option changes. Information is only presented once if there is no variation between the base condition and design options.

[f]The same species under these categories are shown as both a permanent, indirect impact and a temporary impact due to impacts associated with construction as well as operation of the proposed Project.

As shown in Table 3.3-3 (page 3-471), sensitive natural plant communities would be limited in the PIA and other Project design features. They also would be encountered only occasionally in the 30.5-m (100-ft) indirect impact area adjacent to the PIA. However, sensitive natural communities are present in Additional Indirect Impact Study Area 1, which includes the MWD Upper Salt Creek Reserve and the Stowe Road Vernal Pool Complex, and Additional Indirect Impact Study Area 2, which encompasses the Stoney Mountain Preserve.

In general, the number of sensitive natural communities impacted by Build Alternatives 2a and 2b would be larger than the same types of impacts associated with Build Alternatives 1a and 1b because Build Alternatives 2a and 2b would include Additional Indirect Impact Study Area 1, which encompasses the Stowe Road Vernal Pool Complex.

No Build Alternative

No Project-related impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

Build Alternative 1a

Build Alternative 1a would cause permanent impacts, both direct and indirect, to eight types of sensitive natural communities. Permanent direct impacts to alkali grassland from Build Alternative 1a would total 9.8 ha (24.3 ac). Another 4.9 ha (12.0 ac) of alkali grassland in the 30.5-m (100-ft) indirect impact area adjacent to the PIA could also be affected.

Permanent direct impacts to natural communities that are typically found in mesic areas (areas characterized by a moderate amount of moisture) would include 0.002 ha (0.01 ac) of alkali playa, 2.9 ha (7.2 ac) of seasonal wetland, and 0.8 ha (2.0 ac) of vernal pool. Another 0.03 ha (0.07 ac) of alkali playa, 2.1 ha (5.2 ac) of seasonal wetlands, and 0.3 ha (0.6 ac) of vernal pool in the 30.5-m (100-ft) indirect impact area could be permanently affected. Permanent indirect impacts could also occur to 0.2 ha (0.5 ac) of emergent wetland vegetation just west of the EMWD Regional Water Reclamation Facility.

Riparian plant communities (willow riparian scrub and forest, cottonwood-willow riparian forest, and mulefat scrub) would be limited to the northern extent of the Build alternative, near North Ramona Boulevard and south of the San Jacinto River. In this area, permanent direct impacts could occur to 0.5 ha (1.3 ac) of cottonwood-willow riparian forest, 0.004 ha (0.01 ac) of mulefat scrub, and 1.0 ha (2.4 ac) of willow riparian habitat. Another 0.2 ha (0.6 ac) of cottonwood-willow riparian forest and 0.6 ha (1.4 ac) of willow riparian habitat could be permanently, indirectly impacted by Build Alternative 1a. A total of 50.5 ha (124.8 ac) of Riversidian sage scrub in the hills south of Domenigoni Parkway, the West Hemet Hills, and along the base of the Tres Cerritos Hills could be permanently and directly impacted. Another 9.2 ha (22.7 ac) of Riversidian sage scrub in these areas could be permanently, indirectly impacted as well.

Build Alternative 1b and Design Option 1b1

Build Alternative 1b (and Design Option 1b1) would have permanent direct impacts to seven sensitive natural community types and permanent indirect impacts to nine sensitive natural community types. Permanent direct

impacts to the alkali grassland natural community would total 6.5 ha (16.1 ac). Permanent indirect impacts could occur to another 3.6 ha (8.8 ac) of alkali grassland in the 30.5-m (100-ft) indirect impact area. Because the design option would differ only in impacts to nonsensitive communities (annual grassland, developed, and ruderal), those impacts are presented in Table 3.3-3 (page 3-471).

A total of 0.002 ha (0.01 ac) of alkali playa, 3.3 ha (8.2 ac) of seasonal wetland, and 0.004 ha (0.01 ac) of vernal pool could be permanently and directly impacted by this Build alternative. Permanent indirect impacts could occur to another 0.06 ha (0.2 ac) of alkali playa, 1.9 ha (4.8 ac) of seasonal wetlands, and 0.3 ha (0.8 ac) of vernal pool in the 30.5-m (100-ft) indirect impact area. Permanent indirect impacts to 0.1 ha (0.2 ac) of emergent wetland vegetation could occur in the 30.5-m (100-ft) indirect impact area east of Sanderson Avenue and north and south of Scott Street.

Riparian habitats would be present in the northern part of this Build alternative. Permanent direct impacts to 0.5 ha (1.2 ac) of cottonwood willow riparian forest and 1.0 ha (2.4 ac) of willow riparian habitat would occur from construction. Another 0.3 ha (0.7 ac) of cottonwood willow riparian forest, 0.004 ha (0.01 ac) of mulefat scrub, and 0.9 ha (2.2 ac) of willow riparian habitat could be permanently and indirectly impacted.

Large stands of Riversidian sage scrub are present in the hills south of Domenigoni Parkway, West Hemet Hills, and along the base of Tres Cerritos Hills. Permanent direct impacts to 47.9 ha (118.3 ac) of Riversidian sage scrub and permanent indirect impacts to 9.3 ha (22.9 ac) could occur in these areas.

Build Alternative 2a

Build Alternative 2a would have direct impacts to eight types of sensitive natural communities and indirect impacts to nine types of sensitive natural communities. Permanent direct impacts to alkali grassland from Build Alternative 2a would total 10.0 ha (24.7 ac). Another 12.9 ha (31.8 ac) of alkali grassland in the 30.5-m (100-ft) indirect impact area and in Additional Indirect Impact Study Area 1 could be permanently and indirectly impacted as well.

A total of 0.002 ha (0.01 ac) of alkali playa, 3.0 ha (7.3 ac) of seasonal wetland, and 0.004 ha (0.01 ac) of vernal pool could be permanently and directly impacted by construction. Permanent indirect impacts to another 0.1 ha (0.2 ac) of alkali playa, 2.0 ha (5.0 ac) of seasonal wetlands, and 1.3 ha (3.3 ac) of vernal pool in the 30.5-m (100-ft) indirect impact area and in Additional Indirect Impact Study Area 1 could occur if supporting wetland hydrology is altered from existing conditions. Permanent indirect impacts to 0.2 ha (0.5 ac) of emergent wetland vegetation could also occur in the 30.5-m (100-ft) indirect impact area, just west of the EMWD Regional Water Reclamation Facility.

Riparian plant communities that would be permanently, directly impacted include 0.5 ha (1.3 ac) of cottonwood-willow riparian forest, 0.004 ha (0.01 ac) of mulefat scrub, and 1.0 ha (2.4 ac) of willow riparian habitat. Another 0.2 ha (0.6 ac) of cottonwood-willow riparian forest habitat and 0.6 ha (1.4 ac) of willow riparian vegetation could be permanently, indirectly impacted.

Riversidian sage scrub is present in the hills south of Domenigoni Parkway, West Hemet Hills, and along the base of Tres Cerritos Hills. A total of 40.9 ha (101.0 ac) of Riversidian sage scrub in these areas would be permanently and directly impacted, and 25.4 ha (62.7 ac) could be permanently and indirectly impacted.

Build Alternative 2b

Build Alternative 2b (and Design Option 2b1) would have direct impacts to seven types of sensitive natural communities and indirect impacts to nine types of sensitive natural communities. Build Alternative 2b would result in slightly fewer impacts to alkali grassland habitat than Build Alternative 2a. Aside from that difference, the amount of sensitive natural habitat permanently directly and indirectly impacted by Build Alternative 2b would be similar to Build Alternative 2a. A total of 6.4 ha (15.8 ac) of alkali grassland would be permanently and directly impacted, and another 11.2 ha (27.6 ac) of alkali grassland could be permanently and indirectly impacted by this Build alternative. Because the design option would differ only in impacts to nonsensitive communities (annual grassland, developed, and ruderal), those impacts are presented in Table 3.3-3 (page 3-471).

A total of 0.002 ha (0.01 ac) of alkali playa, 3.4 ha (8.4 ac) of seasonal wetland, and 0.8 ha (2.0 ac) of vernal pool could be permanently and directly impacted by construction. Another 0.03 ha (0.07 ac) of alkali playa, 2.0 ha (5.0 ac) of seasonal wetlands, and 1.3 ha (3.2 ac) of vernal pool in the 30.5-m (100-ft) indirect impact area and in Additional Indirect Impact Study Area 1 could be permanently and indirectly impacted if the supporting wetland hydrology is altered from the existing condition. Permanent indirect impacts to a small amount (0.09 ha [0.2 ac]) of emergent wetland vegetation could also occur.

Riversidian sage scrub is present in the hills south of Domenigoni Parkway, north of Stowe Road on the lower and upper slopes of the West Hemet Hills, and along the base of the Tres Cerritos Hills. A total of 38.3 ha (94.5 ac) of Riversidian sage scrub in these areas would be permanently and directly impacted, and 25.5 ha (62.9 ac) could be permanently and indirectly impacted.

Riparian plant communities that would be permanently, directly impacted include 0.5 ha (1.2 ac) of cottonwood-willow riparian forest and 1.0 ha (2.4 ac) of willow riparian habitat. Another 0.3 ha (0.7 ac) of cottonwood-willow riparian forest, 0.004 ha (0.01 ac) of mulefat scrub habitat, and 0.9 ha (2.2 ac) of willow riparian vegetation could be permanently, indirectly impacted as well.

Temporary Impacts

Temporary impacts to sensitive natural communities are discussed qualitatively because impacts in the PIA and indirect impact area are considered permanent as a result of operation of the roadway and would be the same for all Build alternatives and design options. These temporary impacts could result from activities such as grading and excavation and would include hydrologic alterations in drainage areas, erosion, or sedimentation. Invasive plant species could also establish in the construction area and spread into sensitive areas outside the PIA. Best management practices (BMPs) would be implemented during construction to minimize potential impacts to offsite natural plant communities. BMPs would include monitoring by qualified biologists during construction, as described in Section 3.3.1.4 (page 3-497).

Wildlife Movement

The following sections describe the potential permanent (direct and indirect) and temporary impacts to wildlife movement from each of the Project alternatives and design options. A summary of the impacts to wildlife movement is in Table 3.3-3 (page 3-471).

Permanent Impacts

Permanent direct impacts to wildlife movement would include blocking the existing wildlife linkages or corridors, making these connective features unsuitable for use by one or more wildlife movement categories. The lack of suitable crossings, such as culverts and bridges, could force wildlife to seek other, potentially more dangerous crossings over the roadway or could restrict home ranges or dispersal movements. This kind of restriction could increase the potential for extirpation, or local extinction, over time. Blocking an existing linkage or corridor would be a permanent direct impact and could affect Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, Insects, and Passive Dispersers. No permanent direct impacts to Avian Wildlife movement are expected because local species in this category have the ability to fly over the roadway if culvert and bridge crossings are not present or are not suitable.

Permanent indirect impacts to wildlife movement would include alterations to the existing wildlife linkages or corridors that decrease their effectiveness. For example, traffic noise and artificial light could discourage wildlife from using the linkages or corridors, but would not prohibit their use. Therefore, traffic noise and artificial light would be indirect impacts. Likewise, in some areas, roadway operations could restrict wildlife crossings to only a few culverts and bridges, which could constrain the existing linkage or corridor, but would not prohibit its use. Such constraints because of roadway operations would also be considered indirect impacts.

No Build Alternative

No impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

All Build Alternatives and Design Options

Except for Existing Constrained Linkage C (San Jacinto River), the wildlife movement linkages and corridors described earlier (page 3-450) would be permanently impacted by the Build alternatives and design options that cross them. The wildlife corridors trend east and west, and the Build alternatives and design options would be aligned north and south, thus would need to cross the corridors. These crossings would alter the corridors by placing man-made structures over them or through them. The kind of structure used at each crossing would depend on the topography, the requirements of the roadway, and environmental considerations such as drainage or historic preservation. Some crossings would be bridges, others would be on embankment with culverts, and others would block the corridor entirely. Structures that would enable wildlife to cross the roadway safely would be included throughout the Project. The following figures show the locations of linkages, corridors, and proposed bridges and culverts by Build alternative or design option.

- Figure 3.3-11, Build Alternative 1a
- Figure 3.3-12, Build Alternative 1b
- Figure 3.3-13, Design Option 1b1
- Figure 3.3-14, Build Alternative 2a
- Figure 3.3-15, Build Alternative 2b
- Figure 3.3-16, Design Option 2b1

All of the Build alternatives and design options would have permanent impacts on the wildlife corridors they cross. These impacts would be direct or indirect, depending on the configuration of the Build alternative or design option and nature of the crossing. Direct impacts, if any, would depend on the Build alternative or design option. Those impacts are discussed separately later in this section.

Permanent indirect impacts from all Build alternatives and design options would include:

- Roadway structures that intrude into existing wildlife corridors and make them less desirable to certain species of wildlife
- The shadow effect from bridges, which would reduce the amount of natural light in a crossing during the day and could make the corridor less desirable for diurnal species (animals that are active in the daytime)
- Increased traffic noise and artificial light, which could decrease the effectiveness of a wildlife corridor

Some of these impacts would vary according to the dimensions of the structure causing the impact. For instance, a higher bridge would have a smaller shadow impact on a wildlife corridor than a lower one, and a short culvert would be less imposing than a longer one. These differences in the degree of some impacts and variations in affected wildlife are discussed by Build alternative later in this section.

Although the locations of crossings might vary, some wildlife corridors would be impacted in various ways by all of the Build alternatives and design options. These corridors are:

- MSHCP Existing Constrained Linkage B (Salt Creek)
- Newport Road Hills to Patton Road (1)
- Hemet Channel (2)
- San Jacinto Branch Line (3)
- Lakeview Mountains to Tres Cerritos Hills (7)
- Colorado River Aqueduct (8)

Corridors that would be impacted only by Build Alternatives 1a and 1b and Design Option 1b1 are:

- Double Butte to West Hemet Hills (4)
- West Hemet Hills to Lakeview Mountains (6)

One corridor would be impacted only by Build Alternatives 2a and 2b and Design Option 2b1—West Hemet Hills to Hemet-Ryan Airport (5).

Existing Constrained Linkage C (San Jacinto River) would not be crossed by any of the Build alternatives or design options. The only Project-related impacts to this constrained linkage would be temporary.

Permanent impacts to the MSHCP linkage and local wildlife corridors are discussed below by Build alternative and design option.

Existing Constrained Linkage B (Salt Creek)

All Build alternatives and design options would permanently and indirectly impact Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife, and Insects that use MSHCP Existing Constrained Linkage B by making this corridor less desirable for species in these wildlife movement categories. Permanent impacts to Passive Dispersers (e.g., fairy shrimp and plants) are not expected because the habitat and hydrology would remain unchanged in the linkage.

Build Alternative 1a

Build Alternative 1a would maintain the existing constrained linkage by building an SR 79 bridge over Olive Avenue, Winchester Road, and Salt Creek Channel. The bridge would have a minimum vertical clearance of 5.79 m (19 ft) and would be about 268 m (938 ft) long. It would consist of two separate structures about 22 m (72 ft) apart, one about 13 to14 m (41 to 47 ft) wide and the other about 16 to 24 m (52 to 78 ft) wide. Although Winchester Road already crosses Salt Creek Channel in this location, the shadows cast by the proposed bridge would reduce the amount of natural light in the crossing during the day even further.

Build Alternative 1b

Build Alternative 1b would maintain the existing constrained linkage by building an SR 79 bridge over Olive Avenue and Salt Creek Channel. The bridge would have a minimum vertical clearance of about 5.58 m (18 ft) and would be about 231 m (758 ft) long. Although this bridge would consist of two separate structures about 22 m (72 ft) apart, the structures would be 13 to 30 m (41 to 98 ft) and 18 to 26 m (58 to 85 ft) wide and would reduce the amount of natural light in the corridor.

Design Option 1b1

Design Option 1b1 would maintain the existing constrained linkage by building an SR 79 bridge over Salt Creek Channel. This bridge would be lower and shorter than the one designed for Build Alternative 1b, with a minimum vertical clearance of about 2 m (6 ft) and a length of about 205 m (673 ft). Although this bridge would consist of two separate structures about 22.0 m (72 ft) apart, the structures would be 14 m to 30 m (46 ft to 98 ft) and 19 to 26 m (62 to 85 ft) wide. Like the Build alternative, the shadows cast by these structures would reduce the amount of natural light in the crossing. Indirect impacts from traffic noise and artificial light could be more severe with the design option than the base condition because the roadway would be closer to the linkage.

Build Alternative 2a

Build Alternative 2a would have the same impacts to Existing Constrained Linkage B (Salt Creek) as Build Alternative 1a. The configuration of the bridge would be the same, so the impacts would be the same.

Build Alternative 2b

Build Alternative 2b would maintain the existing constrained linkage by building an SR 79 bridge over Olive Avenue and Salt Creek Channel. The bridge would have a minimum vertical clearance of about 6.56 m (21.5 ft) and would be about 271 m (889 ft) long. Although this bridge would consist of two separate structures about 22 m (72 ft) apart, the structures would be about 13 to 23 m (41 to 74 ft) and 15 to 24 m (50 to 78 ft) wide. The shadows cast by the structures would reduce the amount of natural light in the crossing during the day.

Design Option 2b1

Design Option 2b1 would maintain the existing constrained linkage by building an SR 79 bridge over Salt Creek Channel. This bridge would be lower and shorter than the one designed for Build Alternative 2b, with a minimum vertical clearance of about 3 m (10 ft) and a length of about 230 m (755 ft). Although the bridge would consist of two separate structures that are about 22 m (72 ft) apart, the structures would be 13 m to 23 m (41 ft to 74 ft) and 16 m to 24 m (53 ft to 78 ft) wide. Like the Build alternative, the shadows cast by these structures would reduce the amount of natural light in the crossing during the day. Indirect impacts from traffic noise and artificial light could be more severe with the design option than the base condition because the roadway would be closer to the linkage.

Newport Road Hills to Patton Road Corridor (1)

Build Alternative 1a

Build Alternative 1a would permanently and directly impact Small Mammalian, Reptile, and Amphibian Wildlife and Insects that use the existing Newport Road Hills to Patton Road Corridor by making it unsuitable for species in these categories.

Build Alternative 1a would permanently and indirectly impact Avian Wildlife and Large Mammalian Wildlife that use the existing corridor by making it less desirable and more dangerous for species in these categories. To continue to use this already constrained corridor, wildlife would need to travel along Newport Road and cross Build Alternative 1a on the proposed Newport Road bridge or by using Culvert A-1 or Culvert A-2 when possible (some species might not be able to use these culvert crossings year round due to periodic inundation).

The proposed Newport Road bridge over SR 79 would not have any vegetation, and the elevated crossing could deter many species; however, the bridge would present fewer hazards from traffic than crossing SR 79 directly. Culverts A-1 and A-2 would run east and west on either side of the proposed Newport Road bridge. Each culvert opening would be about 0.9 m (3 ft) by 2.1 m (7 ft). Culvert A-1 would be about 320 m (1,050 ft) long, and Culvert A-2 would be about 370 m (1,210 ft) long. The culvert openings would be adequate for many species, but the lengths might be undesirable.

Although Build Alternative 1a would not prohibit the movement of Avian Wildlife and Large Mammalian Wildlife, the altered routes required by this Build alternative would present new hazards from traffic and would not be as desirable or as direct as the existing corridor.

Build Alternative 1b and Design Option 1b1

Build Alternative 1b and Design Option 1b1 would permanently and indirectly impact Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, and Insects that use the existing Newport Road Hills to Patton Road Corridor by making it less desirable and more dangerous for species in these categories. To continue to use this already constrained corridor, wildlife would need to travel under or over proposed bridges or through proposed culverts.

Wildlife could travel under the proposed SR 79 bridges over Patterson Avenue or Patton Avenue, which would pose fewer hazards from traffic than crossing SR 79 directly. These routes would not be as direct as the existing corridor and would require wildlife to travel along existing roads, which could decrease the effectiveness of this already constrained corridor. Although unlikely, wildlife could also travel along Newport Road and cross over SR 79 on the proposed Newport Road bridge or use Culvert B-1 or B-2 when seasonally possible. The proposed Newport Road bridge over SR 79 would not have any vegetation, and the elevated crossing could deter many species, but the bridge would present fewer traffic hazards than crossing SR 79 directly.

Culverts B-1 and B-2 would run east and west on either side of the proposed Newport Road bridge over SR 79. Each culvert opening would be about 0.9 m (3 ft) by 2.1 m (7 ft). Culvert B-1 would be about 270 m (890 ft) long, and Culvert B-2 would be about 240 m (790 ft) long. The culvert openings would be adequate for many species, but the lengths could be undesirable.

Although Build Alternative 1b and Design Option 1b1 would not prohibit the movement of most wildlife, the altered routes associated with them would present new hazards from traffic and would not be as desirable or as direct as the existing corridor.

Build Alternative 2a

Build Alternative 2a would have the same impacts to the existing Newport Road Hills to Patton Road Corridor as Build Alternative 1a.

Build Alternative 2b and Design Option 2b1

Build Alternative 2b and Design Option 2b1 would have the same impacts to the existing Newport Road Hills to Patton Road Corridor as Build Alternative 1b.

Hemet Channel Corridor (2)

Build Alternative 1a

Build Alternative 1a would not cross the Hemet Channel Corridor, so no permanent direct impacts are expected. However, it would be close enough to permanently and indirectly impact Avian Wildlife, Large Mammalian

Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, and Insects that use the existing corridor by making it less desirable for species in these categories. Permanent impacts to Passive Dispersers (e.g., plants) are not expected because the habitat and hydrology would remain unchanged in the corridor.

Build Alternative 1b

Build Alternative 1b would permanently and indirectly impact Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, Insects, and Passive Dispersers that use the existing Hemet Channel Corridor by making it less desirable for species in these categories.

Build Alternative 1b would maintain the existing corridor by creating an SR 79 bridge over Hemet Channel and the San Jacinto Branch Line. The bridge would have a minimum vertical clearance of 7.79 m (25.5 ft) and would be about 265 m (869 ft) long. Although this bridge would consist of two separate structures about 22 m (72 ft) apart, the structures would be 13 to 17 m (41 to 57 ft) and 13 to 18 m (41 to 60 ft) wide. The shadows cast by these structures would reduce the amount of natural light in the crossing during the day.

Design Option 1b1

Design Option 1b1 would impact the same wildlife movement categories in the Hemet Channel Corridor as those discussed under Build Alternative 1b. Any difference in impacts would be related to changes in the dimensions of the bridge over Hemet Channel. Design Option 1b1 would not bridge over the San Jacinto Branch Line.

Like Build Alternative 1b, Design Option 1b1 would maintain the existing wildlife corridor by building an SR 79 bridge over Hemet Channel. This bridge would be lower and shorter than the one for the Build alternative, with a minimum vertical clearance of about 2 m (7 ft) and a length of about 155 m (509 ft). Although this bridge would consist of two separate structures about 22 m (72 ft) apart, the structures would be 13 to 15 m (41 to 49 ft) and 13 m (41 ft) wide. Like the Build alternative, the shadows cast by these structures would reduce the amount of natural light in the crossing during the day. Indirect impacts from traffic noise and artificial light could be more severe with the design option than the base condition because the roadway would be closer to the corridor.

Build Alternative 2a

Build Alternative 2a would impact the same wildlife movement categories in the Hemet Channel Corridor as Build Alternative 1b.

Build Alternative 2a would maintain the existing corridor by creating Culvert F-3 and an SR 79 bridge over the San Jacinto Branch Line and Hemet Channel. Culvert F-3 would cross under Build Alternative 2a. It would be about 60 m (200 ft) long and would consist of four openings about 4.25 m (14 ft) by 3.00 m (10 ft) each. The culvert openings would be adequate for many species, but the lengths might be undesirable. Some species may be unable to use this culvert crossing year round due to periodic inundation.

The bridge over the San Jacinto Branch Line and Hemet Channel would have a minimum vertical clearance of about 8.24 m (27 ft) and would be about 227 m (745 ft) long. The bridge would consist of two separate structures about 22 m (72 ft) apart, with widths of about 13 m (41 ft) and 15 to 20 m (50 to 65 ft). In addition to the bridge, a

Future Street "A" southbound off-ramp would be built over the San Jacinto Branch Line and Hemet Channel at this location, about 3.5 to 30 m (11 to 98 ft) west of the bridge. This off-ramp would have a minimum vertical clearance of about 7.17 m (23.5 ft) and would be about 266 m (873 ft) long and 8 to 12 m (26 to 39 ft) wide. Although the two bridge structures and the off-ramp would have gaps between them, their shadows would reduce the amount of natural light in the crossing during the day.

Build Alternative 2b

Build Alternative 2b would permanently and indirectly impact Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife, and Insects that use the existing Hemet Channel Corridor by making this corridor less desirable for species in these categories. Permanent impacts to Passive Dispersers (e.g., plants) are not expected because the habitat and hydrology would remain unchanged in the corridor.

Build Alternative 2b would maintain the existing corridor by creating an SR 79 bridge over the San Jacinto Branch Line and Hemet Channel. The bridge would have a minimum vertical clearance of about 8.60 m (28 ft) and would be about 227 m (745 ft) long. This bridge would consist of two separate structures about 22 m (72 ft) apart, with widths of about 13 m (41 ft) and 15 to 20 m (50 to 65 ft). A Future Street "A" southbound off-ramp would also be built over the San Jacinto Branch Line and Hemet Channel at this location, about 3.5 to 30 m (11 to 98 ft) west of the bridge. This off-ramp would have a minimum vertical clearance of about 7.17 m (23.5 ft) and would be about 266 m (873 ft) long and 8 to 12 m (26 to 39 ft) wide. Although the two bridge structures and the off-ramp would have gaps between them, their shadows would reduce the amount of natural light in the crossing during the day, which could make the corridor less desirable for diurnal species.

Design Option 2b1

Design Option 2b1 would impact the same wildlife movement categories in the Hemet Channel Corridor as those discussed under Build Alternative 2b. Any difference in impacts would be related to changes in the dimensions of the structures over Hemet Channel. Design Option 2b1 would not bridge over the San Jacinto Branch Line.

Design Option 2b1 would maintain the existing wildlife corridor by building an SR 79 bridge over Hemet Channel. This bridge would be lower and shorter than the one for the Build alternative, with a minimum vertical clearance of about 2 m (7 ft) and a length of about 72 m (236 ft). The bridge would consist of two separate structures, about 22 m (72 ft) apart, with widths of about 13 m (41 ft) and 17 to 18 m (55 to 60 ft). A Future Street "A" southbound off-ramp would also be built over Hemet Channel in this location, about 12 to 31 m (39 to 102 ft) west of the bridge. The off-ramp would have a minimum vertical clearance of about 3 m (10 ft) and would be about 142 m (466 ft) long and 12 m (39 ft) wide. Although the two bridge structures and the off-ramp would have gaps between them, their shadows would reduce amount of natural light in the crossing during the day. Indirect impacts from traffic noise and artificial light could be more severe with the design option than the base condition because the roadway would be closer to the corridor.

San Jacinto Branch Line Corridor (3)

Build Alternative 1a

Build Alternative 1a would have permanent and indirect impacts to Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife that use the existing San Jacinto Branch Line Corridor by making it less desirable for species in these categories.

Build Alternative 1a would maintain the existing wildlife corridor by building an SR 79 bridge over the San Jacinto Branch Line. The bridge would have a minimum vertical clearance of 7.68 m (25 ft) and would be about 90 m (295 ft) long. Although this bridge would consist of two separate structures about 22 m (72 ft) apart, the structures would be 16 to 18 m (53 to 59 ft) and 15 to 23 m (48 to 75 ft) wide. The shadows cast by these structures would reduce the amount of natural light in the crossing during the day.

Build Alternative 1b

Build Alternative 1b would have the same impacts to the same wildlife movement categories as Build Alternative 1a.

Build Alternative 1b would maintain the existing corridor by building an SR 79 bridge over Hemet Channel and the San Jacinto Branch Line. The bridge would have a minimum vertical clearance of about 7.79 m (25.5 ft) and would be about 265 m (869 ft) long. Although this bridge would consist of two separate structures about 22 m (72 ft) apart, the structures would be 13 to 17 m (41 to 57 ft) and 13 to 18 m (41 to 60 ft) wide. The shadows cast by these structures would reduce the amount of natural light in the crossing during the day.

Design Option 1b1

Design Option 1b1 would impact the same wildlife movement categories in the San Jacinto Branch Line Corridor as those discussed under Build Alternative 1a. Because it would involve laying a section of roadway directly over the tracks, this design option would create a physical barrier to terrestrial wildlife movement in the existing San Jacinto Branch Line Corridor. It would not provide culverts or bridges to facilitate wildlife movement, making this corridor unsuitable for all categories of wildlife movement except Avian Wildlife.

Build Alternative 2a

Build Alternative 2a would have the same types of impacts to the same wildlife movement categories as Build Alternative 1a, but it would include an off-ramp over Hemet Channel and the San Jacinto Branch Line, and the bridge configuration would be somewhat different.

Build Alternative 2a would maintain the existing corridor by building an SR 79 bridge over the San Jacinto Branch Line and Hemet Channel. The bridge would have a minimum vertical clearance of about 8.24 m (27 ft) and would be about 227 m (745 ft) long. This bridge would consist of two separate structures about 22 m (72 ft) apart, with widths of about 13 m (41 ft) and 15 to 20 m (50 to 65 ft). In addition to the bridge, a Future Street "A" southbound off-ramp would be built over the San Jacinto Branch Line and Hemet Channel in this same location, about 3.5 to 30 m (11 to 98 ft) west of the bridge. This off-ramp would have a minimum vertical clearance of

about 7.17 m (23.5 ft) and would be about 266 m (873 ft) long and 8 to 12 m (26 to 39 ft) wide. Although the two bridge structures and the off-ramp would have gaps between them, their shadows would reduce amount of natural light in the crossing during the day.

Build Alternative 2b

Build Alternative 2b would have the same types of impacts to the same wildlife movement categories as Build Alternative 1a.

Build Alternative 2b would maintain the existing corridor by creating an SR 79 bridge over the San Jacinto Branch Line and Hemet Channel. The bridge would have a minimum vertical clearance of about 8.6 m (28 ft) and would be about 227 m (745 ft) long. This bridge would consist of two separate structures about 22 m (72 ft) apart, with widths of about 13 m (41 ft) and 15 to 20 m (50 to 65 ft). A Future Street "A" southbound off-ramp would also be built over the San Jacinto Branch Line and Hemet Channel at this location, about 3.5 to 30 m (11 to 98 ft) west of the bridge. This off-ramp would have a minimum vertical clearance of about 7.17 m (23.5 ft) and would be about 266 m (873 ft) long and 8 to 12 m (26 to 39 ft) wide. Although the two bridge structures and the off-ramp would have gaps between them, their shadows would reduce the amount of natural light in the crossing during the day.

Design Option 2b1

Design Option 2b1 would have the same configuration and impacts as Design Option 1b1.

Double Butte to West Hemet Hills Corridor (4)

Build Alternative 1a

Build Alternative 1a would permanently and directly impact Large Mammalian Wildlife and Small Mammalian, Reptile, and Amphibian Wildlife that use the existing Double Butte to West Hemet Hills Corridor by making it unsuitable for species in these categories. This Build alternative would fragment existing habitat in the West Hemet Hills by creating a physical barrier to terrestrial wildlife movement in the corridor. Build Alternative 1a would not include culverts or bridges to facilitate wildlife movement in this corridor, making it unsuitable for all categories of wildlife movement except Avian Wildlife.

Build Alternative 1b and Design Option 1b1

Build Alternative 1b and Design Option 1b1 would have the same impacts to the same wildlife movement categories as Build Alternative 1a.

Build Alternatives 2a and 2b and Design Option 2b1

Build Alternatives 2a and 2b and Design Option 2b1 would not cross the existing Double Butte to West Hemet Hills Corridor and would have no impact on it.

West Hemet Hills to Hemet-Ryan Airport Corridor (5)

Build Alternatives 1a and 1b and Design Option 1b1

Build Alternatives 1a and 1b and Design Option 1b1 would not cross the existing West Hemet Hills to Hemet-Ryan Airport Corridor and would have no impact on it.

Build Alternative 2a

Build Alternative 2a would permanently and directly impact Large Mammalian Wildlife that use the existing West Hemet Hills to Hemet-Ryan Airport Corridor by making this corridor unsuitable for species in this category. This Build alternative would fragment the habitat region in the West Hemet Hills by creating a physical barrier to Large Mammalian Wildlife movement in the existing corridor. Build Alternative 2a would not provide culverts or bridges that would be adequate for Large Mammalian Wildlife movement, making this corridor unsuitable for species in this category.

Build Alternative 2a would permanently and indirectly impact Avian Wildlife and Small Mammalian, Reptile, and Amphibian Wildlife that use the existing West Hemet Hills to Hemet-Ryan Airport Corridor by making it less desirable for species in these categories. To continue to use this corridor, terrestrial wildlife would need to travel through proposed Culverts H-1, H-1a, H-1b, or H-2 when seasonally possible. Some species might not be able to use these culvert crossings year round due to periodic inundation. These culverts would cross under Build Alternative 2a. Culvert H-1 would be about 0.76 m (2.5 ft) in diameter and about 75 m (245 ft) long. Culverts H-1a and H-1b would be about 0.61 m (2.0 ft) in diameter. Culvert H-1a would be about 145 m (475 ft) long, and Culvert H-1b would be about 160 m (525 ft) long. Culvert H-2 would be about 1.1 m (3.5 ft) in diameter and about 98 m (320 ft) long. These culvert openings would be adequate for many species, but the lengths might be undesirable.

Although Build Alternative 2a would not prohibit the movement of Avian Wildlife and Small Mammalian, Reptile, and Amphibian Wildlife, the routes the wildlife would have to use would not be as desirable or as direct as the existing West Hemet Hills to Hemet-Ryan Airport Corridor.

Build Alternative 2b

Impacts to this corridor from Build Alternative 2b would be the same as Build Alternative 2a.

Design Option 2b1

Design Option 2b1 would impact the same wildlife movement categories in the West Hemet Hills to Hemet-Ryan Airport Corridor as those discussed under Build Alternative 2a. Any difference in impacts would be related to changes in the dimensions of the culverts included with this design option.

Like Build Alternatives 2a and 2b, Design Option 2b1 would fragment the habitat region in the West Hemet Hills by creating a physical barrier to Large Mammalian Wildlife. To continue to use the West Hemet Hills to Hemet-Ryan Airport Corridor, smaller terrestrial wildlife would need to travel through proposed Culverts H-1, H-1a,

H-1b, or H-2 when seasonally possible. These culverts would cross under the Design Option 2b1 roadway. Some species might not be able to use them year round due to periodic inundation.

With Design Option 2b1, Culvert H-1 would have an opening that would be the same size as with the base condition, but it would be longer, about 89 m (292 ft). Culverts H-1a and H-1b would not change from the base condition. Like the base condition, Culvert H-2 would be about 1.1 m (3.5 ft) in diameter, but it would be longer, at about 111 m (364 ft). These culvert openings would be adequate for many species, but the longer lengths in two of the culverts could make them even more undesirable than those in the base condition.

West Hemet Hills to Lakeview Mountains Corridor (6)

Build Alternative 1a

Build Alternative 1a would permanently and directly impact Large Mammalian Wildlife that use the existing West Hemet Hills to Lakeview Mountains Corridor by making it unsuitable for species in this category. This Build alternative would fragment existing habitat in the West Hemet Hills by creating a physical barrier to wildlife movement in the existing corridor. Build Alternative 1a would not provide culverts or bridges to facilitate wildlife movement in the corridor, making it unsuitable for Large Mammalian Wildlife.

The noise, artificial light, and traffic on Build Alternative 1a would permanently and indirectly impact Avian Wildlife that use the existing West Hemet Hills to Lakeview Mountains Corridor by making it less desirable for species in this category.

Build Alternative 1b and Design Option 1b1

Impacts to this corridor from Build Alternative 1b and Design Option 1b1 would be the same as Build Alternative 1a.

Build Alternatives 2a and 2b and Design Option 2b1

Build Alternatives 2a and 2b and Design Option 2b1 would not cross the existing West Hemet Hills to Lakeview Mountains Corridor and would have no impact on it.

Lakeview Mountains to Tres Cerritos Hills Corridor (7)

All Build Alternatives and Design Options

All of the Build alternatives and design options would permanently and directly impact Large Mammalian Wildlife that use the existing Lakeview Mountains to Tres Cerritos Hills Corridor by making it unsuitable for species in this category. They would block the existing connection (a bridge over the San Diego Canal) and create a physical barrier to wildlife movement along the corridor. None of the Build alternatives or design options would provide culverts or bridges to facilitate wildlife movement in this corridor, making it unsuitable for Large Mammalian Wildlife.

Increased noise, artificial light, and traffic on any of the Build alternatives or design options would permanently and indirectly impact Avian Wildlife that use the existing West Hemet Hills to Lakeview Mountains Corridor by making it less desirable for species in this category.

Colorado River Aqueduct Corridor (8)

Build Alternative 1a

Build Alternative 1a would permanently and indirectly impact Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife that use the existing Colorado River Aqueduct Corridor by making it less desirable for species in these categories.

To continue to use this corridor, terrestrial wildlife would need to travel through two proposed culverts, Culvert L-15 or Culvert L-16. Culvert L-15 would be about 76 m (250 ft) long and would consist of four openings, each about 1.2 m (4 ft) by 2.1 m (7 ft). Culvert L-16 would be about 40 m (131 ft) long and would consist of eight openings, each about 1.5 m (5 ft) by 3 m (10 ft). The heights and widths of the culverts would be adequate for many species, but the lengths might be undesirable. Some species might not be able to use these culvert crossings year round due to periodic inundation.

Build Alternative 1b and Design Option 1b1

The impacts from Build Alternative 1b and Design Option 1b1 would generally be the same as Build Alternative 1a. Any differences would be the result of variance in culvert design.

Build Alternative 1b and Design Option 1b1 would include two proposed culverts, Culvert M-11 and Culvert M-12. Culvert M-11 would be 85 m (280 ft) long and would consist of four openings, each 1.2 m (4 ft) tall and 2.1 m (7 ft) wide. Culvert M-12 would be 40 m (130 ft) long and would consist of eight openings, each 1.5 m (5 ft) tall and 3 m (10 ft) wide.

Build Alternative 2a

The impacts from Build Alternative 2a would be the same as Build Alternative 1a. Culvert designs would also be the same.

Build Alternative 2b and Design Option 2b1

The impacts from Build Alternative 2b and Design Option 1b1 would be the same as Build Alternative 1b. Culvert designs would also be the same.

Temporary Impacts

Temporary impacts to wildlife movement would be related to construction and could include increased collision mortality because of construction vehicles and restricted movement due to temporary fencing, construction noise, night lighting, and increased human presence. Dust, noise, night lighting, or increased human presence also could deter wildlife movement. Construction activities could also cause wildlife to find more dangerous roadway crossings or restrict home ranges or disrupt dispersal movements.

No Build Alternative

No temporary impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

All Build Alternatives and Design Options

All Build alternatives and design options would have temporary impacts on the following wildlife corridors:

- MSHCP Existing Constrained Linkage B (Salt Creek)
- Existing Constrained Linkage C
- Newport Road Hills to Patton Road
- Hemet Channel
- San Jacinto Branch Line
- West Hemet Hills to Lakeview Mountains
- Lakeview Mountains to Tres Cerritos Hills
- Colorado River Aqueduct

Existing Constrained Linkage B (Salt Creek)

Construction activity would temporarily impact Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, Insects, and Passive Dispersers that use Existing Constrained Linkage B (Salt Creek).

Existing Constrained Linkage C

Construction activity would temporarily impact Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, Insects, and Passive Dispersers that use Existing Constrained Linkage C.

Newport Road Hills to Patton Road Corridor

Construction activity would temporarily impact Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, and Insects that use the existing Newport Road Hills to Patton Road Corridor.

Hemet Channel Corridor

Construction activity would temporarily impact Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, Insects, and Passive Dispersers that use the existing Hemet Channel Corridor.

San Jacinto Branch Line Corridor

Construction activity would temporarily impact Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife that use the existing San Jacinto Branch Line Corridor.

West Hemet Hills to Lakeview Mountains Corridor

Construction activity would temporarily impact Avian Wildlife that use the existing West Hemet Hills to Lakeview Mountains Corridor.

Lakeview Mountains to Tres Cerritos Hills Corridor

Construction activity would temporarily impact Avian Wildlife that use the existing Lakeview Mountains to Tres Cerritos Hills Corridor.

Colorado River Aqueduct Corridor

Construction activity would temporarily impact Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife that use the existing Colorado River Aqueduct Corridor.

Build Alternatives 1a and 1b and Design Option 1b1

The Double Butte to West Hemet Hills Corridor would be impacted only by Build Alternatives 1a and 1b and Design Option 1b1.

Double Butte to West Hemet Hills Corridor

Build Alternatives 1a and 1b would temporarily impact Avian Wildlife that use the existing Double Butte to West Hemet Hills Corridor.

Build Alternatives 2a and 2b and Design Option 2b1

The West Hemet Hills to Hemet-Ryan Airport Corridor would be impacted only by Build Alternatives 2a and 2b and Design Option 2b1.

West Hemet Hills to Hemet-Ryan Airport Corridor

Build Alternatives 2a and 2b would temporarily impact Avian Wildlife, Small Mammalian, Reptile and Amphibian Wildlife, and Insects that use the existing West Hemet Hills to Hemet-Ryan Airport Corridor.

3.3.1.4 Avoidance, Minimization, and/or Mitigation Measures

Natural Communities

Avoidance Measures

The Build alternatives and design options for the Project have been designed to avoid permanent direct and indirect impacts to sensitive natural communities as much as possible. During the initial scoping phase of the Project, input from resource agencies was solicited and incorporated into the Build alternatives siting process. Build alternatives were eliminated from further analysis if they were sited in prominent sensitive vernal pool, alkali playa, or alkali grassland habitats and would have resulted in considerable permanent direct and indirect impacts to natural plant communities and multiple species of special-status plants.

All construction activities, including hauling and storage, will take place within the ROW for all Build alternatives and design options; therefore, additional temporary, direct impacts to natural communities will be avoided.

Minimization Measures

All Build alternatives will incorporate the following measures to comply with MSHCP guidelines related to minimizing impacts to sensitive natural communities within or adjacent to the MSHCP Conservation Area.

BIO-1 **Landscaping Plans.** Landscaping plans will include native seed for erosion control in areas near the MSHCP Conservation Area.

BIO-2 **Avoid the Use of Invasive and Non-Native Plants.** The landscaping plans will avoid the use of invasive and non-native plants listed in MSHCP Table 6-2, Plants that Should be Avoided Adjacent to the MSHCP Conservation Area, where applicable.

BIO-3 **Barrier Fencing along ROW.** The Project will incorporate fencing along the ROW to serve as a barrier to preclude public access to the MSHCP Conservation Area.

BIO-4 **Slope Construction within ROW.** All slopes will be constructed within the proposed ROW and will not extend into the MSHCP Conservation Area.

BIO-5 **Equipment Storage, Fueling, and Staging Areas.** Equipment storage, fueling, and staging areas will be situated in nonsensitive upland habitats that offer minimal risk of direct discharge into riparian areas or other sensitive habitats.

BIO-6 **Training about Sensitive Biological Resources.** A contractor-supplied biologist who is familiar with the sensitive plant and animal species in the Project area will provide training about these sensitive biological resources to construction personnel.

BIO-7 **Fire Season Work.** During the fire season (as identified by the Riverside County Fire Department), especially when work is adjacent to coastal sage scrub or chaparral vegetation, appropriate firefighting equipment (e.g., extinguishers, shovels, water tankers) will be available onsite during all phases of Project construction to minimize the chance of wildfires. Shields, protective mats, or other fire-prevention methods will be used during grinding, welding, and other activities that produce sparks. Personnel trained in fire hazards, preventive action, and responses to fires will advise contractors about the fire risk from all construction-related activities.

BIO-8 **Dust Minimization.** The Project will minimize dust by regularly watering active construction areas.

BIO-9 **Designated Areas for Equipment Maintenance and Staging.** All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances will occur only in designated areas within the grading limits of the Project. These designated areas will be clearly marked and located in such a manner as to contain runoff.

BIO-10 **Litter Control.** A litter-control program will be implemented during construction.

Mitigation Measures

No mitigation measures are proposed for impacts to natural communities.

Wildlife Movement

Avoidance Measures

The following avoidance measures are applicable to all Build alternatives and design options.

MSHCP Cores and Linkages

Existing Constrained Linkage B (Salt Creek)

BIO-11 **Bridge over Salt Creek Channel.** All Build alternatives and design options will include the construction of a bridge over MSHCP Existing Constrained Linkage B, which is also known as the Salt Creek Channel. Existing Constrained Linkage B is shown in MSHCP Section 3.2.3, Figure 3-2, Schematic Cores and Linkages Map. The planning species for the linkage are identified in a table later in that section:

- Vernal pool fairy shrimp
- Riverside fairy shrimp
- Los Angeles pocket mouse
- San Jacinto Valley crownscale
- Parish's brittlescale
- Davidson's saltscale
- Thread-leaved brodiaea
- Smooth tarplant
- Vernal barley
- Coulter's goldfields
- Little mousetail
- Spreading navarretia
- California Orcutt grass
- Wright's trichocoronis

The proposed bridge over Existing Constrained Linkage B (Salt Creek) will avoid impacts to wildlife connectivity for these planning species.

Proposed Core 3

BIO-12 **Avoidance of San Jacinto River.** The Build alternatives and design options will avoid Proposed Core 3, which will be north of the Project (MSHCP Section 3.2.3, Figure 3-2, Schematic Cores

and Linkages Map). All Build alternatives and design options will avoid the San Jacinto River and lands north of that area.

Constrained Linkage C

BIO-13 **Avoidance of Existing Constrained Linkage C.** All Build alternatives and design options will avoid Existing Constrained Linkage C. No construction activities will occur in this linkage.

Minimization Measures

All Build alternatives and design options will incorporate the following measure to comply with MSHCP guidelines related to minimizing impacts to wildlife movement within or adjacent to the MSHCP Conservation Area.

BIO-14 **Night Lighting.** Lighting used during nighttime construction activities will be directed away from the MSHCP Conservation Area. If it cannot be directed away, shielding will be used to ensure that ambient light in the MSHCP Conservation Area is not increased.

MSHCP Cores and Linkages

Existing Constrained Linkage B (Salt Creek)

All Build alternatives and design options will include fencing along the right-of-way to funnel wildlife toward the Salt Creek Channel and minimize impacts associated with wildlife trying to cross the roadway elsewhere.

Specific Initial Guidelines for Wildlife Movement Design Considerations within the Criteria Area (Section 7.5.2 of the MSHCP)

The following measures for wildlife movement are proposed to offset impacts to wildlife movement in the Criteria Area. The design of the wildlife crossings will be refined during final design of the Project, after a Preferred Alternative is identified.

BIO-15 **Crossing Structures and Spacing Intervals for a Variety of Species.** A mixture of large crossing structures spaced at regular intervals and smaller culverts spaced at more frequent intervals will be installed throughout the Project to accommodate a variety of species. The following bridges will facilitate wildlife movement: SR 79 over Salt Creek Channel (all Build alternatives and design options), SR 79 over San Jacinto Branch Line (Build Alternative 1a), SR 79 over Hemet Channel (Design Options 1b1 and 2b1), SR 79 over San Jacinto Branch Line/Hemet Channel (Build Alternatives 1b, 2a, and 2b), and Future Street "A" southbound off-ramp over San Jacinto Branch Line (Build Alternatives 2a and 2b and Design Option 2b1). Culverts A-1, B-1, A-2, B-2, H-1, H-1a, H-1b, H-2, L-15, M-11, L-16, M-12, and F-3 will also facilitate wildlife movement. These elevated structures and culverts are shown in Figures 3.3.11 through 3.3-16).

BIO-16 **Openings in K-Rails for Small Animals.** Openings in concrete "K-rail" barriers will be provided at regular intervals to allow small wildlife to cross or escape roadways.

BIO-17 **Wildlife Crossings Intended for Large Mammalian Wildlife.** The wildlife crossings intended for large mammalian wildlife will be designed to accommodate the crossing of mule deer by maintaining an openness ratio of at least 0.6 (opening width times height, divided by length of crossing—calculated in meters) and a minimum height of 3 to 4 m (10 to 13 ft).

BIO-18 **Use of Tree and Shrub Buffers around Crossing Entrances, No Artificial Lighting.** Wildlife crossings incorporated into the Project will not add artificial lighting to the center of the crossing structure. These devices have not been shown to be effective and could deter wildlife at night. Natural light from skylights or grating may be used in particularly long structures. Tree and shrub buffers around crossing entrances, skylights, and grating will be used for visual relief, protection, and sound attenuation.

BIO-19 **Wildlife Crossings Vegetated as Naturally as Possible.** Wildlife crossings will be vegetated as naturally as possible to blend with the area around the crossing. In accordance with BIO-1 and BIO-2, the use of invasive and non-native plants will be avoided. Use of plants that are poisonous to wildlife, such as oleander, will be also be avoided.

BIO-20 **Use of Natural Objects in the Crossing Facility.** Natural objects, such as stumps, rocks, and other natural debris, will be placed in wildlife crossings to create cover for wildlife and to encourage use of the crossings.

BIO-21 **Installation of Vegetative Cover near the Entrances to Culverts.** Vegetative cover will be placed near the entrances to culverts to increase their effectiveness for carnivores and smaller wildlife.

BIO-22 **Installation of Dirt, Rock, or Concrete Benches on at Least One Side of Large Mammal Crossings.** Dirt, rock, or concrete benches will be installed on at least one side of large mammal crossings to allow wildlife to cross during storms.

BIO-23 **Welded Wire Fencing to Guide Wildlife to Appropriate Crossing Locations.** If either of the design options is identified as the Preferred Alternative and incorporated into the final design, wildlife fencing will be installed to reroute wildlife under SR 79 via Hemet Channel to maintain the San Jacinto Branch Line wildlife corridor. The fencing will be made of welded wire and will be an appropriate height, with three-strand wire at the top, to guide wildlife to appropriate crossing locations. A 2.4-m (7.9-ft) -high fence will be used to reduce road mortalities. When necessary, these fences will be installed 1.5 m (4.9 ft) below the ground surface to reduce coyote dig-out and will have extra sections attached to the top at 45- to 90-degree angles to reduce mountain lion jump-over.

BIO-24 **Fences Continue at Least 0.8 Kilometers beyond the Critical Area.** To reduce end-runs around fences, the wildlife fencing will continue at least 0.8 kilometers (800 m [0.5 mi]) beyond the critical area or to an appropriate location that is unsuitable for wildlife (e.g., structure, steep hillside, urban area).

BIO-25 **Installation of One-Way Wildlife Doors.** Wildlife fencing will include one-way wildlife doors on the roadway side of the fence, at 1-km (0.62-mi) intervals, to allow trapped wildlife to escape back into the MSHCP Conservation Area.

BIO-26 **Jump-Outs and One-Way Gates.** Jump-outs and one-way gates will be installed at frequent intervals to allow trapped wildlife to exit the road system safely.

Hemet Channel/San Jacinto Branch Line

Build Alternatives 1b, 2a, and 2b will include directional fencing along the right-of-way to funnel wildlife to Hemet Channel and San Jacinto Branch Line and minimize impacts associated with hazards from traffic.

Build Alternative 1a would not cross over Hemet Channel; however, it would cross the San Jacinto Branch Line and would include directional fencing along the right-of-way to funnel wildlife to this corridor.

In Design Options 1b1 and 2b1, the SR 79 crossing at the San Jacinto Branch Line would be at grade; therefore, directional fencing would be installed along the right-of-way to funnel wildlife to Hemet Channel and minimize impacts associated with hazards from traffic.

Mitigation Measures

BIO-27 **Enhancements to Wildlife Corridors.** To mitigate Project impacts to wildlife corridors, as part of the refinement of the Selected Alternative, enhancements will be included during final design to facilitate wildlife movement under bridges and through proposed culverts. Enhancements will be consistent with the objectives of the MSHCP and will include directional fencing and structural features to provide all-weather crossings in culverts. The design of wildlife movement features and enhancements will be determined after the Preferred Alternative is identified.

3.3.2 Wetlands and Other Waters

3.3.2.1 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 U.S. Environmental Protection Agency (U.S. EPA).

USACE issues two types of 404 permits: Standard and General permits. There are two types of General permits, Regional permits and Nationwide permits. Regional permits are issued for general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

There are two types of Standard permits: Individual permits and Letters of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard permits. 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. The Section 404 (b)(1) Guidelines were developed by the U.S. EPA in conjunction with 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 practical alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Department, the Federal Highway Administration, USACE, the U.S. EPA, and U.S. Fish and Wildlife Service (USFWS) entered into a memorandum of understanding (MOU) to integrate the National Environmental Policy Act (NEPA) and the Clean Water Act (CWA) for Environmental Impact Statement (EIS) projects that have five or more acres of permanent impact to waters of the United States (U.S.). Under this Memorandum of Understanding (MOU), the signatory agencies agree to coordinate at three checkpoints: 1) purpose and need, 2) identification of range of alternatives, and 3) preliminary determination of the LEDPA and conceptual mitigation plan. The goal of the MOU process is to allow the USACE to more efficiently adopt the Department's EIS for their Section 404 permit action.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or the Department, 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 California Department of Fish and Game (CDFG), the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB). In certain circumstances, the Coastal Commission 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 CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the CWA. Please see the Water Quality section (page 3-284) for additional details.

3.3.2.2 Affected Environment

The affected environment for wetlands and other waters is based on findings from a wetlands and other waters delineation report for the Project, which was submitted to USACE in September 2008 for review and verification of jurisdictional waters of the United States, including wetlands. USACE approved the jurisdictional determination on April 14, 2011. This approval, as well as USACE's letter endorsement of the purpose and need, is included in Coordination with USACE at the end of Chapter 5.

Study Area

As described in Natural Communities, Section 3.3.1.2 (page 3-439), the study area for wetlands and other waters was referred to as the Rare Plant Aquatic Resource Study Area (RPARSA) and included the PIA, utility relocation areas, connections to Hemet Channel outside the Project ROW, and a 30.5-m (100-ft) indirect impact area adjacent to the PIA and unique design features. Additional Indirect Impact Study Areas 1 and 2 were also included as part of the wetlands and other waters study area.

Study Methods

Pedestrian surveys were conducted between February 2005 and May 2006 to delineate wetlands and other waters within the study area. The wetland delineation team included wetland ecologists, biologists, soil scientists, and local botanical experts.

Field methods to identify wetlands followed the procedures developed in the 1987 *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and procedures developed in consultation with USACE Los Angeles district staff. Field data (including sample point locations, wetland boundaries, and limits of other waters) were collected using Trimble® GEO-XT hand-held Global Positioning System (GPS) units. Routine wetland delineation data sheets were completed using Integrated Wetland Delineation System (IWDS) software. This software was developed to incorporate the routine wetland delineation data sheet (from the 1987 *Corps of Engineers Wetlands Delineation Manual*) into the GPS device. At each sample location, observations about the vegetation, hydrology, and soils were electronically entered into the IWDS data form, which was automatically linked to the mapped

feature. Detailed information about survey methodology is provided in the SR 79 Jurisdictional Wetlands and Other Waters Delineation Report of September 2008.

All wetlands and waters located in the direct impact area were considered permanently impacted as a result of construction and operation of the roadway. Potential indirect impacts to wetlands and other waters outside the direct impact area were evaluated for potential alterations to local hydrology, erosion hazards, and pollutants that could result from the proposed Project.

Riparian/riverine habitats, as described in MSHCP Section 6.1.2, encompass a broader range of habitats than those strictly defined by the USACE in the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and various supplements and guidance. Riparian/riverine habitats are described as "habitats dominated by trees, shrubs, persistent emergents, or emergent mosses or lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year" (RCIP 2003). Agricultural drainages that did not provide habitat functions and values for MSHCP Covered Species were not included in the calculation of riparian/riverine habitat.

Vernal pools are described in MSHCP Section 6.1.2 as seasonal wetlands that occur in depressions and contain all three USACE wetland parameters (soils, vegetation, and hydrology). The determination of vernal pool habitat in the proposed Project area was conducted on a case-by-case basis. Seasonal wetlands that did not exhibit vernal pool characteristics during the wet season or shortly thereafter, or that were artificially created, were not considered to be vernal pool habitat during this assessment.

The locations of MSHCP vernal pool and riparian/riverine habitats were determined in the field and subsequently verified using a combination of the wetland delineation and plant community data sets.

Wetlands and Other Waters in the RPARSA

Regionally, the study area is located mostly in the San Jacinto River watershed, which encompasses 1,981 square kilometers (km^2) (765 square miles [mi^2]) of western Riverside County. The watershed is bounded to the east by the San Jacinto and Santa Rosa Mountains, the San Luis Rey River drainage area to the south, the Santa Ana Mountains to the west, and the Badlands to the north. Surface water drains to Lake Elsinore via the San Jacinto River, the Salt Creek Channel, and their associated tributaries (USDA 2005). The southern portion of the study area is in the Santa Margarita watershed, which drains to the Santa Margarita River.

Most of the study area is located in the bottom of the San Jacinto Valley and has very little topographic relief. In this area, hydrologic processes are predominantly the result of winter rainfall and scattered summer storms. During storms of sufficient severity, much of the area is subject to temporary flooding. Flooding connects many of the wetlands hydrologically via a series of roadside and other drainage ditches or constructed storm water channels. These ultimately drain into the San Jacinto River or Salt Creek Channel. Drainage in the Project study area is divided into two general watershed areas. South of the Tres Cerritos Hills, water flows generally to the south and west into Hemet Channel and Salt Creek Channel. To the north of the Tres Cerritos Hills, water flows to the north and west toward the San Jacinto River.

Four general types of seasonal wetlands occur in the study area. These wetland types differ primarily in species composition and degree of disturbance. They include vernal pools, seasonal wetlands, agricultural wetlands, and riparian areas. In addition to seasonal wetlands, other waters present in the study area include constructed ponds, flood control and storm water channels, drainage ditches, and erosional channels. The general locations of these features are shown in Figures 3.3-17, 3.3-18, and 3.3-19. The locations of MSHCP Riverine/Riparian habitat and vernal pools identified in the study area are shown in Figure 3.3-20. The numbers of wetlands and other waters in the study area for each of the Build alternatives are provided in Table 3.3-1 (page 3-443). A description of the wetlands and other waters is presented in the following sections.

Overview of Seasonal Wetland Types

Seasonal wetlands are characterized by the presence of saturated soils near the surface or a shallow water table for extended periods during the wet season (generally November through March), but that are completely dry throughout the remainder of the year. For this evaluation, seasonal wetlands have been classified into four categories based on land use, characteristic vegetation, and disturbance history. These categories include vernal pools, seasonal wetlands, agricultural seasonal wetlands, and riparian areas. They are described in the following sections.

Vernal Pools

Vernal pools are a subtype of seasonal wetland, distinguished from other seasonal wetlands based on their unique flora. Vernal pool vegetation consists predominantly of native plant species, including a number of rare and endemic species that are specifically adapted for the cyclical patterns of inundation and drying (MWD 1994, USACE 1997, Zedler 1987). The vernal pools in the study area have been classified as San Jacinto Valley Vernal Pools (Sawyer 1995). Although this specific type of habitat is restricted to the Perris Basin of the Lower San Jacinto River Valley, it is ecologically similar to the claypan vernal pools of the San Joaquin and South Coast ranges (CDFG 1998). This definition differs from the broad one in the MSHCP, which defines vernal pools as "seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season" (RCIP 2003). Based on this definition, some of the seasonal wetlands identified in the study area have been included as MSHCP vernal pool habitat and are shown in Figure 3.3-20 with other vernal pool areas. All of the vernal pools in the Project study area are jurisdictional wetlands subject to regulation by the USACE and RWQCB under the federal Clean Water Act. Vernal pools are not regulated by the CDFG under Section 1602 of the California Fish and Game Code.

Seasonal Wetlands

Seasonal wetlands in the study area are hydrologically similar to vernal pools, but they do not support unique vernal pool flora. The seasonal wetlands identified in the study area are associated with constructed features such as former stock ponds, abandoned excavation sites, or drainage features that are subject to seasonal inundation and support hydrophytic plant species. As with vernal pools, precipitation is the most critical contributing hydrologic

factor, but overland surface water flow may also be important. Seasonal wetlands in the Project study area are jurisdictional wetlands regulated by the USACE or the RWQCB, or both, but are not regulated by the CDFG.

Agricultural Seasonal Wetlands

Agricultural seasonal wetlands are areas in actively disked or cultivated fields that are seasonally inundated for a prolonged period (more than 14 days) due to natural conditions. In addition to prolonged ponding, these areas typically exhibit significantly suppressed crop growth. In some locations, these wetlands support limited sparse hydrophytic plant species. Agricultural wetlands in the Project area are jurisdictional wetlands regulated by the USACE or the RWQCB, or both, but are not regulated by the CDFG.

Riparian Habitat

Riparian habitat in the study area is predominantly categorized as cottonwood-willow riparian forest and willow riparian scrub (Figures 3.3-5 through 3.3-10). The dominant and codominant plant species within these habitats include Fremont cottonwood, black willow, and narrow-leaved willow. A few small areas of tamarisk scrub have also been mapped as riparian habitat. The MSHCP definition of riparian/riverine areas incorporates habitats that are dominated by persistent emergent herbaceous plants, but excludes artificially created areas. Therefore, roadside ditches, constructed drainages, and wastewater treatment ponds that contain emergent wetlands were not considered riparian/riverine habitat. The location of MSHCP riparian/riverine habitat within the study area is shown in Figure 3.3-20. Riparian habitats in the Project study area are regulated as wetlands by the USACE and the RWQCB under the federal Clean Water Act. These habitats are also regulated under Section 1602 of the California Fish and Game Code and administered by the CDFG.

Other Waters

Other waters in the study area include the Salt Creek Channel, the Hemet Channel, constructed ponds, excavated roadside drainage ditches, and erosional drainages in the West Hemet Hills. The following sections describe the other water features identified in the study area.

Salt Creek Channel

The Salt Creek Channel is the primary drainage feature in the southern part of the study area and is characterized by broad, gently sloping banks with an intermittent network of defined, often braided, scour features throughout the lower part of the channel. The ordinary high water mark is about 70 to 81 (m) (230 to 265 ft) from bank to bank, but flows of this magnitude typically occur only for brief periods in response to heavy storms and subsequent runoff. The Salt Creek Channel is dry most of the year, with occasional low-velocity flows restricted to the bottom of the channel.

The slopes of the channel are characterized by a mosaic of alkali scalds and grassland habitat. Characteristic vegetation in the grassland area includes salt grass (*Distichlis spicata*), foxtail barley (*Hordeum marinum* ssp. *leporinum*), white sweet clover (*Melilotus alba*), burclover (*Medicago polymorpha*), soft chess (*Bromus hordeaceus*), and summer mustard (*Brassica geniculata*). The alkali scalds are sparsely vegetated and are characterized by species such as saltbush (*Atriplex suberecta, A. argentea*), sand spurry (*Spergularia marina*),

Mediterranean barley (*Hordeum murinum* ssp. *gussonianum*), ice plant (*Mesembryanthemum nodiflorum*), and alkali weed (*Cressa truxillensis*).

The Salt Creek Channel is a jurisdictional water of the United States subject to regulation by the USACE and the RWQCB under the federal Clean Water Act and also subject to regulation by the CDFG under Section 1602 of the California Fish and Game Code.

Hemet Channel

The Hemet Channel is a constructed storm water drainage located in the southern part of the study area. The channel is about 15 m (50 ft) wide, with relatively steep, well-defined banks. This flood control channel is routinely maintained and devoid of vegetation. This channel is dry most of the year, with ephemeral, high flows typically occurring only in response to storm water runoff from areas south of the Tres Cerritos Hills. Water from the Hemet Channel is discharged into the Salt Creek Channel at the intersection of Patterson Road and Olive Avenue, in the southern part of the study area.

The Hemet Channel is a jurisdictional water of the United States and is subject to regulation by the USACE and the RWQCB under the federal Clean Water Act and is also subject to regulation by the CDFG under Section 1602 of the California Fish and Game Code.

Constructed Ponds

Constructed ponds are excavated basins that contain standing water for at least part of the year. These ponds include areas that have been excavated for storm water retention, agricultural irrigation, and landscaped/ recreational ponds. Some of the ponds support wetland or riparian vegetation. With the exception of recently constructed and routinely maintained agricultural irrigation ponds, most of the constructed ponds in the Project study area provide wetland habitat values and are subject to regulation by the USACE or the RWQCB, or both, under the federal Clean Water Act. In addition, several ponds support riparian habitat, and these areas are subject to regulation by the CDFG under Section 1602 of the California Fish and Game Code.

Drainage Ditches

Numerous drainage ditches, including roadside ditches, storm water channels, and agricultural drainages, are present within the study area. Many of these features are dry most of the year and only contain flows for a short time after storms. Most of the drainages are routinely maintained and lack vegetation entirely or support a sparse cover of primarily ruderal plant species. A few of the drainages support hydrophytic vegetation and appear to be subject to more prolonged seasonal inundation. Most of the drainage ditches in the Project study area show evidence of ordinary high water flows and drain directly or indirectly into either the Salt Creek Channel or the San Jacinto River. Although they were built to convey storm water flows, several of the drainages have the potential to affect both water quality and the habitats of aquatic species. These drainages are therefore considered jurisdictional waters subject to regulation by the RWQCB and the CDFG, and in some cases the USACE. Remanent, or isolated, drainage ditches or drainages that do not flow into other waters may be considered nonjurisdictional.

Erosional Channels

Several erosional scour channels are scattered throughout the West Hemet Hills, west of California Avenue, and north of Stowe Road. These drainages are formed as a result of storm water runoff and occur in the low saddle areas between the hilltops. The drainages are generally weakly expressed and lack well-defined bed and bank characteristics, but have some sections that have been deeply cut by erosion. Typical indicators of ordinary high water, such as drift lines, sediment deposits, and water marks, are not evident in any of the drainages. These drainages dissipate into sheet flow at the base of the hills and are not connected to other waters in the study area. Hydrology in these areas appears to be highly intermittent, and these drainages contain flows only in response to heavy rainfall that lasts for a short time. Vegetation throughout the drainages is characterized by Riversidian sage scrub species, including coastal sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), brittlebush (*Encelia farinosa*), and black sage (*Salvia mellifera*). These features were not considered to be jurisdictional waters of the United States because they lack evidence of ordinary high water flows and dissipate into sheet flow at the base of the hill; however, the RWQCB or the CDFG, or both, may take jurisdiction over these features.

Nonjurisdictional Water Features

Several potentially nonjurisdictional features are present in the study area, including agricultural settling basins, wastewater treatment ponds and wetlands, storm water retention basins, and areas that are seasonally ponded in disturbed areas (e.g., dirt roadways and open gravel areas). Because these areas were not considered to be jurisdictional wetlands, other waters, or sensitive aquatic resources, they are not discussed further in this report.

Wetlands and Other Waters in the Build Alternatives and Design Options

Wetlands and other water features identified in the study area for the Build alternatives and design options include Salt Creek Channel, Hemet Channel, vernal pools, seasonal wetlands, agricultural seasonal wetlands, constructed ponds, drainage ditches, and erosional channels. The following sections provide a summary of the wetlands and other waters that were identified in the study areas for each of the proposed Build alternatives and design options. These wetlands and other waters are also shown in Table 3.3-1 (page 3-443). The study areas for the design options are the same as their respective Build alternatives, so they are not discussed separately.

Build Alternative 1a

Build Alternative 1a would cross both the Salt Creek Channel and the Hemet Channel. Other wetlands and other waters present in the study area for this Build alternative include vernal pools, seasonal wetlands, riparian wetlands, agricultural wetlands, constructed ponds, and drainage ditches. A general summary of these features is provided below.

Three vernal pools were identified north of Esplanade Avenue and west of Warren Road. The largest of these vernal pools (VP0409) is characterized by popcorn flower, wooly marbles, and little mousetail. The two smaller vernal pools (VP0110 and VP0311) are weakly expressed topographic basins characterized by annual bluegrass, low barley, wooly marbles, and popcorn flower. This Build alternative would also include the 12 vernal pools in

the Stoney Mountain Preserve located in Additional Indirect Impact Study Area 2, south of Esplanade Avenue and east of Warren Road.

A total of 12 seasonal wetlands associated with drainages, abandoned excavated sites, or other disturbed, depressional areas that support seasonal inundation were found in the study area for this Build alternative. Seasonal wetland SW0019 appears to be an abandoned excavation located on the slope of a hill south of Florida Avenue and west of California Avenue. Vegetation in this area includes toad rush, wooly marbles, curly dock, and rabbit's foot grass. Seasonal wetland SW0029 is in a disturbed, low depressional area characterized by five-hook bassia and scattered curly dock, north of Devonshire Avenue and east of Warren Road. Seasonal wetlands SW0030 and SW0031 are in a constructed drainage ditch along the west side of the San Diego Canal, south of Tres Cerritos Avenue. These wetlands, characterized by rabbit's foot grass, curly dock, and cattail, appear to have been inundated or saturated for a relatively long time as a result of irrigation runoff. Seasonal wetland SW0032 appears to be a former stock pond located in a horse pasture on the north side of Esplanade Avenue. This shallow basin is surrounded by dense tamarisk, with non-native grasses such as sprangletop and barnyard grass dominant throughout the interior. Seasonal wetland SW0033 is characterized by Italian ryegrass and is associated with a drainage ditch along the San Diego Canal on the south side of Cottonwood Avenue. Seasonal wetland SW0034 is a shallow, sparsely vegetated basin in a disturbed area near Reflection Lake. This basin supports scattered Bermuda grass, little-seed canary grass, curly dock, and alkali sida. Seasonal wetland SW0035 is in an abandoned excavation in the former motocross park on the east side of Sanderson Avenue, south of North Ramona Boulevard. Scattered black willow trees with an understory of perennial pepperweed and curly dock are present around the edges of this basin. Two seasonal wetlands, SW0036 and SW0037, are associated with the roadside drainage on the south side of the Ramona Expressway. Vegetation in SW0036 is characterized exclusively by dense curly dock, whereas SW0037 is characterized by Bermuda grass and nutsedge with scattered cattail. At the northern end of the study area, seasonal wetlands SW0038 and SW0039 are adjacent to an agricultural field on the west side of SR 79, north of the Ramona Expressway. Seasonal wetland SW0038 is characterized by dense salt grass along the outer edges and Olney's bulrush in the deeper areas. Seasonal wetland SW0039 is in a riparian area consisting of black willow, sandbar willow, and cottonwood along a drainage area south of the San Jacinto River.

Four agricultural seasonal wetlands (AW0018, AW0019, AW0021, and AW0022) are located in the northern section of this Build alternative, near Ramona Expressway. All of these wetlands are in areas that are routinely disked or cultivated and are either devoid of vegetation or support scattered ruderal species such as little-seed canary grass, five-hook bassia, Bermuda grass, perennial pepperweed, toad rush, and swamp timothy.

Four constructed ponds, two of which support riparian habitat, are located in the study area for this Build alternative. A small portion of an agricultural irrigation pond (CP001) is located in the study area on the west side of Warren Road, south of Cottonwood Avenue. Scattered tamarisk is present along the berms surrounding this pond, and small patches of Olney's bulrush and cattail are present in the pond. Constructed ponds CP006 and CP008 are located in the former motocross area south of North Ramona Boulevard. Dense riparian vegetation consisting of large black willow and cottonwood trees with an understory of perennial pepperweed is present around CP006. CP007 is characterized by tamarisk scrub. Constructed pond CP0010 is a recently built agricultural irrigation pond adjacent to a sod farm north of the Ramona Expressway.

Three riparian areas were mapped in the study area for this Build alternative. Riparian area RP002 includes large black willow trees with a dense understory of perennial pepperweed and is located on the west side of Warren Road, immediately south of the Colorado River Aqueduct. Riparian areas RP003 and RP004 occur at the north end of the study area, just south of the San Jacinto River on both sides of SR 79. These areas are characterized by black willow, cottonwood, and sycamore trees, with scattered sandbar willow and mulefat in the understory.

Portions of 31 drainage ditches are present in the study area for this Build alternative. Most of the drainages support only short-duration flows in response to storms and are either routinely maintained or are characterized by predominantly upland ruderal plant species.

Riparian/Riverine and Vernal Pool Habitat (MSHCP)

Three mapped riparian areas (RP0002, RP0003, and RP0004), three constructed ponds (CP001, CP006, and CP008), and one seasonal wetland (SW0035) support riparian vegetation consisting of black willow, cottonwood, sandbar willow, mulefat, and tamarisk. The only riverine habitat in the study area for this Build alternative is the Salt Creek Channel.

Vernal pool habitat includes three vernal pools (VP0409, VP0110, and VP0311) and five seasonal wetlands (SW0019, SW0029, SW0034, SW0035, and SW0038) that may provide suitable habitat for special-status vernal pool species. Another 12 vernal pools are located in Additional Indirect Impact Study Area 2.

Build Alternative 1b and Design Option 1b1

Wetland resources in the Build Alternative 1b/Design Option 1b1 study area are similar to those described for Build Alternative 1a, with the following exceptions.

The study area for this Build alternative and design option includes another two agricultural wetlands (AW0001 and AW0016) and another three constructed ponds (CP003, CP004, and CP005). Agricultural wetland AW0001 is a small depression along the edge of a cultivated field in the southern part of the study area, north of East Newport Road. Agricultural wetland AW0016 is a shallow, weakly expressed depression that supports swamp timothy, cudweed, and knotweed and is located in a cultivated wheat field north of Cottonwood Avenue and west of Sanderson Avenue.

Constructed pond CP003 is a small excavated depression in an agricultural field on the west side of Sanderson Avenue. This pond supports sparse herbaceous species that include summer mustard, smooth tarplant, and saltbush. Constructed pond CP004 is a man-made lake on the east side of Sanderson Avenue. Constructed pond CP005 appears to be a seasonal pond created by the construction of low earthen berms around a relatively shallow depression, which is characterized by abundant perennial pepperweed throughout, with scattered black willow, mulefat, and giant reed around the edge of the pond.

Riparian seasonal wetland RP0001 is also included in the study area for this Build alternative and design option. This riparian area is located east of Sanderson Avenue, north of Cottonwood Avenue, and is characterized by black willow with scattered cottonwood, mulefat, and giant reed.

Thirty-one drainage ditches are located in the study area for Build Alternative 1b and Design Option 1b1. Of these, 27 are the same as in Build Alternative 1a.

Riparian/Riverine and Vernal Pool Habitat (MSHCP)

Riverine/riparian and vernal pool habitat in the study area for this Build alternative and design option is similar to that in Build Alternative 1a, except for the additional riparian habitat associated with riparian area RP0001 and constructed pond CP005.

Build Alternative 2a

The study area for Build Alternative 2a contains nearly the same amount of wetlands and other waters as the study area for Build Alternative 1a. The primary difference between these two study areas is the location and area of erosional drainages in the West Hemet Hills north of Stowe Road (Table 3.3-1 [page 3-443]). The study area for this Build alternative includes one other drainage ditch (DD0009) along the north side of Hemet Channel.

Riparian/Riverine and Vernal Pool Habitat (MSHCP)

Riparian/riverine and vernal pool habitats in the study area for this Build alternative include the same areas as those described for Build Alternative 1a, as well as the additional 33 vernal pools and 7 seasonal wetlands in Additional Indirect Impact Study Area 1.

Build Alternative 2b and Design Option 2b1

The wetlands and other waters present in the study area for Build Alternative 2b are similar to those in Build Alternative 1b, with the primary difference being the location and area of erosional drainages in the West Hemet Hills north of Stowe Road and west of California Avenue (Table 3.3-1 [page 3-443]). The only other difference is a portion of drainage ditch DD0009 along the north side of the Hemet Channel.

Riparian/Riverine and Vernal Pool Habitat (MSHCP)

Riparian/riverine and vernal pool habitats in the study area for this Build alternative include the same areas as those described for Build Alternative 1a, as well as the additional 33 vernal pools and 7 seasonal wetlands in Additional Indirect Impact Study Area 1.

3.3.2.3 Environmental Consequences

The permanent and temporary impacts to wetlands and other waters that are expected from the Project alternatives and design options are shown in Table 3.3-3 (page 3-471). In this section, impacts are discussed separately for each Build alternative. If two Build alternatives would have the same impact on the same resource, the second discussion notes the impact, but does not repeat the first discussion. The impacts from Design Options 1b1 and 2b1 would not very from their respective Build alternatives, so they are not discussed separately.

Permanent Impacts

The following sections summarize the permanent impacts for each of the Build alternatives and design options. BMPs and project engineering would be implemented during construction and operation to avoid or minimize indirect impacts to wetlands and other waters outside the direct impact areas.

Direct Impacts

No Build Alternative

No Project-related impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

Build Alternative 1a

A total of 1.15 ha (2.85 ac) of the Salt Creek Channel would be present in the direct impact area of Build Alternative 1a. However, permanent direct impacts would be limited to pilings and other bridge support structures that would be located within the ordinary high water area of the channel.

This Build alternative would also result in permanent impacts to 0.81 ha (1.99 ac) of vernal pools, 0.38 ha (0.93 ac) of seasonal wetlands, 3.66 ha (9.05 ac) of agricultural seasonal wetlands, and 0.64 ha (1.59 ac) of riparian seasonal wetlands.

A total of 1.07 ha (2.63 ac) of constructed ponds and 2.05 ha (5.09 ac) of excavated drainage ditches would be permanently impacted by this Build alternative.

In addition, 0.13 ha (0.31 ac) of erosional drainage features in the West Hemet Hills would be permanently impacted.

Riparian/Riverine and Vernal Pool Habitat (MSHCP)

As stated previously, permanent direct impacts to Salt Creek Channel would be limited to the areas required for pilings and other bridge support structures in the ordinary high water area.

In addition to these areas, 1.69 ha (4.18 ac) of riparian/riverine habitat, including tamarisk scrub, cottonwood, and willow riparian vegetation, would be permanently impacted by this Build alternative.

Another 0.93 ha (2.28 ac) of MSHCP vernal pool habitat (including vernal pools and seasonal wetlands that provide comparable habitat) would be permanently impacted.

Build Alternative 1b and Design Option 1b1

Permanent direct impacts to wetland resources from Build Alternative 1b and Design Option 1b1 would be identical to those from Build Alternative 1a (Table 3.3-3 [page 3-471]). However, this Build alternative would have a smaller number of permanent direct impacts to vernal pool habitat. Build Alternative 1b would have only 0.004 ha (0.01 ac) of permanent direct impacts to vernal pools.

This Build alternative would also have slightly less impact to excavated drainage ditches, 1.78 ha (4.43 ac) compared to 2.05 ha (5.09 ac) under Build Alternative 1a. It would, however, result in more permanent direct impacts to constructed ponds, 2.57 ha (6.33 ac) compared to 1.07 ha (2.63 ac) with Build Alternative 1a.

Riparian/Riverine and Vernal Pool Habitat (MSHCP)

Permanent direct impacts to riparian/riverine habitat, including Salt Creek Channel, would be similar to the impacts associated with Build Alternative 1a. Permanent direct impacts to wooded riparian habitat (tamarisk, cottonwood, and willows) would total 1.67 ha (4.14 ac) and would be only 0.02 ha (0.04 ac) less with this Build alternative than with Build Alternative 1a.

Permanent direct impacts to MSHCP vernal pool habitat (including comparable seasonal wetlands) would be 0.14 ha (0.33 ac) with Build Alternative 1b or Design Option 1b1 compared to 0.93 ha (2.28 ac) with Build Alternative 1a.

Build Alternative 2a

As described under Build Alternative 1a, permanent direct impacts to Salt Creek Channel from Build Alternative 2a would be limited to the areas needed for pilings and bridge support structures. This Build alternative would also result in permanent direct impacts to 0.004 ha (0.01 ac) of vernal pools, 0.43 ha (1.06 ac) of seasonal wetlands, 0.64 ha (1.59 ac) of riparian seasonal wetlands, and 3.66 ha (9.05 ac) of agricultural seasonal wetlands.

Build Alternative 2a would also result in permanent direct impacts to 1.07 ha (2.63 ac) of constructed ponds, 1.99 ha (4.96 ac) of excavated drainage ditches, and 0.03 ha (0.08 ac) of erosional drainages.

Riparian/Riverine and Vernal Pool Habitat (MSHCP)

In addition to the impacts associated with the bridge crossing over Salt Creek Channel, 1.69 ha (4.18 ac) of riparian/riverine habitat, including tamarisk scrub, cottonwood, and willows, would be permanently and directly impacted by this Build alternative. A total of 0.12 ha (0.30 ac) of MSHCP vernal pool habitat (including comparable seasonal wetlands) would be directly, permanently impacted.

Build Alternative 2b and Design Option 2b1

Permanent direct and indirect impacts to wetlands and other waters from Build Alternative 2b or Design Option 2b1 would be similar to those described under Build Alternative 2a. Permanent direct impacts to Salt Creek Channel, seasonal wetlands, riparian seasonal wetlands, agricultural seasonal wetlands, and erosional drainages would be the same as Build Alternative 2a.

Permanent direct impacts to vernal pool habitat, 0.81 ha (1.99 ac), from this Build alternative would be the same as Build Alternative 1a, compared to 0.004 ha (0.01 ac) from Build Alternatives 1b and 2a.

The 2.57 ha (6.35 ac) total of permanent direct impacts to constructed ponds would be similar to Build Alternative 1b, compared to 1.07 ha (2.63 ac) of impacts from Build Alternatives 1a and 2a.

This Build alternative would also cause permanent direct impacts to 1.86 ha (4.62 ac) of excavated drainage ditches, which is slightly less than the 1.99 ha (4.96 ac) that would be impacted by Build Alternative 2a.

Riparian/Riverine and Vernal Pool Habitat (MSHCP)

In addition to the impacts to the Salt Creek Channel as a result of the bridge structure, 1.67 ha (4.13 ac) of riparian/riverine habitat consisting of tamarisk scrub, cottonwood, and willows would be permanently and directly impacted by Build Alternative 2b.

Permanent direct impacts to riparian habitats would be similar from all of the Build alternatives.

Build Alternative 2b would result in permanent, direct impacts to 0.95 ha (2.31 ac) of MSHCP vernal pool habitat (including seasonal wetlands with comparable habitat).

Indirect Impacts

Permanent indirect impacts are only presented for Additional Indirect Impact Study Areas 1 and 2, where changes in hydrological patterns could impact wetlands and other waters and MSHCP riparian/riverine and vernal pool habitat located within these areas.

Construction of Build Alternative 2a or 2b through the West Hemet Hills would result in permanent and direct impacts to about 7 percent of the watershed for the vernal pool complex located at the intersection of Stowe Road and California Avenue, which is in Additional Indirect Impact Study Area 1. The 7 percent reduction in the watershed area could have a permanent indirect impact on 0.98 ha (2.43 ac) of additional vernal pool habitat located in Additional Indirect Impact Study Area 1 because of interruptions in hydrological patterns. Measures to minimize this potential indirect impact are described in Section 3.3.2.4 (page 3-516).

Temporary Impacts

Temporary impacts to wetlands, other waters, and MSHCP riparian/riverine and vernal pool habitats would include transitory impacts during construction of the Project, such as installation of cofferdams, temporary support structures, and construction access routes. These would be removed after a relatively short period and would not result in any permanent loss or impact to the aquatic resource. The following sections discuss the potential temporary impacts to wetlands and other waters, as well as MSHCP riparian/riverine and vernal pool habitats in the direct impact area.

No Build Alternative

No Project-related impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

Build Alternative 1a

Build Alternative 1a could temporarily impact up to 1.15 ha (2.85 ac) of Salt Creek Channel during construction of the bridge across the channel.

Riparian/Riverine and Vernal Pool Habitat (MSHCP)

Temporary impacts to MSHCP riparian/riverine habitat could be as much as 1.15 ha (2.85 ac) in Salt Creek Channel during construction of the bridge associated with this Build alternative.

Build Alternative 1b and Design Option 1b1

A maximum of 1.12 ha (2.77 ac) of the Salt Creek Channel and up to 0.29 ha (0.72 ac) of the Hemet Channel could be temporarily impacted during construction of Build Alternative 1b. Temporary impacts from Design Option 1b1 would be the same.

Riparian/Riverine and Vernal Pool Habitat (MSHCP)

Temporary impacts to MSHCP riparian/riverine habitat would include up to 1.12 ha (2.77 ac) in Salt Creek Channel during construction.

Build Alternative 2a

A total of 1.15 ha (2.85 ac) in Salt Creek Channel and up to 0.75 ha (1.85 ac) of Hemet Channel could be temporarily impacted during construction of this Build alternative.

Riparian/Riverine and Vernal Pool Habitat (MSHCP)

Temporary impacts to MSHCP riparian/riverine habitat include up to 1.15 ha (2.85 ac) in Salt Creek Channel during construction of this Build alternative.

Build Alternative 2b and Design Option 2b1

A maximum of 1.27 ha (3.15 ac) in Salt Creek Channel and 0.53 ha (1.32 ac) in Hemet Channel could be temporarily impacted during construction of Build Alternative 2b. Temporary impacts from Design Option 2b1 would be the same.

Riparian/Riverine and Vernal Pool Habitat (MSHCP)

Temporary impacts to MSHCP riparian/riverine habitat would include up to 1.27 ha (3.15 ac) in Salt Creek Channel during construction.

3.3.2.4 Avoidance, Minimization, and/or Mitigation Measures

Measures to avoid, minimize, or mitigate impacts to wetlands and other waters are included by type in the following discussion. These measures are also included in their entirety in the ECR (Appendix E).

Avoidance Measures

As much as possible, the Project Build alternatives and design options and associated roadway segments have been selected to avoid permanent, direct, and indirect impacts to riparian/riverine and vernal pool habitats. Other Build alternatives that were considered (see Section 2.2.5 [Volume 1, page 2-26]) would have routed a portion of the

roadway parallel to Warren Road on the east side of the San Diego Canal and west of the Hemet-Ryan Airport. This segment was eliminated from further analysis because of the large number of potential impacts to the habitat in this area. However, completely avoiding all areas that could be impacted would not be practicable, so the following measure will be implemented depending on the Preferred Alternative that is identified for the Project.

BIO-28 **Environmentally Sensitive Area Fencing.** Environmentally Sensitive Area (ESA) fencing will be installed as shown on the contractor's plans, and per Caltrans Standard Specifications, to ensure avoidance of a vernal pool measuring 0.80 ha (1.98 ac) within the ROW of Build Alternative 1b, Design Option 1b1, or Build Alternative 2a (Roadway Segment K in the northwest corner of Warren Road and Esplanade Avenue if identified for construction as part of the Preferred Alternative) and the associated little mousetail population (about 10,000 plants) during construction. A contractor-supplied biological monitor who has knowledge about wetland ecology and rare plants will demark the location of the ESA fence in the field and on construction drawings and plans and will supervise the ESA fence installation. The biological monitor will also inspect the ESA fencing regularly during construction and coordinate with the Resident Engineer if fence repairs should be required.

- **BIO-28a**. Additionally, the contractor will install temporary treatment BMPs, such as fiber rolls or straw wattles, around the vernal pool for protection from possible runoff created by construction activities.

An ESA fence will be installed for Build Alternatives 2a and 2b and Design Option 2b1 along the edge of the ROW for Roadway Segments D and H (if identified for construction as part of the Preferred Alternative) to avoid direct impacts to sensitive resources in the Stowe Road Vernal Pool Complex located in Additional Indirect Impact Study Area 1. These sensitive resources include a vernal pool, the federally listed vernal pool branchiopod, and federally and/or state-listed or sensitive plant populations consisting of Coulter's goldfields (Narrow Endemic), smooth tarplant (Narrow Endemic), San Jacinto Valley crownscale (Critical Area), little mousetail (Critical Area), spreading navarretia (Critical Area), and California Orcutt grass (Critical Area). A contractor-supplied biological monitor who has knowledge about wetland ecology and rare plants will demark the location of the ESA fence in the field and on construction drawings and plans and will supervise the ESA fence installation. The biological monitor will also inspect the ESA fencing regularly during construction and coordinate with the Resident Engineer if fence repairs should be required.

Minimization Measures

All Build alternatives will incorporate the following measures to comply with all MSHCP guidelines related to minimizing impacts to sensitive biological resources within or adjacent to the MSHCP Conservation Area.

WQ-1 **Construction Best Management Practices in Compliance with Project Planning and Design Guide (PPDG), Storm Water Management Plan (SWMP), Storm Water Pollution Prevention Plan (SWPPP), and Standard Special Provisions (SSP).** The contractor will use a combination of BMPs that are acceptable and approved by the Department and that comply with the PPDG, SWMP, the Project-specific SWPPP, and any applicable Department SSPs to minimize impacts associated with runoff and polluted water. See the full text of this measure in Section 3.2.2.4 (page 3-310).

WQ-4 **Treatment BMPs.** The Project will incorporate treatment BMPs that have been approved for statewide use per the guidelines of the PPDG. See the full text of this measure in Section 3.2.2.4 (page 3-310).

WQ-5 **Dewatering Permit.** The Project will comply with the general de minimus permit that applies to general waste discharge requirements for discharges to surface waters within the Santa Ana region (NPDES CAG 998001). See the full text of this measure in Section 3.2.2.4 (page 3-310).

BIO-29 **Onsite and Offsite Drainage Facilities in the Project ROW.** Onsite and offsite drainage facilities will be constructed within the Project ROW to ensure that the quantity and quality of runoff discharged into the MSHCP Conservation Area will not affect existing conditions.

BIO-30 **Maintenance of Constructed Storm Water Systems.** Regular maintenance of constructed storm water systems will take place to ensure effective operation of these systems.

BIO-31 **No Erodible Materials Deposited in Watercourses.** No erodible materials will be deposited into watercourses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.

BIO-32 **Ongoing Monitoring and Reporting.** Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of BMPs.

BIO-33 **Modification of the Project Design to Construct a Gravity-Based Surface Water Diversion System.** If Build Alternative 2a or Build Alternative 2b is identified as the Preferred Alternative for the Project, the design will include measures to avoid and reduce impacts to the vernal pool complex adjacent to Stowe Road.

- **BIO-33a. Engineering Design.** During the plans, specifications, and estimates (PS&E) phase of the Project, the proposed design modification will be implemented and refined to address the items listed below.

An interceptor trench will be constructed below the modified cut slope adjacent to Roadway Segment H. The size and position of this trench will be optimized to capture runoff that could impact the Stowe Road Vernal Pool Complex watershed. The exact capture area will be refined based on the surface structure of the cut slope (vegetated or exposed granite bedrock).

The drainage will be designed to convey water via gravity from the interceptor trench to a small storage basin, then through piping into an existing ephemeral drainage in the upper watershed of the Stowe Road Vernal Pool Complex. Depending on the final contour of the cut slope, either one or two pipe outlets will be required. The storage basin upstream of each pipe outlet may include flow regulators/dissipaters, depending on the rate of flow from the cut slope into the interceptor trench. Prior to construction, sedimentation levels will be measured and the drainage design will be optimized so that flow rates into the Stowe Road Vernal Pool Complex will not result in sedimentation levels that exceed the levels present before construction.

A detailed Drainage Recapture Design Plan (DRDP) will be prepared prior to the completion of PS&E to describe the water-conveyance features to be constructed. This DRDP will also summarize the expected performance of the drainage system during periods of low, average, and peak precipitation. The anticipated cut slope treatment will be identified. A landscaping plan will be included if terraced or stabilized slopes can hold soil and support vegetation after construction. If applicable, the landscaping plan will include a list of the plant species to be seeded or planted, target seeding and/or planting densities, revegetation techniques to be employed, criteria used to gauge the success of revegetation, maintenance and monitoring methods to be implemented, a schedule of monitoring and reporting activities, and remedial measures. This DRDP will be submitted to the Regional Conservation Authority (RCA), the Wildlife Agencies, the RWQCB, and USACE for review to verify that the objectives of this measure have been achieved.

- **BIO-33b. Baseline Hydrology Monitoring Plan.** Prior to the completion of PS&E, a detailed Baseline Hydrology Monitoring Plan (BHMP) will be prepared, reviewed, and implemented to facilitate drainage design modifications and provide a basis for later comparison to postconstruction conditions in the Stowe Road Vernal Pool Complex.

  This BHMP will describe the data to be collected, instruments to be installed, duration of the sampling effort, and methods of data interpretation. Baseline data will be collected in average, below average, and higher than average water years prior to the completion of PS&E. Data are intended to determine the amount and frequency of surface water flows into the existing drainage in the upper watershed and the amount of sediment transported to the Stowe Road Vernal Pool Complex.

  The extent and depth of pool ponding throughout the filling and drying period will be collected. A weather station will be installed to measure rainfall and provide data specific to

the watershed. Surface water flow (e.g., Parshall flumes, pressure transducers) and sediment-sampling devices (Isco sediment samplers or other devices), combined with manual sampling, will be used to determine surface water flows and sediment loads. The sample locations and equipment to be used will be determined by a professional hydrologist who is experienced with surface water hydrology, sediment sampling, and data interpretation in the natural landscape. Photo documentation will also be used to note site changes throughout the monitoring period. The BHMP will be submitted to the RCA, the Wildlife Agencies, the RWQCB, and USACE for review to verify that the objectives of this measure have been achieved.

- **BIO-33c. Postconstruction Surface Water Monitoring.** A Postconstruction Monitoring Plan (PCMP) will be prepared, reviewed, and implemented to ensure that the gravity-based surface-water diversion system functions in average, below average, and higher than average water years and provides compensatory hydrology volume, based on the baseline conditions, with an acceptable flow rate into the upper watershed of the Stowe Road Vernal Pool Complex. The PCMP will be developed concurrently with PS&E and will be implemented after construction.

  The PCMP will detail the procedures to be used to calculate the water flows from the pipe outlet to the existing drainage and total sediment loads within the drainage. Sampling will occur at the instruments installed as part of the BHMP, as well as at new postconstruction locations. The total water flows that occur after construction of the Project, especially storm water discharges, will be evaluated to determine if any modifications are needed to regulate total flows and velocities to the existing drainage, as determined in the BHMP, into the lower watershed.

  An adaptive management process will be included for evaluating and implementing procedures and/or remedial measures for sediment control, such as deepening the receptor basins or other activities, to prevent scour and release of sediments in excess of the existing condition into the lower watershed.

  The intent of the monitoring period is to evaluate average, below average, and higher than average water years. The ability to accomplish this will depend on the local precipitation. Monitoring will be required for each of these water years. Initially, monitoring will be conducted for 5 years, but more years could be required to obtain the necessary data.

  Annual monitoring reports will be prepared and submitted to the RCA, the Wildlife Agencies, the RWQCB, and USACE for review to verify that the objectives of this measure have been achieved.

Potential remedial actions or modifications to the PCMP will be made based on results of annual monitoring. A final review will take place at the end of the 5-year monitoring period to determine if additional monitoring will be required.

Mitigation Measures

BIO-34 **Mitigation of Impacts to Water Features.** Mitigation of impacts to jurisdictional water features will take place at a ratio of at least 1 to 1. Appropriate mitigation for unavoidable impacts to wetlands and other waters will be determined through the permitting process. The mitigation will lessen the impact to a level below significance and will ensure no net loss of wetlands. Mitigation may include the following two measures.

- **BIO-34a. Drainage Ditches.** For impacts to roadside ditches, onsite mitigation will consist of replacement through the reconstruction of these features along the new roadway alignment.

- **BIO-34b. Seasonal Wetlands.** For unavoidable permanent impacts to seasonal wetlands, including vernal pools and riparian wetlands, offsite mitigation will consist of wetland/riparian creation, enhancement, or restoration within the San Jacinto watershed and/or the purchase of wetland creation credits at a USACE-approved wetland mitigation bank.

3.3.3 Plant Species

3.3.3.1 Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) 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 afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species Section (page 3-634) in this document for detailed information regarding these species.

This section of the document discusses all the other special-status plant species, including CDFG 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 16 United States Code (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 Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), CA Public Resources Code, Sections 2100-21177.

3.3.3.2 Affected Environment

The affected environment discussion is based on the findings in the Final Rare Plant Survey Report of December 2007, the Natural Environment Study of April 2010, and the NES Technical Report Addendum Memorandum of August 2010.

In Natural Communities (Section 3.3.1.2 [page 3-439]), the study area for plant species was referred to as the Rare Plant Aquatic Resource Study Area (RPARSA) and included the PIA, utility relocation areas, connections to Hemet Channel outside the Project ROW, and a 30.5-m (100-ft) indirect impact area adjacent to the PIA and unique design features.

Additional Indirect Impact Study Areas 1 and 2 were included as part of the plant species study area. Plant surveys were also conducted for those species outlined in NEPSSA 3 and Criteria Area Species Survey Area 3 of the MSHCP.

Study Methods

Plant Species

Rare plant surveys were conducted in 2005 and 2006. Survey methods followed CNPS, CDFG, and USFWS protocols, as well as requirements of the MSHCP. The specific methods and procedures employed during the surveys are described in the following sections. Due to the age of the rare plant surveys, these may need to be conducted again before the Project goes to construction to verify that the conditions have not changed.

Database Queries

Prior to beginning field surveys, a target list of special-status plant species that were likely to be found in the study area was compiled. Sources included the CDFG California Natural Diversity "Rarefind" Database (CDFG 2005; 2007a), the CNPS Inventory of Rare and Endangered Plants (CNPS 2001a; 2005; 2007), and the MSHCP. Several reports from the Project region were part of the literature review. These special-status plants are listed in Table 3.3-4 (page 3-524). Although they were identified in the database queries and literature reviews, federally and state-listed threatened or endangered plant species were listed separately. They are discussed in Section 3.3.5 (page 3-634) and listed in Table 3.3-18 (page 3-636).

MSHCP Plant Species Survey Protocols

Plant surveys conducted for the proposed Project were consistent with the MSHCP survey requirements. In accordance with the MSHCP, surveys for Narrow Endemic and Criteria Area plant species followed accepted protocols and were conducted during the appropriate time of year to detect characteristics necessary for positive identification of the plant. Planning Species, as described in Section 3 of the MSHCP (RCIP 2003) and as discussed in the MSHCP Errata letter (RCIP 2004), were also included in the surveys. The locations of the MSHCP-required study areas for Narrow Endemic plant species and Criteria Area Cells in the Project study area are shown in Figures 3.3-21 and 3.3-22, respectively.

When MSHCP Covered Species were identified in the surveys, each population was evaluated for its long-term conservation value (LTCV). LTCV populations are Narrow Endemic and Criteria Area plants that are located in Criteria Area Cells or required survey areas and that can contribute toward MSHCP conservation objectives and reserve assembly.

Other Rare Plant Survey Protocols

The 2005 and 2006 rare plant surveys followed currently accepted resource agency protocols and guidelines from the CNPS (2001), CDFG (2000), and USFWS (1996) for conducting and reporting botanical inventories of special-status plant species. Following these protocols, rare plant surveys were carried out by botanists who had considerable experience with the local flora. All species observed during the surveys were identified to the degree necessary to determine if the plant had special status, including whether or not the species was threatened or endangered.

Seven federally or state-listed threatened or endangered plant species were identified by the database queries and literature review as likely to be present in the study area (Table 3.3-18 [page 3-636]). Four of the seven species were found during the surveys. These are discussed in Section 3.3.5 (page 3-634). Results of the botanical surveys specific to other special-status plants are described later in this section (see Table 3.3-4 [page 3-524]).

Overview of MSHCP and Other Rare Plant Survey Methods

Field surveys in 2005 began on March 1. The teams generally conducted surveys every other week through August 25, 2005, on 60 different occasions. The 2005 rare plant survey team consisted of Illeene Anderson, Linda Anton, David Bramlet, Kerry Byrne, Sophie Chiang, Robert Hernandez, Amy Hiss, Rick Riefner, and Fred Roberts.

The 2006 surveys began on March 6and continued roughly every other week through August 24, 2006. One additional survey was conducted on September 25 to review some areas. The 2006 rare plant survey team included Michelle Balk, David Bramlet, Kerry Byrne, Nichole Coulter, Judy Ferguson, Melissa Riedel Lehrke, Rick Riefner, Fred Roberts, and Scott White.

Suitable habitat for special-status plant species was identified in the study area prior to each survey. Some areas had suitable habitat for two or more target plants, and those areas were surveyed several times throughout the year as appropriate, following survey protocols. Reference sites were visited on an as-needed basis to determine the phenology (or life cycle) of target special-status plants. This was especially important for species not previously documented in the study area or known to be highly localized in the region.

The location of any observed special-status populations was recorded using the polygon feature in the GPS units unless the population was extremely large or was determined unsafe to map on foot (some of the steep terrain in the West Hemet Hills, for example). In these instances, and in a few other cases, the location of the population was denoted by a point.

Table 3.3-4 Special-Status Plants for which Suitable Habitat Is Present in the Project Study Area

Scientific Name/Common Name	CNPS Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Description	Blooming Period	Occurrence in Project Vicinity	Species Observed during Surveys
Abronia villosa var. *aurita* Chaparral sand-verbena	1B.1	Not included in MSHCP	Fine sand, mostly alluvial fans and benches; San Jacinto Mountains, Inland Empire, Orange and San Diego counties. Elevation below 1,525 m (5,000 ft).	January – September	East side of Hemet (eastern end of Diamond Valley); Winchester; along the San Jacinto River near San Jacinto; and in the Bernasconi Hills area	Yes, but species observed outside the study area
Atriplex parishii Parish's brittlescale	1B.1	CA, PS	Alkali grasslands, alkali playas, sinks, and pools, generally in saltbush scrub; western Riverside County (extant), Palm Springs and Cushenbury (historical); Baja California, Mexico. Elevation sea level to 1,890 m (6,200 ft).	June – October	MWD Upper Salt Creek Reserve, historical occurrences along the San Jacinto River floodplain	Yes
Atriplex serenana var. *davidsonii [A. davidsonii]* Davidson's saltscale	1B.2	CA, PS	Alkali grasslands and alkali playas; often confused with other species; local reports of *A. coulteri* and *A. pacifica* are based on *A. serenana davidsonii.* Elevation sea level to 520 m (1,700 ft).	April – October	Alkaline playas and vernal pools of San Jacinto River floodplain and upper Salt Creek watershed area	Yes
Calochortus plummerae Plummer's mariposa lily	1B.2	CO	Shrublands, woodlands, lower pine forest, mountains, foothills, and valleys; Ventura to Orange counties, inland to Riverside and San Bernardino counties. Elevation 90 to 1,705 m (300 to 5,600 ft).	N/A	Reported from the Tucalota Hills, foothills of the San Jacinto Mountains, Laborde Canyon (Badlands), San Timoteo Canyon, Jurupa Hills, Beaumont area	Yes
Calochortus weedii var. *intermedius* Intermediate mariposa lily	1B.2	CO	Shrublands, grasslands, various soil; coastal southern and central California, inland to western Riverside County. Elevation 180 to 850 m (600 to 2,800 ft).	May – July	Shipley reserve (Crown Valley)	No
Centromadia pungens ssp. *laevis [Hemizonia laevis]* Smooth tarplant	1B.1	CA, PS, RRVP	Generally alkaline, seasonally wet, low-elevation grassland, scrub, and playas; also fallow fields, drainage ditches; primarily in southwestern Riverside County, but a few sites in interior valleys of Los Angeles, San Bernardino, San Diego counties. Elevation sea level to 480 m (1,575 ft).	April – September	Moist alkali soils in the Perris Basin. In the region, reported from the San Jacinto area, Upper Salt Creek, Winchester, Domenigoni-Diamond Valleys	Yes
Chorizanthe parryi var. *parryi* Parry's spineflower	3.2	CO	San Bernardino, Riverside, Los Angeles counties; dry sandy or loamy alluvial or upland soils, open sites in coastal sage scrub or chaparral. Elevation sea level to 1,700 m (5,600 ft).	April – June	Lakeview Mountains, North Domenigoni Hills, Diamond Valley, Shipley Reserve, Badlands, Double Butte	Yes
Chorizanthe polygonoides var. *longispina* Long-spined spineflower	1B.2	Covered	Clay soils in chaparral, coastal sage scrub, and grasslands (clay); western Riverside County, San Diego County, and northern Baja California, Mexico. Elevation 30 to 1,460 m (100 to 4,800 ft).	April – June	Shipley Reserve-Lake Skinner Area	Yes

Table 3.3-4 Special-Status Plants for which Suitable Habitat Is Present in the Project Study Area

Scientific Name/Common Name	CNPS Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Description	Blooming Period	Occurrence in Project Vicinity	Species Observed during Surveys
Convolvulus simulans Small-flowered morning-glory	4.2	Covered	Clay grasslands or open clay soil areas in shrublands; western central and southwestern California. Elevation 30 to 700 m (100 to 2,300 ft).	March – May	Bachelor Mountain	No
Deinandra paniculata [Hemizonia paniculata] Paniculate tarplant	4.2	Not Included in MSHCP	Grasslands, open shrublands, roadsides, etc.; often common in San Diego, Orange, and Riverside counties. Elevation sea level to 950 m (3,100 ft).	April – November	Common throughout much of southwestern Riverside county (e.g., around Murrieta and Menifee north and east to the Hemet area)	Yes
Harpagonella palmeri Palmer's grapplinghook	4.2	Covered	Clay grasslands, openings in shrublands. Dry slopes and mesas, generally on clay soils in grasslands, coastal sage scrub, and chaparral; southwestern California through Baja California, Mexico, Arizona, and Sonora. Elevation sea level to 850 m (2,800 ft).	March – May	Shipley Reserve/Lake Skinner area	Yes
Hordeum intercedens *Vernal barley*	3.2	PS, RRVP	Alkali grasslands, playas. In coastal areas this species is found in clay grasslands; central and southern California to Baja California, Mexico. Elevation sea level to 1,000 m (3,300 ft).	March – June	Alkali vernal plains west of Hemet and along the San Jacinto River	Yes
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	1B.1	CA, PS	Coastal salt marsh or inland alkali playas, vernal pools; coastal sites from San Luis Obispo to Baja California, Mexico; inland on valley floors in south Great Valley, Coast Ranges, Mojave Desert (historical) and western Riverside County. Elevation sea level to 1,220 m (4,000 ft).	February – June	Upper Salt Creek, west of Hemet, San Jacinto Wildlife Area (San Jacinto River)	Yes
Lepidium virginicum var. *robinsonii* Robinson's peppergrass	1B.2	Not included in MSHCP	Dry areas, chaparral, and coastal sage scrub; Los Angeles County, most Channel Islands, inland to Riverside and San Bernardino counties, south to Baja California, Mexico. Elevation sea level to 880 m (2,900 ft).	January – April	Near the Shipley Reserve/Lake Skinner area, North Domenigoni Hills, and east Diamond Valley	Yes
Microseris douglasii ssp. *platycarpha* Small-flowered microseris	4.2	CO	Clay soils on plains, hillsides, and foothill slopes, generally in clay grasslands and native grasslands; Los Angeles, Orange, western Riverside, and San Diego counties to Baja California, Mexico. Elevation sea level to 1,060 m (3,500 ft).	March – May	Bachelor Mountain-Lake Skinner area	Yes

Table 3.3-4 Special-Status Plants for which Suitable Habitat Is Present in the Project Study Area

Scientific Name/Common Name	CNPS Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Description	Blooming Period	Occurrence in Project Vicinity	Species Observed during Surveys
Myosurus minimus ssp. *apus* Little mousetail	3.1	CA, PS	Vernal pools, alkali playas, alkaline grasslands; valley floors; Baja California, Mexico north through western Riverside County and southern Great Valley. Elevation sea level to 640 m (2,100 ft).	March – May	Upper Salt Creek area west of Hemet	Yes
Nama stenocarpum Mud nama	2.2	CA, RRVP	Saline or alkaline mud flats of lakes, playas, marshes, swamps, river banks, drying lakebeds, and intermittent wetlands; Los Angeles County to Texas and northern Mexico. Elevation below 460 m (1,500 ft).	May – June; September – November	Locally known only from Mystic Lake	No
Pentachaeta aurea Golden-rayed pentachaeta	4.2	Not included in MSHCP	Open places, generally grassland but also shrublands, woodlands, lower montane forests; valleys and mountains, cismontane Southern California to Baja California, Mexico. Elevation 80 to 1,830 m (260 to 6,000 ft).	March – July	Only recent reports are from Temecula and Pechanga, about 25.7 km (16 mi) southwest of the study area, but suitable habitat occurs throughout the study area; other records are from the San Jacinto Mountains	No
Pseudognaphalium leucocephalum [Gnaphalium l.] Sonora everlasting	2.2	Not included in MSHCP	Perennial herb; shrublands and woodlands, sea; open sand, usually on alluvium; San Luis Obispo through San Diego counties, inland to Riverside and San Bernardino counties; disjunct (and may be a different species) from occurrences in Arizona, Texas, Sonora. Elevation sea level to 2,130 m (7,000 ft).	July – September	San Timoteo Canyon, Santa Ana Mountains, suitable habitat occurs along the San Jacinto River within the study area	No
Sidalcea neomexicana Salt Spring checkerbloom	2.2	Not included in MSHCP	Alkaline playas, grasslands, brackish marshes within shrublands or forests; southwestern California, Baja California, Mexico, southwestern United States to mainland Mexico. Elevation below 1,525 m (5,000 ft).	March – June	Historical record from the 1960s for 4.8 km (3 mi) west of San Jacinto	No
Trichocoronis wrightii var. *wrightii* Wright's trichocoronis	2.1	NE, PS	Seasonally inundated alkali playas, muddy alkaline meadows, marshes; San Joaquin Valley, San Jacinto Valley, disjunct to Texas. Elevation sea level to 490 m (1,600 ft).	May – September	San Jacinto River floodplain at San Jacinto Wildlife Area. Not known from the Salt Creek watershed.	No

Table 3.3-4 Special-Status Plants for which Suitable Habitat Is Present in the Project Study Area

Scientific Name/Common Name	CNPS Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Description	Blooming Period	Occurrence in Project Vicinity	Species Observed during Surveys
Local Concern Species (No CNPS Status)[c]						
Amaranthus californicus California pigweed	Local Concern	Not included in MSHCP	Matting herb; drying mud flats of seasonal pools playas and lakes; most of California to southern Canada and Texas; regionally rare in Riverside County interior valleys, mountains, Coachella Valley. Elevation sea level to 2,800 m (9,200 ft).	July – October	Mystic Lake, California. 6.4 km (4 mi) from the study area.	No
Calycoseris parryi Yellow tack-stem	Local Concern	Not included in MSHCP	Annual; common on Sonoran and Mojave deserts, east to Utah and Arizona; locally rare west of the San Jacinto Mountains at a few western Riverside County locations in coastal sage scrub openings. Elevation 92 to 1,830 m (300 to 6,000 ft).	March – May	Known from the North Domenigoni Hills and the Sedco Hills	No
Camissonia graciliflora Slender-flowered primrose	Local Concern	Not included in MSHCP	Annual of upland clay soils; grasslands or grassy openings in woodlands or shrublands; Liebre Mountains (Los Angeles County) north to southern Oregon; local occurrences scarce and generally threatened by land uses. Elevation below 1,065 m (3,500 ft).	March – May	Recorded from the east end of Diamond Valley	No
Caulanthus heterophyllus var. *pseudosimulans* San Diego wild cabbage, Slender pod jewelflower	Local Concern	Not included in MSHCP	Coastal sage scrub and chaparral, on granitic substrates, often following fire or other disturbance. A Southern California endemic, *C. h. pseudosimulans* has not been properly published in botanical literature. Elevation below 1,070 m (3,500 ft).	March – May	Lakeview Mountains, Gibbel Flat (East Hemet), North Domenigoni Hills, East Diamond Valley, Bachelor Mountain, and the San Jacinto Mountains	No
Lepidium latipes var. *latipes* Dwarf peppergrass	Local Concern	Not included in MSHCP	Alkaline playas and vernal pools; northern Baja California, Mexico, through the Great Valley to northwestern California; scarce locally, limited to vernal pools. Elevation below 790 m (2,600 ft).	March – May	Upper Salt Creek area, west of Hemet, San Jacinto River	Yes
Petunia parviflora Small-flowered wild petunia	Local Concern	Not included in MSHCP	Open, wet, or moist sandy or silty areas, usually riverbanks, ephemeral lakes, and creeks; Southern California through much of southern United States to tropical America; regionally scarce and generally threatened by land uses. Elevation below 1,310 m (4,300 ft).	April – August	San Jacinto, Mystic Lake, San Jacinto River	Yes

Table 3.3-4 Special-Status Plants for which Suitable Habitat Is Present in the Project Study Area

Scientific Name/Common Name	CNPS Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Description	Blooming Period	Occurrence in Project Vicinity	Species Observed during Surveys
Pilularia americana American pillwort	Local Concern	Not included in MSHCP	Vernal pools and seasonal wetlands, coastal and interior Southern California to Oregon, Midwest, and southern United States; Chile. Elevation below 1,520 m (5,000 ft).	N/A	Upper Salt Creek, west of Hemet	Yes
Plantago elongata California alkali plantain	Local Concern	Not included in MSHCP	Coastal and interior saline or alkaline wetlands; Baja California, Mexico, to southern Canada; locally common in alkaline vernal pools, but strictly limited to these habitats. Elevation sea level to 490 m (1,600 ft).	April – June	Vernal pools near Hemet and along the San Jacinto River	Yes
Psilocarphus tenellus var. *globiferus* Round woolly marbles	Local Concern	Not included in MSHCP	Vernal pools and coastal dune systems; central California and disjunct to central Chile; locally scarce, strictly limited to vernal pools, usually on hardened substrates. Elevation sea level to 700 m (2,300 ft).	April – June	Known in Southern California only from the Domenigoni Valley	Yes
Sibara virginica Virginia rock-cress	Local Concern	Not included in MSHCP	Much of California and (disjunct) the eastern United States, where relatively common; regionally scarce and widely scattered through southwestern California, limited to vernal wetlands. Elevation below 370 m (1,200 ft).	March – May	Skunk Hollow vernal pool	Yes

Source: *Source:* Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

Note: The following USGS 7.5-minute quadrangles were queried, and they include the study area and a 12.9-km (8-mi) buffer adjacent to the study area: Bachelor Mountain, Beaumont, Cabazon, El Casco, Hemet, Lake Fulmor, Lakeview, Murrieta, Perris, Romoland, Sage, San Jacinto, Sunnymead, and Winchester.

[a]***Status Codes:***

California Native Plant Society (CNPS) Status (CNPS 2007)

1A – Plants Presumed Extinct in California

1B – Plants Rare, Threatened, or Endangered in California and Elsewhere

2 – Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere

3 – Plants About Which We Need More Information – A Review List

4 – Plants of Limited Distribution – A Watch List

CNPS Threat Rank (Suffixes to CNPS List Status Codes):

1 –Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)

2 – Fairly endangered in California (20-80% occurrences threatened)

3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Table 3.3-4 Special-Status Plants for which Suitable Habitat Is Present in the Project Study Area

Scientific Name/Common Name	CNPS Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Description	Blooming Period	Occurrence in Project Vicinity	Species Observed during Surveys

Other Designations:

[b] **Western Riverside MSHCP Definitions (RCIP 2003).**

Special Conditions of MSHCP Covered Species:

CA – Surveys may be required for these species in locations shown on survey maps, as described in Section 6.3.2 of the MSHCP. This includes the list of additional survey needs and procedures species and the Criteria Area Species (see MSHCP pp. 6-63 to 6-65) and the MSHCP Errata Letter, dated August 9, 2004.

CO – These species will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met. Species-specific conservation objectives for these species are presented in Section 9.0 of the MSHCP. Refer to Table 9-3 of the MSHCP for specific conservation objectives that must be met for these species prior to including them on the list of Covered Species Adequately Conserved.

Covered – Species addressed in the MSHCP and included in the 10(a)(1)(B) permit. Also includes species that will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met.

NE – Surveys may be required for these species in Narrow Endemic Plant Species survey areas, as described in Section 6.1.3 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

PS – Planning Species – Subsets of Covered Species that are identified to provide guidance for Reserve Assembly in Cores and Linkages and/or Area Plans per Volume I, Section 3, of the MSHCP (RCIP 2003) and the MSHCP Errata Letter, dated August 9, 2004.

RRVP – These species should be protected because they are associated with riparian/riverine areas and vernal pools, as described in Section 6.1.2 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

[c] **Local Concern Species**

Local concern species are described and discussed in the Final Rare Plant Survey Report. The locations of local concern species were not mapped during the rare plant surveys. These species do not have special status per the USFWS, CDFG, or CNPS; therefore, they were not addressed.

Population sizes were obtained by direct counts, estimations, or by sampling and extrapolation. Plants within very small populations were counted. The numbers of plants for medium, large, or very large populations were visually estimated and rounded to the nearest appropriate digit (tens, hundreds, thousands, tens of thousands, or more). Counts of vernal barley (which was found in populations consisting of several thousand plants or more) were obtained by counting the number of plants present in a representative number of 1-square-meter (m^2) (3.2-square-foot [ft^2]) plots, then averaging the results to determine the number of plants per square-meter area. This plant density was then extrapolated to arrive at the approximate number of plants in a larger area.

Field visits were timed to occur during the optimum blooming period for special-status plants that were likely to be present in each site. Some sites required early-, middle-, and late-season surveys, depending on the type of and quality of habitat. All areas that were not surveyed during the appropriate time of year in 2005 were resurveyed during the correct period in 2006.

All botanists documented every field visit in their field notes, by area, and took photographs of field conditions. The survey team also recorded all plant communities and all plant taxa observed during each field visit, on a per area basis. A list of the 506 plant species identified during the surveys is in Appendix F of the NES. Photographs of the special-status plants found in the study area are in Appendix G of the NES.

Plant Species in the Build Alternative and Design Option Study Areas

Build Alternative 1a

Ten special-status plant species were identified in the Build Alternative 1a study area (Table 3.3-1 [page 3-443]). Eight of these 10 species are MSHCP Covered Species. Three of the 8 Covered Species have populations with LTCV—smooth tarplant, Coulter's goldfields, and little mousetail. More information about these LTCV populations is in a separate subsection (page 3-532). Two special-status plants, paniculate tarplant and Robinson's peppergrass, are not included in the MSHCP.

MSHCP Criteria Area, Narrow Endemic, Other MSHCP Covered Species, and MSHCP Planning Species

Eight MSHCP species were identified in the Build Alternative 1a study area:

- Davidson's saltscale – 1 population (6 plants)
- Plummer's mariposa lily – 1 population (2 plants)
- Smooth tarplant – 270 populations (110,101 plants)
- Parry's spineflower – 27 populations (112,536 plants)
- Long-spined spineflower – 4 populations (4,465 plants)
- Vernal barley – 16 populations (1,249,380 plants)
- Coulter's goldfields – 22 populations (5,380 plants)
- Little mousetail – 31 populations (64,001 plants)

Davidson's Saltscale

One small population of Davidson's saltscale with six plants was found in the study area for Build Alternative 1a, west of the San Diego Canal and northwest of the Stoney Mountain Preserve (Figure 3.3-24). This location and this small population of Davidson's saltscale are common to all of the Build alternative study areas (in Roadway Segment K or J, depending on the Build alternative).

Plummer's Mariposa Lily

One very small population of Plummer's mariposa lily containing two plants was found in the West Hemet Hills (Figure 3.3-25). This was the only place this species was observed in the study area. However, it typically blooms following fires, so based on habitat suitability, it is possible that many more of these plants could be present in this area than were actually observed. Although not considered to have LTCV per the MSHCP, Plummer's mariposa lily is designated as a CNPS 1B species and is therefore considered rare in California. This population is important because its location adds to the known range of the species (Table 3.3-6 [page 3-537]).

Smooth Tarplant

A total of 270 populations of smooth tarplant, containing 110,101 individuals, is present in the study area for Build Alternative 1a (Figure 3.3-26). The study area for Utility Corridors 1 and 2 contains 14 smooth tarplant populations, but relatively few individual plants (3,250) (Table 3.3-1 [page 3-443]). A small number of populations was observed south of Domenigoni Parkway, but most were found in the middle to northern portions of the study area, roughly between Devonshire Avenue and Ramona Expressway.

Thirty smooth tarplant populations (with 4,995 plants) were identified in Additional Indirect Impact Study Area 2 at the Stoney Mountain Preserve. Of these 30 populations, 20 (with 31,683 individuals) occur within Criteria Area cells and have LTCV (Tables 3.3-5 [page 3-533] and 3.3-6 [page 3-537]). These LTCV populations are described in a separate section (page 3-532).

Parry's Spineflower

Twenty-seven Parry's spineflower populations comprising more than 112,000 plants were identified in the Build Alternative 1a study area. Except for one population observed in the Roadway Segment A portion of the study area, most of these populations were found in the West Hemet Hills (Figure 3.3-27). Although not considered to have LTCV per the MSHCP, the Parry's spineflower complex in the West Hemet Hills is important because of the large number of populations in areas of relatively undisturbed Riversidian sage scrub habitat (Table 3.3-6 [page 3-537]).

Long-Spined Spineflower

Four populations of long-spined spineflower containing 4,465 plants were identified in the study area for Build Alternative 1a. These populations were all found in the West Hemet Hills (Figure 3.3-28). Although they do not have LTCV per the MSHCP, these populations of long-spined spineflower are important because this is a new location for this species, and this population complex now represents the northernmost known occurrence.

Vernal Barley

Sixteen vernal barley populations with more than 1 million plants were identified in the study area for Build Alternative 1a. These populations were observed adjacent to the San Diego Canal in the vicinity of Esplanade Avenue, east of the San Diego Canal, roughly between Devonshire Avenue and Tres Cerritos Avenue, west of the EMWD Regional Water Reclamation Facility, and in Additional Indirect Impact Area 2 (Figure 3.3-29). Most of the plants (1,230,600) were identified in Additional Indirect Impact Area 2. These populations of vernal barley, an MSHCP Planning Species, are in Criteria Area Cells 3683, 3584, 3291, and 2878. As described in Section 3.3.1.3 (page 3-459) and Table 3.3-2 (page 3-464), the goals in these Criteria Area Cells include conservation of alkali playa, vernal pool, and upland habitats, including agricultural habitats. Plant populations in the Criteria Area Cells are important to helping identify sensitive habitat and guiding reserve assembly.

Coulter's Goldfields

Twenty-two populations of Coulter's goldfields, comprising 5,380 plants, were found in the Build Alternative 1a study area (Table 3.3-1 [page 3-443] and Figure 3.3-30). All of these populations were east of Warren Road and south of Byrd Street. They have LTCV. Information about LTCV populations is presented in a separate section (page 3-532).

Little Mousetail

Thirty-one little mousetail populations containing slightly more than 64,000 plants were identified in the study area for Build Alternative 1a (Table 3.3-1 [page 3-443] and Figure 3.3-31). One population with about 10,000 plants was found inside the PIA in a vernal pool at the northwest corner of Warren Road and Esplanade Avenue.

Thirty populations of little mousetail (with 49,001 plants) were identified in Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve. This population complex is present in the study areas for all of the Build alternatives (Roadway Segment J or K, depending on the Build alternative). A portion of it, about 5,000 plants, extends into the indirect impact area. The little mousetail populations in Stoney Mountain Preserve, including the population that extends beyond the Preserve boundary into the study area, are in Criteria Area Cell 3291, Subunit 4: Vernal Pool Areas – East. These populations have LTCV and are described separately in the following section (see also Table 3.3-5 [page 3-533]).

Assessment of LTCV Populations in the Build Alternative 1a Study Area

MSHCP Criteria Area Cells 3683, 3584, 3291, 2774, 2775, and 2778 through 2878 are in the Build Alternative 1a study area (Figure 3.3-22).

A total of 114 populations of rare plants in the Build Alternative 1a study area are in Criteria Area Cells (Table 3.3-5 [page 3-533]). These populations have been identified and evaluated for LTCV consistent with the species-specific goals and objectives of the MSHCP. Three species with LTCV populations are present in the Build Alternative 1a study area—smooth tarplant, little mousetail, and Coulter's goldfields. The findings are presented in Tables 3.3-5 (page 3-533) and 3.3-6 (page 3-537) and are described in the following sections.

Table 3.3-5 Assessment of Long-Term Conservation Value Populations in the Study Area

Scientific Name	Common Name	Criteria Area Cell(s)	Build Alternative[a]	Location of Population by Project Element	Population(s) Present in the PIA	Population(s) Present in 30.5-m (100-ft) Indirect Impact Area	Population(s) Present in Additional Indirect Impact Study Area 1	Population(s) Present in Additional Indirect Impact Study Area 2	Do Populations Have Long-Term Conservation Value?	Rationale[b]
Centromadia pungens ssp. *laveis*	smooth tarplant	3683	Study Area for Build Alternatives 1a and 1b (including Design Option 1b1)	Roadway Segment G	Yes	Yes	No	No	No	Conservation within this cell group will contribute to assembly of Proposed Noncontiguous Habitat Block 7 and will focus on playas, vernal pools, and a variety of upland habitats. Conservation will focus on the eastern portion of the cell and link with the adjacent cells to the east and south. A single smooth tarplant population with 1,000 plants is located in the northwest part of the cell. This represents an isolated population located in a disturbed habitat. These populations do not have LTCV.
Centromadia pungens ssp. *laveis*	smooth tarplant	3683	Study Area for Build Alternatives 2a and 2b (including Design Option 2b1)	Roadway Segment H	Yes	Yes	No	No	No	Conservation within this cell group will contribute to assembly of Proposed Noncontiguous Habitat Block 7 and will focus on playas, vernal pools, and a variety of upland habitats. Conservation will focus on the eastern portion of the cell and link with the adjacent cells to the east and south. A single smooth tarplant population with 1,000 plants is located in the northwest part of the cell. This represents an isolated population located in a disturbed habitat. These populations do not have LTCV.
Centromadia pungens ssp. *laveis*	smooth tarplant	3584	Study Area for Build Alternatives 1a, 1b (including Design Option 1b1), 2a, and 2b (including Design Option 2b1)	Roadway Segment I	Yes	Yes	No	No	No	Conservation within this cell group will contribute to assembly of Proposed Noncontiguous Habitat Block 7 and will focus on playas/vernal pool habitat and agricultural land in the central part of the cell and areas to the south and east (RCIP 2003). Seven smooth tarplant populations with 1,794 plants are located in the very northern part of the cell. Localities are generally isolated localities in disturbed habitats or small fragments of larger polygons These populations do not have LTCV.
Centromadia pungens ssp. *laveis*	smooth tarplant	3291	Study Area for Build Alternatives 1a and 2b (including Design Option 2b1)	Roadway Segment J	No	Yes	No	Yes	No	Conservation goals of this subunit are to conserve vernal pools and vernal pool hydrology. Conservation within this cell will contribute to assembly of Proposed Noncontiguous Habitat Block 7, and will focus on grassland habitat. Conservation will be about 5 percent of the cell focusing in the western portion of the cell. Two smooth tarplant populations with 223 plants occur in Criteria Area Cell 3291. A portion of one population also extends into Additional Indirect Impact Study Area 2 in the Stoney Mountain Preserve. These populations do not have LTCV.
Myosurus minimus ssp. *apus*	little mousetail	3291	Study Area for Build Alternatives 1a and 2b (including Design Option 2b1)	Roadway Segment J	No	Yes	No	Yes	Yes	Conservation goals of this subunit are to conserve vernal pools and vernal pool hydrology. Conservation of this cell is to focus on grassland habitat and is to occur in the western part of the cell. One large population complex with 30 populations occurs in Criteria Area Cell 3291 and has LTCV. Only a small portion of one of these populations with about 8,559 plants is within the 30.5-m (100-ft) indirect impact area for Segment J. The remaining 49,001 plants are located within the Stoney Mountain Preserve in Additional Indirect Impact Study Area 2. Potentially occurring indirect impacts to vernal pool hydrology could adversely affect the attainment of conservation goals for this habitat block, subunit, or cell.
Centromadia pungens ssp. *laveis*	smooth tarplant	3291	Study Area for Build Alternatives 1b (including Design Option 1b1) and 2a	Roadway Segment K	No	Yes	No	Yes	No	Conservation goals of this subunit are to conserve vernal pools and vernal pool hydrology. Conservation within this cell will contribute to assembly of Proposed Noncontiguous Habitat Block 7 and will focus on grassland habitat. Conservation will be about 5 percent of the cell focusing in the western portion of the cell. Two smooth tarplant populations with 223 plants occur in Cell 3291. A portion of one population also extends into Additional Indirect Impact Study Area 2 (at the Stoney Mountain Preserve). These populations do not have LTCV.
Myosurus minimus ssp. *apus*	little mousetail	3291	Study Area for Build Alternatives 1b (including Design Option 1b1) and 2a	Roadway Segment K	No	Yes	No	Yes	Yes	Conservation goals of this subunit are to conserve vernal pools and vernal pool hydrology. Conservation of this cell is to focus on grassland habitat and is to occur in the western part of the cell. One large population complex with 30 populations occurs in Cell 3291 and has LTCV. Only a small portion of one of these populations with about 5,000 plants is within the 30.5-m (100-ft) indirect impact area for Segment K. The remaining 49,001 plants are located within the Stoney Mountain Preserve in Additional Indirect Impact Study Area 2. Potentially occurring indirect impacts to vernal pool hydrology could adversely affect the attainment of conservation goals for this habitat block, subunit, or cell.

Table 3.3-5 Assessment of Long-Term Conservation Value Populations in the Study Area

Scientific Name	Common Name	Criteria Area Cell(s)	Build Alternative[a]	Location of Population by Project Element	Population(s) Present in the PIA	Population(s) Present in 30.5-m (100-ft) Indirect Impact Area	Population(s) Present in Additional Indirect Impact Study Area 1	Population(s) Present in Additional Indirect Impact Study Area 2	Do Populations Have Long-Term Conservation Value?	Rationale[b]
Centromadia pungens ssp. *laveis*	smooth tarplant	2774, 2775, 2878	Study Area for Build Alternatives 1a and 2a	Roadway Segment L	Yes	Yes	No	No	Yes	Goals of the San Jacinto Plan, Subunit 4: Vernal Pool Areas – East, include conservation of vernal pools and vernal pool hydrology. Twenty smooth tarplant populations within Criteria Area Cells 2774, 2775, and 2878 with 31,863 plants occur in relatively intact alkali grassland/wetland habitat that could contribute toward reserve assembly. These populations have LTCV. Eighteen populations are located in the PIA, and one of these populations extends beyond the PIA into the 30.5-m (100-ft) indirect impact area. A total of 26,221 plants occur within the PIA. Two additional populations only occur in the indirect impact area. A total of with 5,642 plants occur in the indirect impact area (including the plants within the large population that spans the PIA and indirect impact area). Displacement of these populations or indirect impacts could adversely affect the attainment of conservation goals for this subunit, habitat block, or cell.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	2774, 2775	Study Area for Build Alternatives 1a and 2a	Roadway Segment L	Yes	Yes	No	No	Yes	Goals of the San Jacinto Plan, Subunit 4: Vernal Pool Areas – East include conservation of vernal pools and vernal pool hydrology. Twenty-two populations within Criteria Area Cells 2774 and 2775 with 5,380 plants occur in relatively intact alkali grassland/wetland habitat that could contribute toward reserve assembly. These populations have LTCV. Twenty populations and 4,785 plants are located within the PIA. One large population extends beyond the PIA into the 30.5-m (100-ft) indirect impact area. Three populations occur within the indirect impact area. A total of 650 plants occur within the indirect impact area (including within the large population that spans the PIA and the indirect impact area). Displacement of these populations or alterations to the supporting hydrology could adversely affect the attainment of conservation goals for this subunit, habitat block, or cell.
Centromadia pungens ssp. *laveis*	smooth tarplant	2364	Study Area for Build Alternatives 1a, 1b (including Design Option 1b1), 2a, and 2b (including Design Option 2b1)	Roadway Segment N	No	Yes (and Utility Relocation Area 2)	No	No	No	Conservation within this Cell Group will contribute to assembly of Proposed Core 3, and will focus on chaparral and coastal sage scrub habitat and connect to chaparral and coastal sage scrub habitat proposed for conservation in adjacent Cell Groups. Five small smooth tarplant populations with 199 plants occur within Cell 2364. Plants are located within the 30.5-m (100-ft) indirect impact area and Utility Relocation Area 2. These five small populations would not provide substantial contributions toward reserve assembly and they do not have LTCV.
Additional Indirect Impact Study Area 1										
Atriplex serenana var. *davidsonii*	Davidson's saltscale	3791, 3891, 4007	Build Alternatives 2a and 2b (including Design Option 2b1)	Additional Indirect Impact Study Area 1	No	No	Yes	No	Yes	A total of 59 populations of Davidson's saltscale with 12,136 plants were identified within Additional Indirect Impact Study Area 1. The majority of the populations were observed east of California Avenue, and south of Stetson Avenue, but a few populations were identified at the MWD Upper Salt Creek Reserve, north of Stetson Road. These populations represent the core for the population complex within the Study Area, and the viability of the populations in this area is essential for the survival of this species. The populations in this area have very high LTCV. Adverse impacts to the populations within this area (including the supporting vernal pool hydrology) could result in the loss of populations or individuals or degradation of the vernal pool habitat, could affect the long-term sustainability of these localities, and could make it more difficult to attain the MSHCP species conservation goals and objectives.

Table 3.3-5 Assessment of Long-Term Conservation Value Populations in the Study Area

Scientific Name	Common Name	Criteria Area Cell(s)	Build Alternative[a]	Location of Population by Project Element	Population(s) Present in the PIA	Population(s) Present in 30.5-m (100-ft) Indirect Impact Area	Population(s) Present in Additional Indirect Impact Study Area 1	Population(s) Present in Additional Indirect Impact Study Area 2	Do Populations Have Long-Term Conservation Value?	Rationale[b]
Atriplex parishii	Parish's brittlescale	3683, 3791	Build Alternatives 2a and 2b (including Design Option 2b1)	Additional Indirect Impact Study Area 1	No	No	Yes	No	Yes	A total of 1,320 Parish's brittlescale plants in 13 populations were observed within the MWD Upper Salt Creek Reserve. Only one other extant occurrence of this species has been confirmed, and it is located in San Diego County. All of the Parish's brittlescale populations have LTCV. Because these localities are within the MWD Upper Salt Creek Reserve, conservation has already been attained. However, indirect impacts to vernal pool hydrology could result in the loss of populations or individual plants or degradation of the vernal pool habitat, could affect the long-term sustainability of these localities, and could make it more difficult to attain the MSHCP species conservation goals and objectives.
Centromadia pungens ssp. *laveis*	smooth tarplant	3683, 3684, 3791, 3887, 4007	Build Alternatives 2a and 2b (including Design Option 2b1)	Additional Indirect Impact Study Area 1	No	No	Yes	No	Yes	A total of 80 smooth tarplant populations with more than 180,000 plants were identified within Additional Indirect Impact Study Area 1. Most localities occurred between Stetson Avenue and SR 74/Florida Avenue, but a few populations were located in the Stowe Road Vernal Pool Complex west of California Avenue. Within Additional Indirect Impact Study Area 1 moderate to large populations identified in relatively undisturbed natural habitats that are not isolated have LTCV. Small populations in this area do not have LTCV unless they are located directly adjacent to large populations, or they would geographically connect two or more moderate to large populations. Adverse impacts to the moderate to large populations within this area could affect the attainment of conservation goals for this species.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	3683, 3684	Build Alternatives 2a and 2b (including Design Option 2b1)	Additional Indirect Impact Study Area 1	No	No	Yes	No	Yes	Twenty populations of Coulter's goldfields with about 560,000 plants were identified roughly between the MWD Upper Salt Creek Reserve north to SR 74/Florida Avenue. The largest concentration of Coulter's goldfields within the study area with more than 500,000 plants was mapped within the alkali grasslands and seasonal wetlands south of Florida Avenue. The Coulter's goldfields in the study area are part of the last two major population complexes left in California and these localities have very high LTCV. Adverse impacts to these populations or to the supporting hydrology could result in the loss of this locality, a decrease in population size, or degradation of the habitat, could adversely affect the long term sustainability of these localities, and could make it more difficult to attain the MSHCP species conservation goals and objectives.
Myosurus minimus ssp. *apus*	little mousetail	3683, 3684, 3791, 3887, 3891, 4007	Build Alternatives 2a and 2b (including Design Option 2b1)	Additional Indirect Impact Study Area 1	No	No	Yes	No	Yes	Ninety populations of little mousetail with more than 375,000 plants were identified in Additional Indirect Impact Study Area 1. The populations of little mousetail within the study area are the largest in Southern California and they form the only very large population complex within the western Riverside MSHCP area. The largest populations, such as those at the MWD Upper Salt Creek Reserve and the area east of the San Diego Canal (directly east of the Reserve), have LTCV. Small populations of little mousetail do not have LTCV unless they are located directly adjacent to moderately sized or large populations, or they geographically connect several populations in an area of currently or restorable suitable habitat. Adverse impacts to these populations or to the supporting hydrology could result in the loss of this locality, a decrease in population size, or degradation of the habitat, could adversely affect the long term sustainability of these localities, and could make it more difficult to attain the MSHCP species conservation goals and objectives.
Additional Indirect Impact Study Area 2										
Centromadia pungens ssp. *laveis*	smooth tarplant	3291	Build Alternatives 1a, 1b (including Design Option 1b1), 2a, and 2b (including Design Option 2b1)	Additional Indirect Impact Study Area 2	No	No	No	Yes	Yes	Thirty smooth tarplant populations with 4,995 plants were identified scattered within Additional Indirect Impact Study Area 2. Although they are small, these populations occur near each other within a relatively small intact area of alkali grassland and wetland habitat. These populations have LTCV. Because most of these populations are within the Stoney Mountain Preserve, conservation has already been attained. However, potential indirect impacts to the supporting vernal pool hydrology could adversely affect the habitat quality and the long-term sustainability of these populations.

Table 3.3-5 Assessment of Long-Term Conservation Value Populations in the Study Area

Scientific Name	Common Name	Criteria Area Cell(s)	Build Alternative[a]	Location of Population by Project Element	Population(s) Present in the PIA	Population(s) Present in 30.5-m (100-ft) Indirect Impact Area	Population(s) Present in Additional Indirect Impact Study Area 1	Population(s) Present in Additional Indirect Impact Study Area 2	Do Populations Have Long-Term Conservation Value?	Rationale[b]
Myosurus minimus ssp. *apus*	little mousetail	3291	Build Alternatives 1a, 1b (including Design Option 1b1), 2a, and 2b (including Design Option 2b1)	Additional Indirect Impact Study Area 2	No	No	No	Yes	Yes	Thirty populations of little mousetail collectively totaling about 49,001 plants were identified scattered throughout the Additional Indirect Impact Study Area 2, and these populations have LTCV. Because these populations are located within the Stoney Mountain Preserve, conservation has already been attained. However, potential indirect impacts to the supporting vernal pool hydrology could adversely affect the habitat quality and the long-term sustainability of these populations.

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

[a]Additional Indirect Impact Study Areas 1 and 2, which are part of the Build alternatives, are addressed separately in this table.

[b]Information on the MSHCP Planning Species and Biological Issues and Considerations included for Subunits 2 and 4, along with the Planning Species for Noncontiguous Habitat Blocks 6 and 7 and Existing Constrained Linkage B (Salt Creek), and the overall goals for each of the Covered Species as noted in Appendix E of the MSHCP (Species Survey Requirements, Plants), and the habitat goals noted for each Criteria Area Cell in Table 3.3-2 (page 3-464).

Table 3.3-6 Distribution, Status, and Conservation Value of Special-Status Plants Observed in the Study Area

Scientific Name/ Common Name/ Conservation Status Code[a] and MSHCP Status and Special Conditions[b]	Species Distribution	Number of Regional Extant/Extirpated Occurrences	Species Distribution in Riverside County	Number of Riverside County Extant/Extirpated Occurrences	Species Distribution in the Study Area	Conservation Value of Populations in the Study Area
Atriplex parishii Parish's brittlescale -/-/1B.1 CA, PS	Parish's brittlescale is endemic to southwestern California. Its historic range includes the Los Angeles Basin of Los Angeles and Orange Counties, extending east to the north base of the San Bernardino Mountains, San Bernardino County, and south through Riverside County to Ramona, San Diego County.	It is reported from 12 occurrences in the CNDDB (two occurrences were combined because they are at the same location). Three additional sites have been reported based on herbarium collections (Consortium 2007). All but two of these occurrences are extirpated, or have not been observed in over 60 years (1940).	This species is historically known from the Vandeventer flats area in the San Jacinto Mountains (CNDDB 2007) and the alkali habitats on Domino-Traver-Willows soils in the San Jacinto River floodplain (including near Lakeview) and Upper Salt Creek area near the cities of Hemet and Winchester. This species was thought to be extinct by the 1990s, but it was rediscovered at the MWD Upper Salt Creek Reserve in 1993.	**Occurrence Information Prior to the 2005 and 2006 Surveys:** Parish's brittlescale is extremely rare. The location at the MWD Upper Salt Creek Reserve is the only known extant location in western Riverside County and is one of only two known occurrences within the entire historic range of this species. Another occurrence, just west of Winchester, was reported to have several thousand plants (Reiser 2001). Much of this area, however, currently appears to be disturbed by agricultural production; and this occurrence, if extant, likely exists only in the seed bank. **Occurrence Information With Results of the 2005 and 2006 Surveys Included:** Results of the surveys confirmed that the previously known occurrence at the MWD Upper Salt Creek Reserve is extant.	A total of 1,320 Parish's brittlescale plants were observed in 2006 in the MWD Upper Salt Creek Reserve.	**Extremely High** The Parish's brittlescale occurrence known from the study area at the Upper Salt Creek Reserve is the only extant occurrence known from western Riverside County. There is only one other confirmed extant occurrence of this species, and it is located in San Diego County. This Parish's brittlescale occurrence has extremely high conservation value. Within the study area, this occurrence is located on the Upper Salt Creek Reserve; and it is protected. Preserving the site hydrology and alkali grassland and wetland habitats in which Parish's brittlescale occurs is critical to maintaining a viable population at this location and is essential for the continued existence of this species.
Atriplex serenana var. *davidsonii* Davidson's saltscale -/-/1B.2 CA, PS	Davidson's saltscale is endemic to southwestern California, and is found at scattered locations along the coast, the northern Channel Islands, and the interior valleys of Los Angeles and Riverside Counties (CNDDB 2007, Consortium 2007).	The total number of occurrences is estimated at 24. This total includes CNDDB occurrences (taking into account many are based on misidentified herbarium specimens or other identification errors), and five additional occurrences based on unpublished herbarium collections (Consortium 2007, Roberts 2004b). All but six occurrences are either extirpated or have not been observed for more than 30 years (three occurrences), and in some cases, over 60 years (15 occurrences).	In recent years, Davidson's saltscale has been reliably found only on the seasonally flooded vernal alkali plains in two large population complexes. The first is located along the San Jacinto River between Mystic Lake and Perris, and the second is at Upper Salt Creek, near Hemet. Populations within the study area are located within the Upper Salt Creek population complex.	**Occurrence Information Prior to the 2005 and 2006 Surveys:** Only one CNDDB occurrence is recorded from Riverside County, but four additional occurrences (one represented by four separate occurrences in the CNDDB) are misplaced under *Atriplex pacifica*) and one other locality have been documented by other sources (CNDDB 2007, Consortium 2007, RCFCWCD 2000). Taking these into account, there are six occurrences in Riverside County. **Occurrence Information With Results of the 2005 and 2006 Surveys Included:** Previously, four separate occurrences (reported under *A. pacifica*) were reported for the Upper Salt Creek area. Results of the 2005 and 2006 surveys determined that all of these occurrences were part of a single expanded population complex. Twenty percent of all recently observed occurrences in Riverside County are found in the study area. Population size estimates are approximate, but it is estimated that the occurrences in the study area account for about 95 percent of all known or recently reported individuals in California.	More than 56,000 Davidson's saltscale plants were observed during the 2005 and 2006 surveys.	**Moderate to Very High** The most important localities are within the area north of the San Jacinto Branch Line, south of Florida Avenue, east of California Avenue, and west of Warren Road. This area contains 94 percent of the total number of populations observed and has the largest populations with the most individuals and almost all (or 99 percent) of the Davidson's saltscale individuals observed in the study area occur in this area. The populations of Davidson's saltscale in this area represent the core for the population complex within the study area, and the viability of the populations in this area is essential for the survival of this species. The conservation value for the localities within the core area of this population complex is very high. Smaller populations outside the population core, as described above, would likely be of moderate conservation value. Preserving the site hydrology and alkali grassland and wetland habitats in which this species occurs is critical to maintaining a viable population at this location and is essential for the continued existence of this species.
Calochortus plummerae Plummer's mariposa lily -/-/1B.2 CO	Plummer's mariposa lily occurs from central Ventura County, extending east, especially along the southern foothills of the San Gabriel and San Bernardino Mountains of Los Angeles, San Bernardino County to the Banning Pass, and south to the Santa Ana Mountains of Orange County, and the foothills of the San Jacinto Mountains in Riverside County (CNDDB 2007).	The CNDDB (2007) includes 103 occurrences, of which at least 14 may be extirpated.	In western Riverside County, Plummer's mariposa lily is known from the northern Santa Ana Mountains, the Jurupa Hills, Reche Canyon, foothills of the San Bernardino Mountains, Box Springs Mountain, the Badlands, the San Jacinto Mountains, and the vicinity of Lake Skinner (CNDDB 2007, Consortium 2007, RCIP 2003).	**Occurrence Information Prior to the 2005 and 2006 Surveys:** A total of 16 known occurrences are recorded from western Riverside County. One of these localities may have been extirpated (CNDDB 2007). **Occurrence Information With Results of the 2005 and 2006 Surveys Included:** This species was not previously known to occur in the Upper Salt Creek area.	Six plants in five localities were located in the west Hemet Hills. This species typically blooms following fires. Based on habitat suitability, it is likely that many more plants occur in this area compared to the number observed.	**Moderate** Plummer's mariposa lily was not previously known to occur in the West Hemet Hills. These new populations provide a geographic "bridge" between the known locality in the Tucalota Hills, the populations in the Badlands, and those to the east. Because this species is considered rare and endangered in California and elsewhere, and these populations add to the known range of the species, these localities have moderate conservation value.

Table 3.3-6 Distribution, Status, and Conservation Value of Special-Status Plants Observed in the Study Area

Scientific Name/ Common Name/ Conservation Status Code[a] and MSHCP Status and Special Conditions[b]	Species Distribution	Number of Regional Extant/Extirpated Occurrences	Species Distribution in Riverside County	Number of Riverside County Extant/Extirpated Occurrences	Species Distribution in the Study Area	Conservation Value of Populations in the Study Area
Centromadia pungens ssp. *laevis* smooth tarplant -/-/1B.1 CA, PS, RRVP	Smooth tarplant occurs from southwestern San Bernardino County, south through western Riverside County and San Diego County, to Baja California, Mexico (CNDDB 2007, RCIP 2003).	The CNDDB (2007) includes 83 occurrences. At least 12 occurrences may be extirpated.	In western Riverside County, this species is found only in the Perris Basin and the Anza Bench. The distribution extends from the City of Riverside, south to Temecula, and east to Hemet and Anza. Some of the largest populations occur within the lower San Jacinto River watershed, including Salt Creek, near Hemet. Other important localities include the Lake Elsinore-Murrieta Hot Springs region and the French Valley area, although many populations have been extirpated in this area.	**Occurrence Information Prior to the 2005 and 2006 Surveys:** Seventy-seven occurrences (or about 90 percent of all occurrences) are in western Riverside County (CNDDB 2007). At least 12 of these may be extirpated. About 50 percent (or 39) of the occurrences in Riverside County are associated with alkali vernal plains habitat. Smooth tarplant, however, is tolerant of disturbance, and it is often associated with pasture and light agriculture. It can also occur in disturbed fields and within areas that are dryland farmed as long as the soils are alkaline. Reliable population estimates are not available, but the largest known concentrations are associated with the alkali vernal plains of the San Jacinto River and Upper Salt Creek areas. **Occurrence Information With Results of the 2005 and 2006 Surveys Included:** Results of the surveys confirmed that the Upper Salt Creek area (within which the study area is located) supports some of the most extensive populations known to occur. All of the populations observed during the surveys were combined into one new occurrence.	More than one million plants were observed within 617 localities (or populations) within the study area.	**Low to High** The conservation value of the populations within the study area ranges from low to high, depending on the degree of disturbance, the habitat type in which the population occurs, and the size and density of the population. In general, large populations that were identified in relatively undisturbed natural habitats would be better suited for conservation compared to smaller populations that occurred adjacent to agricultural fields or ruderal areas. Some populations in disturbed fields, however, would be considered at least of moderate conservation value due to the large numbers of individuals present within them. Examples of high conservation value sites would be the Upper Salt Creek Reserve and Stoney Mountain Preserve. Additionally, large populations in the northern and central parts of the study area, where hundreds of thousands of plants were observed, would also rank high.
Chorizanthe parryi var. *parryi* Parry's spineflower -/-/3.2 CO	Parry's spineflower is found from western Los Angeles County east, primarily along the southern foothills of the San Gabriel and San Bernardino Mountains, east into the western Coachella Valley, and south to the Agua Tibia Mountains of Riverside County (CNDDB 2007, Consortium 2007).	The CNDDB (2007) includes 40 occurrences. At least four occurrences may be extirpated.	In western Riverside County, Parry's spineflower occurs scattered throughout the San Bernardino Mountain foothills, the Badlands, the Gavilan Hills, and the foothills of the San Jacinto and Agua Tibia Mountains. It also occurs from Lake Elsinore to Temecula and west to Menifee (RCIP 2003). Other sources have documented that this spineflower occurs from the Shipley Reserve, including the north Domenigoni Hills and the Lakeview Mountains (Consortium 2007).	**Occurrence Information Prior to Surveys:** There are 20 known occurrences in Western Riverside County (CNDDB 2007). At least three of these occurrences may have been extirpated. **Occurrence Information With Results of the 2005 and 2006 Surveys Included:** Parry's spineflower was not previously known to occur in west Hemet Hills. Two new occurrences were identified within the study area.	Over 175,000 plants were observed within 118 populations, predominantly occurring in the West Hemet Hills.	**Moderate to High** Due to the large number of populations and the sizeable number of plants within them, these localities represent an important population center for this species. The West Hemet Hills also provides a potentially important geographic bridge in the distribution of this species, linking known localities in the north Domenigoni Hills and the Lakeview Mountains. In general, the large populations that occur in the northern part of the West Hemet Hills that are located within relatively undisturbed natural habitat would have high conservation value. Small populations in the West Hemet Hills or those located outside of the hills would likely rank as moderate in terms of conservation value.
Chorizanthe polygonoides var. *longispina* long-spined spineflower -/-/1B.2 Covered	Long-spined spineflower is found on rocky clay soils on slopes, ridges, and coastal mesas in coastal sage scrub, native grassland, clay soil grassland, and chaparral habitats from northern Orange and western Riverside Counties, south through San Diego County, to northern Baja California, Mexico (CNPS 2001a, Reiser 2001). One Santa Barbara occurrence has also been reported, but this has not been verified.	The CNDDB (2007) includes 61 occurrences. None appear to be extirpated.	In western Riverside County, long-spined spineflower is found in the southern Santa Ana Mountains, Santa Rosa Plateau, the Gavilan Hills, Alberhill, the Paloma Valley, Murrieta, Shipley Reserve, Temecula, the Vail Lake area, Menifee Valley, the foothills of the Agua Tibia Mountains, and the Garner Valley in the San Jacinto Mountains (CNDDB 2007).	**Occurrence Information Prior to the 2005 and 2006 Surveys:** Thirty-nine (or 70 percent) of all occurrences are in western Riverside County (CNDDB 2007). None are considered extirpated at this time. **Occurrence Information With Results of the 2005 and 2006 Surveys Included:** One additional occurrence was identified within the study area.	About 64,000 plants were observed within 54 populations. The majority of the populations were observed in the West Hemet Hills.	**Low to High** The conservation value of populations within the study area ranges from low to high. The population complex found in the West Hemet Hills has high conservation value for the following reasons: (1) this area is a new locality for this species, and this population complex now represents the northernmost known occurrence; (2) substantial numbers of populations and individuals occur within the West Hemet Hills; and (3) the habitat quality is relatively high. Populations located outside the West Hemet Hills help bridge the distributional gap to populations in the south and west, but they are generally smaller, and the habitat is generally disturbed. These populations would likely rank low in terms of conservation value.

Table 3.3-6 Distribution, Status, and Conservation Value of Special-Status Plants Observed in the Study Area

Scientific Name/ Common Name/ Conservation Status Code[a] and MSHCP Status and Special Conditions[b]	Species Distribution	Number of Regional Extant/Extirpated Occurrences	Species Distribution in Riverside County	Number of Riverside County Extant/Extirpated Occurrences	Species Distribution in the Study Area	Conservation Value of Populations in the Study Area
Hordeum intercedens vernal barley -/-/3.2 PS, RRVP	Vernal barley is known from scattered locations bordering the Central Valley and Coast Ranges of California, south through coastal and interior southwestern California, to central Baja California, Mexico (CNPS 2001a, CNPS 2007, Consortium 2007, Reiser 2001).	Approximately 75 occurrences in the Southern California region that extends from Los Angeles to San Diego, excluding the Channel Islands (Consortium 2007).	In Riverside County, vernal barley occurs along the San Jacinto River, within the Upper Salt Creek area west of Hemet, French Valley, and the Nichols Road wetlands along Alberhill Creek north of Lake Elsinore.	**Occurrence Information Prior to the 2005 and 2006 Surveys:** Vernal barley is known from 12 sites in western Riverside County (Consortium 2007). Most of these (nine) are found along the San Jacinto River, at Stoney Mountain Preserve, and within the Upper Salt Creek area west of Hemet. Other occurrences (four) are known from the French Valley and the Nichols Road wetlands. **Occurrence Information With Results of the 2005 and 2006 Surveys Included:** Results clarified the distribution of vernal barley and expanded this range of this species in the Upper Salt Creek area.	About 20 million vernal barley plants were observed within the central part of the study area in 2005 and 2006.	**Low to High** In general, vernal barley populations with thousands of individuals located in relatively undisturbed alkali grassland habitats would be better suited for conservation compared to smaller populations that occurred in more disturbed areas. The populations within the alkali grasslands between Florida Avenue and the San Jacinto Branch Line, and west of Warren Road, including the Stowe Road Vernal Pool Complex, form an important core locality for this species. Populations in this area generally have high conservation value. In the north, the vernal barley populations at the Stoney Mountain Preserve also have high conservation value. Other vernal barley populations outside these areas have moderate to low conservation values, depending on the level of disturbance and the density of the grass species at any given locality.
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields /-/1B.1 CA, PS	Coulter's goldfields are found primarily along the coast and in the arid interior valleys of southwestern California, from Morro Bay and the vicinity of the Carrizo Plains of San Luis Obispo County, to western Riverside County, and south into northwestern Baja California, Mexico (CNDDB 2007, Consortium 2007). A small number of populations have been reported in the Central Valley, southern Mojave Desert, and northern Channel Islands (CNDDB 2007, Consortium 2007).	The CNDDB (2007) includes 66 occurrences. The Consortium (2007) includes an additional 10 sites not reported in the CNDDB. Of the 76 total occurrences, 62 are presumed extant. Twenty-two of the remaining 62 presumed extant occurrences (30 percent), however, have not been observed in over 50 years.	This species is known only from western Riverside County, mostly from the Perris Basin in the Lower San Jacinto Valley between Mystic Lake and Perris, Upper Salt Creek area west of Hemet, the San Jacinto River (including the areas west of the City of San Jacinto), the San Jacinto Wildlife Area and floodplains south to Perris, Temecula, and Alberhill Creek at Nichols Road near Lake Elsinore. Also, there is an old record for this species at Cahuilla Valley near Anza.	**Occurrence Information Prior to the 2005 and 2006 Surveys:** Twenty-two occurrences are found within Riverside County (CNDDB 2007, Consortium 2007). The largest known occurrences are associated with the seasonally flooded alkali vernal plains habitat associated with Mystic Lake, the San Jacinto River, and upper Salt Creek west of Hemet. These sites account for about 30 percent of all occurrences (or 18 of the 62 total extant occurrences). Some of these extant occurrences have large populations with very high numbers of plants. These populations are extremely important because it is estimated that they cumulatively contain approximately 95 percent of all the known plants for this species. **Occurrence Information With Results of the 2005 and 2006 Surveys Included:** Three new occurrences were identified, and the distribution of the only previously reported occurrence in the study area was expanded.	Coulter's goldfields occur in areas of suitable habitat primarily in the central and northern parts of the study area. More than 575,000 plants within 52 sites were recorded during the 2005 and 2006 surveys. This included a number of new localities. One very large population (totaling about 500,000 plants) within the study area accounted for about 85 percent of the total number plants observed.	**Moderate to Very High** The Coulter's goldfields in the study area are part of the last two major population complexes left in California. Population size data available in the CNDDB and other sources are approximate, but it is estimated that between 20 to 30 percent of all of the known individual Coulter's goldfield plants throughout its range occur within the study area. The conservation value of Coulter's goldfields populations ranges from moderate to very high, depending on the size of the population and the habitat quality of the site. For example, the large populations that occur south of Florida Avenue and west of the San Diego Canal, including the Upper Salt Creek Reserve, would have very high conservation value. Populations in the northern part of the study area between Warren Avenue and Odell Avenue are geographically important to the overall distribution of the species but have smaller population sizes and would rank moderate in terms of conservation value. Preserving the site hydrology and wetland habitats and minimizing disturbance in locations in which this species occurs is critical to maintaining viable populations and is essential for the continued existence of this species.

Table 3.3-6 Distribution, Status, and Conservation Value of Special-Status Plants Observed in the Study Area

Scientific Name/ Common Name/ Conservation Status Code[a] and MSHCP Status and Special Conditions[b]	Species Distribution	Number of Regional Extant/Extirpated Occurrences	Species Distribution in Riverside County	Number of Riverside County Extant/Extirpated Occurrences	Species Distribution in the Study Area	Conservation Value of Populations in the Study Area
Lepidium virginicum var. *robinsonii* Robinson's peppergrass -/-/1B.2 Not Included in MSHCP	Robinson's peppergrass is uncommon to locally common on dry soils and shrubland habitats in Southern California from Santa Barbara County to Baja California, Mexico, including the Channel Islands (Consortium 2007).	The CNDDB (2007) includes 53 occurrences. The Consortium (2007) includes an additional 44 locations. Of the 97 total occurrences, Robinson's pepper-grass is believed extant at about 75 (or 80 percent) of them.	In western Riverside County, Robinson's peppergrass occurs on rocky slopes or among shrubs, in the Santa Ana Mountains, Box Springs Mountains, Perris Basin, Sedco Hills, Gavilan Hills, Diamond Valley, Lake Skinner region, north Domenigoni Hills, the vicinity of Vail Lake, and the foothills of the Agua Tibia Mountains (Consortium 2007, Roberts 2004a).	**Occurrence Information Prior to the 2005 and 2006 Surveys:** Forty-nine occurrences occur in western Riverside County, and all of these are believed to be extant. There are currently no estimates of population size available for any of these localities. **Occurrence Information With Results of the 2005 and 2006 Surveys Included:** Three new occurrences were identified and the known range of this species was expanded.	Almost 114,000 plants were recorded in 86 populations, mainly in the West Hemet Hills.	**Low to High** This is the largest population complex currently known from western Riverside County. Population sizes are not well documented, however, and it is possible that other documented localities could also have similarly large population sizes. The West Hemet Hills location currently represents the easternmost known population complex. This species is taxonomically difficult, and the geographic distribution of this species may be incomplete. It could also occur in the Lakeview Mountains and Badlands regions, to the east. The conservation value of Robinson's peppergrass populations ranges from low to high, depending on the location of the population, the population size, the habitat quality, and other variables. For example, small populations located in disturbed habitats would likely be considered to have low conservation value. Large populations in the West Hemet Hills would likely rank high.
Myosurus minimus ssp. *apus* little mousetail -/-/3.1 CA, PS	Little mousetail is found in vernal pools, mesic grasslands, and the margins of playas from Orange and western Riverside County, south through San Diego County to northwestern Baja California, Mexico (CNDDB 2007, CNPS 2001a, RCIP 2003, Reiser 2001). It presumably is found in the Central Coast and the Central Valley, possibly as far north as Riley, Oregon; however, the taxonomic status and distribution of the northern plants are uncertain (CNPS 2007, Hickman 1993, Whittemore 1993).	The CNDDB (2007) includes 31 occurrences in Southern California. The Consortium (2007) includes an additional eight occurrences. Most of the 31 Southern California occurrences are presumed extant, but the current condition of some of the vernal pools has not been recently documented. The distribution of this plant is widespread, but it is patchily distributed and most populations are relatively small.	In western Riverside County, little mousetail is known to occur primarily in Upper Salt Creek near Hemet, Santa Rosa Plateau, and on the Gavilan Plateau (RCIP 2003, Consortium 2007). Historic occurrence records from March Army Air Force Base (1922), Edgemont (1952), and Menifee Valley (1922) are old and are likely extirpated (Consortium 2007, RCIP 2003). The status of occurrences near Lake Elsinore and Wildomar are uncertain. In the Upper Salt Creek area, little mousetail is associated with seasonally flooded alkali vernal plains on the Domino-Traver-Willows soils series. One additional old collection (1922) of little mousetail was made at Kenworthy (San Jacinto Mountains), but the correct variety has yet to be taxonomically determined.	**Occurrence Information Prior to the 2005 and 2006 Surveys:** Thirteen of the Southern California occurrences (about 60 percent) are in western Riverside County. Although none are known to be extirpated, at least four (about 20 percent) have not been observed since 1952. The populations on the Santa Rosa Plateau are scattered and relatively small. Historically, the populations in the Upper Salt Creek area were more extensive prior to recent hydrologic changes and before some of the localities were disturbed. **Occurrence Information With Results of the 2005 and 2006 Surveys Included:** Two new occurrences were identified, and the range of the previously known occurrence was expanded.	Almost one million plants were observed in about 230 locations within the study area.	**Low to High** In general, little mousetail is believed to be declining in Southern California. The populations of little mousetail within the study area are the largest in Southern California. Additionally, the populations within the study area represent the only very large population within the western Riverside MSHCP area. The largest populations such as those on the Upper Salt Creek Reserve, areas in the vicinity of Esplanade Avenue, and the area east of the San Diego Canal (directly east of the Upper Salt Creek Reserve) would be expected to rank high in terms of conservation value. Other factors that would be considered in determining conservation value are proximity to other populations, the density of the population, and habitat quality. The smallest populations, consisting of a few individuals, would likely be considered to be of low conservation value. Preserving the site hydrology and wetland habitats in which this species occurs is critical to maintaining viable populations and is essential for the continued existence of this species.

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

CNDDB = California Natural Diversity Database

[a]***Status Codes*:**

California Native Plant Society (CNPS) Status (CNPS 2007)

1A – Plants Presumed Extinct in California

1B – Plants Rare, Threatened, or Endangered in California and Elsewhere

2 – Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3 – Plants About Which We Need More Information – A Review List

4 – Plants of Limited Distribution – A Watch List

Table 3.3-6 Distribution, Status, and Conservation Value of Special-Status Plants Observed in the Study Area

Scientific Name/ Common Name/ Conservation Status Code[a] and MSHCP Status and Special Conditions[b]	Species Distribution	Number of Regional Extant/Extirpated Occurrences	Species Distribution in Riverside County	Number of Riverside County Extant/Extirpated Occurrences	Species Distribution in the Study Area	Conservation Value of Populations in the Study Area

CNPS Threat Rank (Suffixes to CNPS List Status Codes):

.1 – Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)

.2 – Fairly endangered in California (20-80% occurrences threatened)

.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

[b]**Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) Definitions (RCIP 2003)**

Special Conditions of MSHCP Covered Species:

CA – Surveys may be required for these species within locations shown on survey maps as described in Section 6.3.2 of the MSHCP. This includes the list of additional survey needs and procedures species and the Criteria Area Species (see MSHCP pages 6-63 to 6-65) and the MSHCP Errata Letter, dated August 9, 2004.

CO – These Covered Species will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met. Species-specific conservation objectives for these species are presented in Section 9.0 of the MSHCP. Refer to Table 9-3 of the MSHCP for specific conservation objectives that must be met for these species prior to including them on the list of Covered Species Adequately Conserved.

Covered – Species addressed in the MSHCP and included in the 10(a)(1)(B) permit. Also includes species that will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met.

NE – Surveys may be required for these species within Narrow Endemic Plant Species survey areas as described in Section 6.1.3 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

PS – Planning Species – Subsets of Covered Species that are identified to provide guidance for Reserve Assembly in Cores and Linkages and/or Area Plans per Volume I, Section 3, of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

RRVP – These species should be protected as they are associated with riparian/riverine areas and vernal pools as described in Section 6.1.2 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

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Smooth Tarplant

Sixty-two populations of smooth tarplant in the study area for Build Alternative 1a are in Criteria Area Cells (see Table 3.3-5 [page 3-533]), as follows:

- Criteria Area Cell 3683: 1 population, Roadway Segment G
- Criteria Area Cell 3584: 7 populations, Roadway Segment I
- Criteria Area Cell 3291: 2 populations, Roadway Segment J
- Criteria Area Cells 2774, 2775, and 2878: 20 populations, Roadway Segment L
- Criteria Area Cell 2364: 5 populations, Roadway Segment N
- Criteria Area Cell 3291: 30 populations, Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve

Of the 62 smooth tarplant populations, only the 20 populations (31,863 plants) in Criteria Area Cells 2774, 2775, and 2878 (in the Roadway Segment L portion of the study area) and the 30 populations (4,995 plants) in Criteria Area Cell 3291 (in Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve) were determined to have LTCV (Figure 3.3-26).

Of the 20 populations of smooth tarplant in the Roadway Segment L portion of the study area, 18 (with 26,221 plants) were found inside the PIA. One population extends beyond the PIA into the 30.5-m (100-ft) indirect impact area. Two additional populations (with 5,642 plants) are in the Build Alternative 1a indirect impact area.

Conservation goals in Criteria Area Cells 2774, 2775, and 2878 are established in the San Jacinto Area Plan of the MSHCP and its Subunit 4: Hemet Vernal Pool Areas – East. In general, the conservation goals in the area plan are to conserve plant species that comprise grassland, agricultural lands, and water and riparian habitats and to contribute to Noncontiguous Habitat Block 6. The conservation goals of Subunit 4: Hemet Vernal Pool Areas – East are to conserve alkali soils, conserve existing vernal pool complexes, and maintain vernal pool hydrology.

An area of disturbed alkali grassland habitat was identified in these Criteria Area Cells that is a relatively isolated block of alkali soils surrounded by agricultural areas (e.g., poultry farms, wheat fields, sod farms, dairies). This alkali grassland area could be used for reserve assembly that would contribute to Noncontiguous Habitat Block 6.

Thirty smooth tarplant populations (with 4,995 individuals) were found scattered throughout Additional Indirect Impact Study Area 2 (Figure 3.3-26) in Criteria Area Cell 3291, which is also a part of Subunit 4: Hemet Vernal Pool Areas – East. Conservation of this Cell is to focus on grassland habitat and is to occur in the western part of the Cell. These smooth tarplant populations are near each other in a relatively contiguous area of alkali grassland and wetland habitat (Tables 3.3-5 [page 3-533] and 3.3-6 [page 3-537]). Conservation of the 30 smooth tarplant populations in Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve, is consistent with MSHCP reserve assembly goals, and these populations therefore have LTCV (Table 3.3-6 [page 3-537]).

Little Mousetail

Also in Criteria Area Cell 3291, 30 little mousetail populations (with 49,001 plants) are scattered throughout the alkali wetlands at the Stoney Mountain Preserve in Additional Indirect Impact Study Area 2. One of these populations (with about 5,000 plants) extends beyond the additional study area into the 30.5-m (100-ft) indirect impact area (Table 3.3-5 [page 3-533]). Conservation of the little mousetail populations in Stoney Mountain Preserve is consistent with MSHCP reserve assembly goals, and these populations therefore have LTCV (Table 3.3-6 [page 3-537]).

Coulter's Goldfields

Twenty-two populations of Coulter's goldfields with 5,380 plants are located in relatively intact alkali grassland/wetland habitat in Criteria Area Cells 2774 and 2775, in the Roadway Segment L portion of the study area (Table 3.3-5 [page 3-533]). Twenty Coulter's goldfields populations (with 4,785 plants) are located inside the PIA. One large population extends beyond the PIA into the 30.5-m (100-ft) indirect impact area. Two additional populations are in the indirect impact area. A total of 595 plants were found in the indirect impact area. The Coulter's goldfields in the study area are part of the last two major population complexes left in California, and the populations in the Roadway Segment L portion of the study area are geographically important to the overall distribution of the species (Table 3.3-6 [page 3-537]). These populations could contribute toward reserve assembly within this Criteria Area, and they therefore have LTCV (Figure 3.3-30).

Special-Status Plant Species Not Included in the MSHCP

Two special-status plants that are not included in the MSHCP were observed in the Build Alternative 1a study area.

- Paniculate tarplant – 29 populations (21,012 plants)
- Robinson's peppergrass – 16 populations (79,124 plants)

Paniculate Tarplant

Twenty-nine paniculate tarplant populations with 21,012 plants were observed in the central and southern parts of the study area for Build Alternative 1a (Table 3.3-1 [page 3-443]). The northernmost populations were in the vicinity of Tres Cerritos Avenue, but the largest concentrations were south of Florida Avenue (Figure 3.3-32). Paniculate tarplant is included on CNPS List 4 (watch list), but is not included in the MSHCP. Paniculate tarplant populations in the study area for Build Alternative 1a are important in a regional context (maintaining the species in the Perris Basin), but individual populations do not have high conservation value.

Robinson's Peppergrass

A large complex of Robinson's peppergrass, consisting of 16 populations (with 79,124 plants), was observed in the Build Alternative 1a study area. These populations are part of a larger complex that extends beyond the study area boundary (Figure 3.3-33). This larger complex has 114,000 plants in 86 populations and is the largest one currently known in western Riverside County (Table 3.3-6 [page 3-537]). Robinson's peppergrass is a CNPS

List 1B species, but is not included in the MSHCP. Outside the context of the MSHCP, the moderate to large populations that were identified in the West Hemet Hills could be considered to have high conservation value.

Build Alternative 1b and Design Option 1b1

Adding Design Option 1b1 in 2009 did not change the study area, so the survey results for Build Alternative 1b apply to the design option as well. Ten special-status plant species were identified in the study area for Build Alternative 1b (Table 3.3-6 [page 3-537]). Eight of the ten species are MSHCP Covered Species. Two of the eight Covered Species, smooth tarplant and little mousetail, have LTCV populations. Information about these LTCV populations is presented in a separate subsection (page 3-546). The two other special-status species, paniculate tarplant and Robinson's peppergrass, are not included in the MSHCP.

MSHCP Criteria Area, Narrow Endemic, Other MSHCP Covered Species, and MSHCP Planning Species

The following eight MSHCP species were identified in the Build Alternative 1b study area:

- Davidson's saltscale – 1 population (6 plants)
- Plummer's mariposa lily – 1 population (2 plants)
- Smooth tarplant – 269 populations (424,895 plants)
- Parry's spineflower – 26 populations (111,996 plants)
- Long-spined spineflower – 4 populations (4,465 plants)
- Vernal barley – 20 populations (1,248,680 plants)
- Coulter's goldfields – 3 populations (29,331 plants)
- Little mousetail – 31 populations (64,001 plants)

Davidson's Saltscale

One small population of Davidson's saltscale with six plants was identified northwest of the Stoney Mountain Preserve, west of the San Diego Canal (Figure 3.3-24). This is the same population that was observed in the Build Alternative 1a study area (page 3-531).

Plummer's Mariposa Lily

One very small population of Plummer's mariposa lily with two plants was found in the West Hemet Hills (Figure 3.3-25). This is the same population that was identified in the study area for Build Alternative 1a (page 3-531).

Smooth Tarplant

Smooth tarplant was found in 269 populations (with 424,895 plants) throughout the study area for Build Alternative 1b, with the largest concentrations in Roadway Segments B and C (Figure 3.3-26). Utility Corridors 1 and 2 contained 14 additional smooth tarplant populations, with 3,250 plants (Table 3.3-1 [page 3-443]). Thirty smooth tarplant populations (with about 4,995 individuals) are present in Additional Indirect Impact Study Area 2,

at the Stoney Mountain Preserve, and 20 of these populations have LTCV. This is the same population that was identified in the study area for Build Alternative 1a (page 3-531). Information about LTCV populations in the Build Alternative 1b study area is presented in a separate subsection (page 3-546).

Parry's Spineflower

Twenty-six populations containing almost 112,000 plants were identified in the Build Alternative 1b study area (Table 3.3-1 [page 3-443]). Similar to the Build Alternative 1a study area, these populations were all located in the West Hemet Hills (Figure 3.3-27). This population complex is important because of its size, even though it does not have LTCV per the MSHCP.

Long-Spined Spineflower

Four populations of long-spined spineflower containing 4,465 plants were identified in the study area for Build Alternative 1b (Table 3.3-1 [page 3-443]). These are the same populations that were discussed for Build Alternative 1a (page 3-531). The two Build alternatives would be the same in this location.

Vernal Barley

Twenty vernal barley populations with more than 1 million plants were identified in the study area for Build Alternative 1b (Table 3.3-1 [page 3-443]), in Roadway Segments C, I, K, and M and Additional Indirect Impact Area 2 (Figure 3.3-29). These locations of vernal barley, an MSHCP Planning Species, are in Criteria Area Cells 3683, 3584, 3291, and 2878, much the same as the study area for Build Alternative 1a (page 3-532).

Coulter's Goldfields

Three populations of Coulter's goldfields, with 29,331 plants, were found in the Build Alternative 1b study area (Table 3.3-1 [page 3-443] and Figure 3.3-30), in Roadway Segments C and M.

Little Mousetail

Thirty-one little mousetail populations containing 64,001 plants were identified in the study area for Build Alternative 1b (Table 3.3-1 [page 3-443] and Figure 3.3-31). One population of little mousetail with about 15,000 plants was found in a vernal pool at the northwest corner of Warren Road and Esplanade Avenue.

Thirty populations of little mousetail (totaling 49,001 plants) were identified at the Stoney Mountain Preserve, in Additional Indirect Impact Study Area 2. These are the same populations discussed for Build Alternative 1a (page 3-532).

Assessment of LTCV Populations in the Build Alternative 1b Study Area

MSHCP Criteria Area Cells 3683, 3584, 3291, and 2364 are in the Build Alternative 1b study area (Table 3.3-6 [page 3-537] and Figure 3.3-22).

Seventy-two populations of rare plants in the Build Alternative 1b study area are in Criteria Area Cells (Table 3.3-5 [page 3-533]). These populations have been identified and evaluated for LTCV consistent with the

species-specific goals and objectives of the MSHCP. Two species with LTCV are in the Build Alternative 1b study area, smooth tarplant and little mousetail. These findings are presented in Tables 3.3-5 (page 3-533) and 3.3-6 (page 3-537) and are described in the following sections.

Smooth Tarplant

Forty-two populations of smooth tarplant in Criteria Area Cells were found in the study area for Build Alternative 1b (see Table 3.3-5 [page 3-533]), as follows:

- Criteria Area Cell 3683: 1 population, Roadway Segment G
- Criteria Area Cell 3584: 7 populations, Roadway Segment I
- Criteria Area Cell 3291: 2 populations, Roadway Segment K
- Criteria Area Cell 2364: 5 populations, Roadway Segment N
- Criteria Area Cell 3291: 30 populations, Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve

The 30 smooth tarplant populations (with 4,995 individuals) in Additional Indirect Impact Study Area 2 are the same as those evaluated for Build Alternative 1a (page 3-531).

Little Mousetail

The 30 little mousetail populations in Criteria Area Cell 3291 (Additional Indirect Impact Study Area 2, at Stoney Mountain Preserve) are the same as the ones found in the study area for Build Alternative 1a (page 3-544). As stated for Build Alternative 1a, conservation of these populations would contribute toward MSHCP reserve assembly goals, and these populations therefore have LTCV (Table 3.3-5 [page 3-533]).

Special-Status Plant Species Not Included in the MSHCP

Two special-status plants that are not included in the MSHCP were observed within the Build Alternative 1b study area.

- Paniculate tarplant – 27 populations (7,827 plants)
- Robinson's peppergrass – 16 populations (79,124 plants)

Paniculate Tarplant

Twenty-seven paniculate tarplant populations with 7,827 plants were found in the study area for Build Alternative 1b (Table 3.3-1 [page 3-443]), mostly south of Florida Avenue. This species is on CNPS List 4 (a relatively low rarity status). The paniculate tarplant populations in the study area for Build Alternative 1b are important in a regional context (maintaining the species within the Perris Basin), but individual populations are not considered to have high value.

Robinson's Peppergrass

A large complex of Robinson's peppergrass, consisting of 16 populations and a total of 79,124 plants, was observed in the Build Alternative 1b study area (Table 3.3-1 [page 3-443]). This is the same complex that was found in the Build Alternative 1a study area (page 3-544). The two Build alternatives have the same study area in this location.

Build Alternative 2a

Twelve special-status plant species were identified in the Build Alternative 2a study area (Table 3.3-1 [page 3-443]). Ten of the 12 species are MSHCP Covered Species. Five of those 10 Covered Species—Parish's brittlescale, Davidson's saltscale, smooth tarplant, little mousetail, and Coulter's goldfields—have LTCV populations in the Build Alternative 2a study area. Information about these LTCV populations is presented in a separate subsection (page 3-550). The other two special-status plants, Parish's brittlescale and Palmer's grapplinghook, are not included in the MSHCP. They are present only in Additional Indirect Impact Study Area 1, which contains extensive stands of alkali grassland, seasonal wetlands (including vernal pools), and alkali playa habitats.

MSHCP Criteria Area, Narrow Endemic, Other MSHCP Covered Species, and MSHCP Planning Species

Ten MSHCP species, some of which are endemic species that occur only within a very limited range or habitat, were identified in the Build Alternative 2a study area (Table 3.3-1 [page 3-443]). Parish's brittlescale was identified in the MWD Upper Salt Creek Reserve, in Additional Indirect Impact Area 1. Parish's brittlescale is not defined in the MSHCP as a Narrow Endemic plant, but it is very limited in distribution and is known to occur in only one other location, in San Diego County (Table 3.3-5 [page 3-533]). The 10 MSHCP Covered Species found in the study area for this Build alternative are listed below and described in the following sections.

- Parish's brittlescale – 13 populations (1,320 plants)
- Davidson's saltscale – 60 populations (12,142 plants)
- Smooth tarplant – 354 populations (288,288 plants)
- Parry's spineflower – 37 populations (16,971 plants)
- Long-spined spineflower – 27 populations (15,564 plants)
- Palmer's grapplinghook – 1 population (375 plants)
- Vernal barley – 29 populations (10,840,492 plants)
- Coulter's goldfields – 42 populations (568,725 plants)
- Small-flowered microseris – 1 population (15 plants)
- Little mousetail – 122 populations (446,887 plants)

Parish's Brittlescale

Thirteen Parish's brittlescale populations (with 1,320 plants) were identified in the MWD Upper Salt Creek Reserve, in Additional Indirect Impact Study Area 1 (Figure 3.3-34). As stated earlier in this section, this species is extremely rare. These are the only known populations in western Riverside County.

Davidson's Saltscale

Sixty Davidson's saltscale populations (with 12,142 plants) were identified in the Build Alternative 2a study area. One small population was observed west of the San Diego Canal, northwest of the Stoney Mountain Preserve. This same population is present in all four Build alternatives. All 59 of the other populations (and 12,136 plants) were found in Additional Indirect Impact Study Area 1 (Figure 3.3-24).

Smooth Tarplant

More than 280,000 plants in 354 smooth tarplant populations were identified in the study area for Build Alternative 2a (Figure 3.3-26). A few populations were found in the southern part of the study area, near Domenigoni Parkway, but most of the populations were in the northern part, roughly between the Tres Cerritos Hills and south of Ramona Expressway and in Additional Indirect Impact Study Areas 1 and 2 (Table 3.3-1 [page 3-443]).

Parry's Spineflower

Thirty-seven Parry's spineflower populations (with 16,971 plants) were identified in the study area for Build Alternative 2a. They were found in the West Hemet Hills (Roadway Segments A and H) and on the lower hill slopes in Additional Indirect Impact Study Area 1 (Figure 3.3-27). Although more populations were observed in the study area for Build Alternative 2a, these populations contained considerably fewer individual plants than the populations found in the study areas of Build Alternatives 1a and 1b (Table 3.3-1 [page 3-443]).

Long-Spined Spineflower

Twenty-seven long-spined spineflower populations with 15,564 plants were found in a large complex in the West Hemet Hills (Table 3.3-1 [page 3-443]). These populations were all identified in the Roadway Segment H part of the Build Alternative 2a study area (Figure 3.3-28).

Palmer's Grapplinghook

One population of Palmer's grapplinghook with 375 plants was identified just north of Stowe Road, on the lower slopes of the West Hemet Hills (Figure 3.3-36). This was the only population that was found in the study area for Build Alternative 2a.

Vernal Barley

Extensive stands of alkali grasslands dominated by vernal barley were observed in Additional Indirect Impact Study Area 1 and Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve (Figure 3.3-29). Small populations of vernal barley were also found in the northern part of the Build Alternative 2a study area. As stated more fully in the discussion for Build Alternative 1a (page 3-532), vernal barley is an MSHCP Planning

Species. The populations in the alkali grasslands of Additional Indirect Impact Study Areas 1 and 2 are important because they form important core localities for this species (Table 3.3-6 [page 3-537]).

Coulter's Goldfields

Forty-two Coulter's goldfields populations (with 568,725 plants) were identified in the Build Alternative 2a study area (Figure 3.3-30). The largest concentration, with about 560,000 plants, was found in the alkali grasslands and seasonal wetlands south of Florida Avenue in Additional Indirect Impact Study Area 1. Twenty-two additional populations of Coulter's goldfields were found in northern portion of the study area. These are the same populations that were discussed earlier in the survey results for Build Alternative 1a (page 3-532). The two Build alternatives have the same study area in this location because they both include Roadway Segment L. All 42 Coulter's goldfields found in the study area for Build Alternative 2a have LTCV. Information about these LTCV populations is presented in a separate subsection (page 3-550).

Small-Flowered Microseris

One small population of small-flowered microseris (with 15 plants) was identified in the West Hemet Hills in the study area for Build Alternative 2a (see Roadway Segment H in Figure 3.3-37).

Little Mousetail

A total of 122 little mousetail populations with 446,887 plants were identified in the study area for Build Alternative 2a. Ninety of the 122 populations, more than 375,000 plants, were found in Additional Indirect Impact Study Area 1 (Figure 3.3-31).

Thirty little mousetail populations with 49,001 plants were found in Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve. These same populations are in the study areas for all of the Build alternatives and are discussed in detail under Build Alternative 1a (page 3-532).

One small population with seven plants was observed in the indirect impact area (Roadway Segment F).

Assessment of LTCV Populations in the Build Alternative 2a Study Area

MSHCP Criteria Area Cells 2683, 2774, 2775, 2878, 2364, 3584, 3683, 3684, 3791, 3891, 3887, and 4007 are in the Build Alternative 2a study area (Table 3.3-5 [page 3-533] and Figure 3.3-21). Five species with LTCV populations are present in this study area.

- Parish's brittlescale
- Davidson's saltscale
- Smooth tarplant
- Coulter's goldfields
- Little mousetail

A total of 644 special-status plant populations in the Build Alternative 2a study area are in Criteria Area Cells (Table 3.3-5 [page 3-533]). These populations have been identified and evaluated for LTCV consistent with the

species-specific goals and objectives of the MSHCP. The findings are provided in Tables 3.3-5 (page 3-533) and 3.3-6 (page 3-537) and are described in the following sections.

Parish's Brittlescale

Thirteen populations of Parish's brittlescale (with 1,320 plants) were identified in the MWD Upper Salt Creek Reserve in Additional Indirect Impact Study Area 1.These populations are in Criteria Area Cells 3683 and 3791 (Table 3.3-5 [page 3-533]). The objectives for these Cells include conservation of playas, vernal pools, and upland habitat. Only one other location of this species has been confirmed, in San Diego County. All 13 populations of Parish's brittlescale have very high LTCV. Continued conservation of these Parish's brittlescale populations and the supporting vernal pool hydrology is required to achieve long-term sustainability of this species.

Davidson's Saltscale

Fifty-nine populations of Davidson's saltscale with 12,136 plants were identified in Additional Indirect Impact Study Area 1 (Table 3.3-5 [page 3-533]). These populations are in Criteria Area Cells 3791, 3891, and 4007. Most of the populations were found east of California Avenue and south of Stetson Avenue, but a few populations were identified at the MWD Upper Salt Creek Reserve, north of Stetson Road (Figure 3.3-24). These 59 populations represent the core for the population complex in the study area, and their viability is essential for the survival of this species. The populations in Additional Indirect Impact Study Area 1 could contribute substantially toward reserve assembly, thus have very high LTCV.

Smooth Tarplant

One hundred forty-five populations of smooth tarplant in Criteria Area Cells were found in the study area for Build Alternative 2a (see Table 3.3-5 [page 3-533] and Figure 3.3-26), as follows:

- Criteria Area Cell 3683: 1 population, Roadway Segment H
- Criteria Area Cell 3584: 7 populations, Roadway Segment I
- Criteria Area Cell 3291: 2 populations, Roadway Segment K
- Criteria Area Cells 2774, 2775, and 2878: 20 populations, Roadway Segment L
- Criteria Area Cell 2364: 5 populations, Roadway Segment N
- Criteria Area Cells 3683, 3684, 3791, 3887, and 4007: 80 populations, Additional Indirect Impact Study Area 1
- Criteria Area Cell 3291: 30 populations, Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve

The smooth tarplant populations located in the Roadway Segment L portion of the study area and in Additional Indirect Impact Study Areas 1 and 2 have LTCV. These LTCV populations are described in more detail below.

Twenty smooth tarplant populations (with 31,863 plants) were identified in the Roadway Segment L portion of the Build Alternative 2a study area (Tables 3.3-5 [page 3-533] and 3.3-6 [page 3-537]). These populations are in three Criteria Area Cells (2774, 2775, and 2878) in an area of relatively intact alkali grassland habitat. Conservation of

these populations could contribute toward reserve assembly and species conservation objectives, so these populations have LTCV.

Most of the 80 populations (and 183,250 plants) in Additional Indirect Impact Study Area 1 were found between Stetson Avenue and SR 74/Florida Avenue, but a few populations were observed in the Stowe Road Vernal Pool Complex west of California Avenue. Conservation of these populations, particularly the moderate to large ones that are in relatively undisturbed natural habitats and are not isolated hydrologically, would contribute substantially toward reserve assembly. Smaller populations also could contribute toward reserve assembly if they are located adjacent to larger ones or if they would connect other populations (Tables 3.3-5 [page 3-533] and 3.3-6 [page 3-537]). Therefore, the 80 populations in Additional Indirect Impact Study Area 1 have LTCV.

The 30 smooth tarplant populations in Additional Indirect Impact Study Area 2 are the same ones discussed in the Build Alternative 1a results (page 3-543) and are present in the study areas of all of the Build alternatives.

Coulter's Goldfields

Forty-two populations of Coulter's goldfields were found in the Build Alternative 2a study area. Twenty-two populations (with 5,380 plants) are in Criteria Area Cells 2774 and 2775 (Table 3.3-5 [page 3-533] and Figure 3.3-30). These are the same populations that were found in the Build Alternative 1a study area (page 3-544).

Twenty populations of Coulter's goldfields with about 560,000 plants were identified roughly between the MWD Upper Salt Creek Reserve and SR 74/Florida Avenue (Figure 3.3-30). These populations are in Criteria Area Cells 2683 and 3684. The largest concentration, with more than 500,000 plants, was found in the alkali grasslands and seasonal wetlands south of Florida Avenue. The Coulter's goldfields in the Build Alternative 2a study area are part of the last two major population complexes left in California, and conservation of the populations in these two Criteria Area Cells could contribute substantially toward reserve assembly (Tables 3.35 [page 3-533] and 3.3-6 [page 3-537]). These localities therefore have very high LTCV.

Little Mousetail

Ninety little mousetail populations (with 377,993 plants) are in Criteria Area Cells 3887, 3891, 4007, 3791, and 3684 in Additional Indirect Impact Study Area 1 (Table 3.3-5 [page 3-533]). These populations form the only very large complex in the MSHCP Conservation Area (Table 3.3-5 [page 3-533]). Populations of little mousetail in Additional Indirect Impact Study Area 1, such as those in the MWD Upper Salt Creek Reserve, in the vicinity of Esplanade Avenue, and east of the San Diego Canal (directly east of the Reserve), could contribute substantially toward reserve assembly. Therefore, they have LTCV.

Thirty little mousetail populations with 49,001 plants were observed in Additional Indirect Impact Study Area 2 at the Stoney Mountain Preserve, in Criteria Area Cell 3291 (Figure 3.3-31). These are the same populations that were found in the Build Alternative 1a study area (page 3-544). One of the populations extends beyond the Preserve boundary into the Build Alternative 2a indirect impact area. About 9,886 little mousetail individuals are in the indirect impact area at this location. The little mousetail populations in Additional Indirect Impact Study

Area 2 and the indirect impact area could contribute toward reserve assembly, so they have LTCV (Table 3.3-5 [page 3-533]).

Special-Status Plant Species Not Included in the MSHCP

Two special-status plants that are not in the MSHCP were found in the Build Alternative 2a study area.

- Paniculate tarplant – 41 populations (46,758 plants)
- Robinson's peppergrass – 19 populations (7,872 plants)

Paniculate Tarplant

Forty-one paniculate tarplant populations with 46,758 plants were found south of Domenigoni Parkway, in the West Hemet Hills north of Stowe Road, on the lower slopes of the Tres Cerritos Hills, and on the lower slopes of the western edge of Additional Indirect Impact Study Area 1 (Figure 3.3-32). As stated in the discussion for Build Alternative 1a (page 3-544), this species is on CNPS List 4 (watch list) and is important in a regional context, but individual populations do not have high value.

Robinson's Peppergrass

Nineteen populations of Robinson's peppergrass (with 7,872 plants) were identified in the West Hemet Hills in the study area for Build Alternative 2a (Figure 3.3-33). These populations are part of a larger complex that extends beyond the study area boundary. This complex has 114,000 plants in 86 populations and is the same one discussed for Build Alternative 1a (page 3-544). As stated in the Build Alternative 1a results, this population complex is the largest one currently known in western Riverside County (Table 3.3-6 [page 3-537]), Robinson's peppergrass is a CNPS List 1B species, and these large populations could have high conservation value, even though this species is not included in the MSHCP. Although the Build Alternative 2a study area has slightly more populations than Build Alternatives 1a and 1b (19 populations versus 16), the populations are smaller (about 7,000 plants versus 80,000) (Table 3.3-1 [page 3-443]).

Build Alternative 2b and Design Option 2b1

Adding Design Option 2b1 in 2009 did not change the study area, so the survey results for Build Alternative 2b apply to the design option as well. Twelve special-status plant species were identified within the Build Alternative 2b study area (Table 3.3-1 [page 3-443]). Additional Indirect Impact Study Areas 1 and 2 are included in the Build Alternative 2b study area, and most of the special-status plant populations were found in these two additional indirect impact areas. Ten of the 12 species are MSHCP Covered Species. Of these 10 Covered Species, 5 have populations with LTCV. Information about these LTCV populations is presented in a separate subsection (page 3-556). The remaining two special-status plants, paniculate tarplant and Robinson's peppergrass, are not included in the MSHCP.

Two MSHCP species that are unique to the alkali playa, vernal pools, and grassland habitats in the central part of the study area are in Additional Indirect Impact Study Area 1. These species are Parish's brittlescale and Palmer's grapplinghook.

MSHCP Criteria Area, Narrow Endemic, Other MSHCP Covered Species, and MSHCP Planning Species

Ten MSHCP species were identified in the Build Alternative 2b study area (Table 3.3-1 [page 3-443]). One Criteria Area species (Parish's brittlescale), although not considered an MSHCP Narrow Endemic species, has very limited distribution. The following 10 MSHCP species were identified in the Build Alternative 2b study area.

- Parish's brittlescale – 13 populations (1,320 plants)
- Davidson's saltscale – 60 populations (12,142 plants)
- Smooth tarplant – 346 populations (613,336 plants)
- Parry's spineflower –36 populations (16,431 plants)
- Long-spined spineflower – 27 populations (15,564 plants)
- Palmer's grapplinghook – 1 population (375 plants)
- Vernal barley – 32 populations (10,839,292 plants)
- Coulter's goldfields – 23 populations (592,676 plants)
- Small-flowered microseris – 1 population (15 plants)
- Little mousetail – 122 populations (445,590 plants)

Parish's Brittlescale

Thirteen Parish's brittlescale populations with 1,320 plants were observed in the alkali grassland and wetland habitats in the MWD Upper Salt Creek Reserve in Additional Indirect Impact Study Area 1 (Figure 3.3-34). These populations are the same ones that were found in the study area for Build Alternative 2a (page 3-549). As previously noted, Parish's brittlescale is extremely rare and is found in only one other location. Continued conservation of these populations is important for the long-term existence of this species. These populations have LTCV. More information about these LTCV populations is presented in a separate subsection (page 3-556).

Davidson's Saltscale

Sixty Davidson's saltscale populations (with 12,142 plants) were identified in the Build Alternative 2b study area. These are the same populations that were found in the study area for Build Alternative 2a. Only one small population was observed outside Additional Indirect Impact Study Area 1, northwest of the Stoney Mountain Preserve (Figure 3.3-24). As described in the separate LTCV discussion on page 3-556, the Davidson's saltscale populations in Additional Indirect Impact Study Area 1 have LTCV, but the small population outside is not in a Criteria Area Cell, so it does not have LTCV.

Smooth Tarplant

More than 600,000 smooth tarplant individuals in 346 populations were identified in the Build Alternative 2b study area (Table 3.3-1 [page 3-443]). Smooth tarplant was found throughout this Build alternative, as well as in both of the additional indirect impact study areas and Utility Relocation Corridors 1 and 2. Most of the populations were found in the Roadway Segment B and D portions of the study area and in Additional Indirect Impact Study Area 1. The Build Alternative 2a study area had more individual plants (613,336) than any of the

other Build alternatives. Some of these smooth tarplant populations have LTCV. Those populations are discussed in a separate subsection (page 3-556).

Parry's Spineflower

Thirty-six Parry's spineflower populations with 16,431 plants were found in the study area for Build Alternative 2b, in Roadway Segment H and along the lower slopes of the hills at the western edge of Additional Indirect Impact Study Area 1 (Figure 3.3-27). These populations are the same as those found in the Build Alternative 2a study area (page 3-549).

Long-Spined Spineflower

Twenty-seven populations of long-spined spineflower with 15,564 plants were found in the study area for Build Alternative 2b (Table 3.3-1 [page 3-443] and Figure 3.3-28). These populations are the same ones that were identified in the Build Alternative 2a study area (page 3-549).

Palmer's Grapplinghook

One population of Palmer's grapplinghook with 375 plants was identified just north of Stowe Road, on the lower slopes of the West Hemet Hills (Figure 3.3-36). This is the same population that was found in the Build Alternative 2a study area (page 3-549).

Vernal Barley

Extensive stands of alkali grasslands dominated by vernal barley were found in the Build Alternative 2b study area. Nearly 11 million vernal barley plants were estimated in the study area for this Build alternative. Most of the vernal barley plants (more than 9 million individuals) were found in Additional Indirect Impact Study Area 1, but large populations were also identified in Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve. Small populations of vernal barley were identified east of the San Diego Canal (roughly between Devonshire and Tres Cerritos Avenues), near Esplanade Avenue, and adjacent to the Casa Loma Canal north of Scott Street.

Coulter's Goldfields

Twenty-three populations of Coulter's goldfields, with more than 600,000 plants, were identified in the Build Alternative 2b study area. Twenty populations with about 560,000 plants were located between the MWD Upper Salt Creek Reserve and SR 74/Florida Avenue in Additional Indirect Impact Study Area 1 (Figure 3.3-30). These are the same populations that were found in the Build Alternative 2a study area (page 3-550). These populations have very high LTCV and are discussed in a separate subsection (page 3-556).

Two populations of Coulter's goldfields with 29,329 plants were identified east of Sanderson Avenue and north of Scott Street. One very small population, consisting of two plants, was found in the Salt Creek Channel, in the southern part of the study area.

Small-Flowered Microseris

One small population of small-flowered microseris (with 15 plants) was identified in the West Hemet Hills (Figure 3.3-37). This population was also found in the Build Alternative 2a study area. The two Build alternatives would be the same in this location.

Little Mousetail

Ninety little mousetail populations (with 377,993 plants) occur within Additional Indirect Impact Study Area 1 (Table 3.3-5 [page 3-533]). Thirty little mousetail populations with about 49,001 plants were observed within the Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve. These 30 populations are in the study areas for all of the Build alternatives. They have LTCV. LTCV populations are discussed in a separate subsection (page 3-556).

One small population with seven plants was found in the Build Alternative 2b indirect impact area (Roadway Segment D). This is the same population that was found in Build Alternative 2a (Roadway Segment F).

Assessment of LTCV Populations in the Build Alternative 2b Study Area

MSHCP Criteria Area Cells 2683, 2364, 3291, 3584, 3683, 3684, 3791, 3891, 3887, and 4007 are in the Build Alternative 2b study area (Table 3.3-5 [page 3-533] and Figure 3.3-21).

A total of 602 populations of special-status plants are present in these Criteria Area Cells (Table 3.3-5 [page 3-533]). Conservation of most of these populations could contribute substantially toward attaining species-specific conservation goals and reserve assembly, so these populations have LTCV. Except for a smaller number of Coulter's goldfields in Build Alternative 2b, the LTCV populations in the study areas of Build Alternative 2a (page 3-550) and Build Alternative 2b are the same. The following species have LTCV.

- Parish's brittlescale
- Davidson's saltscale
- Smooth tarplant
- Coulter's goldfields
- Little mousetail

These LTCV populations are described below.

Parish's Brittlescale

Thirteen Parish's brittlescale populations with 1,320 plants were found in the MWD Upper Salt Creek Reserve in Additional Indirect Impact Study Area 1. These are the same populations that were found in the study area for Build Alternative 2a (page 3-550).

Davidson's Saltscale

Fifty-nine populations of Davidson's saltscale with 12,136 plants were identified in Additional Indirect Impact Study Area 1 (Table 3.3-5 [page 3-533] and Figure 3.3-24). These are the same populations that were found in

Build Alternative 2a (page 3-550). Only one small population (with six plants) was found outside Additional Indirect Impact Study Area 1, northwest of the Stoney Mountain Preserve. This small population is not in a Criteria Area Cell, so it does not have LTCV.

Smooth Tarplant

Ninety-five populations of smooth tarplant in Criteria Area Cells were found in the study area for Build Alternative 2b (see Table 3.3-5 [page 3-533] and Figure 3.3-26), as follows:

- Criteria Area Cell 3683: 1 population, Roadway Segment G
- Criteria Area Cell 3584: 7 populations, Roadway Segment I
- Criteria Area Cell 2364: 5 populations, Roadway Segment N
- Criteria Area Cells 3683, 3684, 3791, 3887, 4007: 80 populations, Additional Indirect Impact Study Area 1
- Criteria Area Cell 3291: 2 populations, Roadway Segment J; 30 populations, Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve

The populations in Additional Indirect Impact Study Areas 1 and 2 are the same as Build Alternative 2a (page 3-550), and they have LTCV.

Coulter's Goldfields

Twenty populations of Coulter's goldfields with about 560,000 plants were identified roughly between the MWD Upper Salt Creek Reserve and SR 74/Florida Avenue (Figure 3.3-30). These are the same populations that were found in the study area for Build Alternative 2a (page 3-550).

Little Mousetail

Ninety little mousetail populations (with 377,993 plants) were found in Additional Indirect Impact Study Area 1 (Table 3.3-5 [page 3-533]). These, and the 30 populations in Additional Indirect Impact Study Area 2 at the Stoney Mountain Preserve, are the same populations that were found in the study area for Build Alternative 2a (page 3-550).

Special-Status Plant Species Not Included in the MSHCP

Two special-status plants that are not included in the MSHCP were found in the Build Alternative 2b study area.

- Paniculate tarplant – 39 populations (33,495 plants)
- Robinson's peppergrass – 19 populations (7,872 plants)

Paniculate Tarplant

Thirty-nine paniculate tarplant populations with 33,495 plants were found in the Build Alternative 2b study area (Table 3.3-1 [page 3-443] and Figure 3.3-32). The largest concentrations were in the central and southern portions of the alternative, on the lower hill slopes of the Tres Cerritos Hills, the West Hemet Hills, and the study area for Roadway Segment B, south of the Domenigoni Parkway. As stated in the discussion for Build Alternative 1a

(page 3-544), this species is on CNPS List 4 (watch list) and is important in a regional context, but individual populations do not have high value.

Robinson's Peppergrass

Nineteen populations of Robinson's peppergrass (with 7,872 plants) were identified in the study area for Build Alternative 2b (Figure 3.3-33). These are the same populations that were found in the study area for Build Alternative 2a (page 3-553).

3.3.3.3 Environmental Consequences

The following sections describe the potential permanent (direct and indirect) and temporary impacts to plant species from each of the Project alternatives and design options. The design options added in 2009 did not change the study area, so they would have the same impacts as their respective Build alternatives. All impacts to special-status plants are considered permanent because there would be no temporary construction easements, and the potential for degradation of habitat in the direct and indirect impact areas is high. Temporary impacts to special-status plants are not expected.

The locations of rare plants that could be impacted by the proposed Project are provided in Figures 3.3-23 through 3.3-39.

All quantities are expressed in both metric and customary values. Conversions from metric to customary that appear similar may differ due to rounding.

Permanent Impacts

The potential for permanent impacts to special-status plants from the Build alternatives and design options is discussed in the following sections. This analysis assumes that construction or operation of the Project would result in direct and permanent impacts to all special-status plants in the PIA and unique design features.

Permanent indirect impacts could occur in the 30.5-m (100-ft) indirect impact area or in Additional Indirect Impact Study Areas 1 and 2. A summary of potential impacts to special-status plants is presented in Table 3.3-3 (page 3-471).

No Build Alternative

No impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

Build Alternative 1a

Build Alternative 1a could have permanent direct or indirect impacts to 10 special-status plant species. Eight of these 10 species are MSHCP Covered Species. Two special-status plants, paniculate tarplant and Robinson's peppergrass, are not included in the MSHCP.

Build Alternative 1a would cross MSHCP Criteria Area Cells 3683, 3584, 3291, 2364, 2774, 2775, and 2878 (Table 3.3-5 [page 3-533] and Figure 3.3-1). Three species with LTCV populations could be permanently impacted—smooth tarplant, Coulter's goldfields, and little mousetail. Potential permanent impacts to these LTCV populations are discussed in a separate subsection (page 3-561).

MSHCP Criteria Area, Narrow Endemic, Other MSHCP Covered Species, and MSHCP Planning Species

Permanent direct and indirect impacts to eight MSHCP species are expected to result from Build Alternative 1a. The eight MSHCP species that would be permanently impacted (directly and indirectly) by Build Alternative 1a are as follows:

- Davidson's saltscale
- Plummer's mariposa lily
- Smooth tarplant
- Parry's spineflower
- Long-spined spineflower
- Vernal barley
- Coulter's goldfields
- Little mousetail

Davidson's Saltscale

Build Alternative 1a would permanently and directly impact 1 population of Davidson's saltscale, with 6 individuals, in the PIA south of Esplanade Avenue. This small population would be in the PIA of all of the Build alternatives. Impacts could not be avoided, regardless of which Build alternative is identified as the Preferred Alternative.

Plummer's Mariposa Lily

Build Alternative 1a would result in the permanent loss of 1 population of Plummer's mariposa lily with 2 plants. This was the only population found in the Project study area, but as stated in Section 3.3.3.2 (page 3-522), it is possible that more plants could be in the West Hemet Hills than were found at the time of the survey.

Smooth Tarplant

A total of 168 populations of smooth tarplant with 73,072 individuals would be permanently and directly impacted by Build Alternative 1a.

An additional 80 populations with 26,512 plants (some of which would span both the PIA and the indirect impact area) could be indirectly impacted.

Eighteen populations (26,221 plants) with LTCV would be directly impacted in the PIA (Roadway Segment L). Two LTCV populations (5,642 plants) could be affected in the indirect impact area.

Thirty smooth tarplant populations with LTCV (4,995 plants) in Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve, could also be indirectly affected.

Parry's Spineflower

Build Alternative 1a is expected to result in permanent direct impacts to 24 populations of Parry's spineflower (110,996 plants). Indirect impacts may occur to another 3 populations and 1,570 plants. Except for one small population in the PIA of Roadway Segment A, all of the impacts to Parry's spineflower would be in the West Hemet Hills.

Long-Spined Spineflower

Two long-spined spineflower populations with 815 plants in the PIA would be directly impacted by Build Alternative 1a. Two additional populations with 3,801 plants in the indirect impact area could also be permanently impacted.

Vernal Barley

Permanent direct impacts to six vernal barley populations (8,425 plants) are expected from Build Alternative 1a. Two of these populations would span the PIA and the indirect impact area. Six populations with an estimated 10,496 plants in the alkali grassland habitat in the indirect impact area (Roadway Segments I, J, and L) could also be permanently impacted.

Coulter's Goldfields

Twenty Coulter's goldfields populations (4,785 plants), located east of Warren Road and south of Byrd Street, would be directly impacted by Build Alternative 1a. One of these populations would extend beyond the PIA into the indirect impact area. This population and another two Coulter's goldfields populations (650 plants) could be indirectly impacted by construction.

Little Mousetail

Build Alternative 1a is expected to have direct impacts to one population of little mousetail (about 10,000 plants) that would be in the PIA, at the northwest corner of Warren Road and Esplanade Avenue. This population is not in a Criteria Area Cell, so it does not have LTCV. Permanent impacts to this population do not require mitigation to comply with the MSHCP, but large populations of little mousetail such as this still have high conservation value. To avoid permanent direct impacts as much as possible, this location will be designated as an Environmentally Sensitive Area (ESA), and an ESA fence will be installed around the perimeter of the vernal pool (see BIO-35 in Section 3.3.3.4 [page 3-570]). However, due to engineering constraints, permanent direct impacts to some of this population cannot be avoided.

A portion of one population complex with 8,589 little mousetail plants that extends into the indirect impact area (Roadway Segment J) could be indirectly impacted by construction of Build Alternative 1a.

Assessment of LTCV Populations in Build Alternative 1a

Some populations that would be impacted by Build Alternative 1a, including Davidson's saltscale, Plummer's mariposa lily, smooth tarplant, Parry's spineflower, long-spined spineflower, vernal barley, and little mousetail (the one population at the northwest corner of Warren Road and Esplanade Avenue), do not have LTCV. These populations would not require mitigation to comply with the MSHCP.

Permanent indirect impacts to the little mousetail and smooth tarplant LTCV populations in the indirect impact area and Additional Indirect Impact Study Area 2 could exceed the 90-percent avoidance threshold. If this occurs, it would be a substantial impact, but is not likely. Rainfall is the most important source of water for the little mousetail populations, but shallow seasonal surface runoff may also contribute to the local hydrology. This part of the Project area is relatively flat, and the populations would be up slope and southeast of the PIA. Runoff in this area flows principally from the south during storms, so it is unlikely that the hydrology at the Stoney Mountain Preserve or the Build Alternative 1a indirect impact area would be affected by construction. Therefore, permanent indirect impacts associated with changes in hydrology are not expected to the LTCV populations of little mousetail in the Roadway Segment J portion of the Build Alternative 1a indirect impact area or to the little mousetail and smooth tarplant populations with LTCV in Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve. The 90-percent LTCV population avoidance threshold can be attained by using minimization measures (see Section 3.3.3.4 [page 3-570]).

Direct impacts to the 20 LTCV populations of Coulter's goldfields and 18 LTCV populations of smooth tarplant in the PIA of Build Alternative 1a could not be avoided if this Build alternative is identified for construction. Impacts (e.g., hydrologic alteration, introduction of noxious weeds) to the 3 Coulter's goldfields and 2 smooth tarplant LTCV populations in the indirect impact area would be avoided or minimized during construction (see Section 3.3.3.4 [page 3-570]).

With Build Alternative 1a, permanent direct and indirect impacts to these populations of Coulter's goldfields and smooth tarplant would exceed the 90-percent LTCV avoidance threshold. This would be a substantial impact. A Determination of Biological Equivalent or Superior Preservation (DBESP) and appropriate mitigation would be required to comply with the MSHCP.

Special-Status Plant Species Not Included in the MSHCP

Two non-MSHCP special-status plants would be permanently impacted by Build Alternative 1a. Impacts to these species are described below.

Paniculate Tarplant

Build Alternative 1a is expected to result in the permanent loss of 20 paniculate tarplant populations (8,729 plants). Some of these populations would also extend into the indirect impact area, where 17 populations (12,645 plants) could be permanently and indirectly impacted by construction.

As stated in Section 3.3.3.2 (page 3-544), paniculate tarplant is a CNPS List 4 (watch list) species. These populations are important in a regional context, but the permanent direct impacts expected from constructing Build Alternative 1a would not be substantial.

Robinson's Peppergrass

Build Alternative 1a would have permanent direct impacts to 14 Robinson's peppergrass populations (79,074 plants). Two small populations (50 plants) could be permanently and indirectly impacted. All of these populations are in the West Hemet Hills and are part of the largest Robinson's peppergrass complex identified during the surveys.

As stated in Section 3.3.3.2 (page 3-544), Robinson's peppergrass is on CNPS List 1B. Permanent direct and indirect impacts to the populations in the West Hemet Hills would be substantial, so mitigation would be required.

Build Alternative 1b and Design Option 1b1

Adding Design Option 1b1 in 2009 did not change the PIA or indirect impact area, so the impact assessment for Build Alternative 1b would apply to the design option as well. Build Alternative 1b could have permanent direct and indirect impacts to 10 special-status plant species. Eight of these 10 are MSHCP Covered Species. Two special-status plants, paniculate tarplant and Robinson's peppergrass, are not included in the MSHCP.

Build Alternative 1b would cross MSHCP Criteria Area Cells 3683, 3584, and 3291, and 2364 (Table 3.3-5 [page 3-533] and Figure 3.3-1). Smooth tarplant and little mousetail populations with LTCV could be permanently impacted by Build Alternative 1b. Potential permanent impacts to these LTCV populations are discussed in a separate subsection (page 3-563).

MSHCP Criteria Area, Narrow Endemic, Other MSHCP Covered Species, and MSHCP Planning Species

The eight MSHCP species that could be permanently impacted by Build Alternative 1b are:

- Davidson's saltscale
- Plummer's mariposa lily
- Smooth tarplant
- Parry's spineflower
- Long-spined spineflower
- Vernal barley
- Coulter's goldfields
- Little mousetail

Davidson's Saltscale

Build Alternative 1b, like all of the Build alternatives, would result in permanent direct impacts to one population of Davidson's saltscale (six plants) in the PIA south of Esplanade Avenue.

Plummer's Mariposa Lily

Impacts to Plummer's mariposa lily would be the same as Build Alternative 1a (page 3-559).

Smooth Tarplant

A total of 149 populations of smooth tarplant with 373,322 individuals would be permanently and directly impacted by Build Alternative 1b. Another 102 populations with 156,666 individuals could be permanently affected in the indirect impact area.

Parry's Spineflower

Impacts to Parry's spineflower would be the same as Build Alternative 1a (page 3-560).

Long-Spined Spineflower

Impacts to long-spined spineflower would be the same as Build Alternative 1a (page 3-560).

Vernal Barley

Build Alternative 1b would cause the permanent loss of 5 vernal barley populations (5,425 plants) in the PIA. Eleven populations (12,796 plants) in the indirect impact area could be impacted as well.

Coulter's Goldfields

Build Alternative 1b would have permanent and direct impacts to 2 Coulter's goldfields populations (28,079 plants) in the PIA (Roadway Segment M). One of these two populations (1,044 plants) would extend into the indirect impact area, thus could be permanently affected. One other population (2 plants) in Salt Creek Channel could be indirectly impacted.

Little Mousetail

Build Alternative 1b would have permanent direct impacts to the same population of little mousetail (approximately 10,000 plants) as Build Alternative 1a (page 3-560).

A portion of a little mousetail population complex (9,886 plants) at the Stoney Mountain Preserve would extend into the indirect impact area. These populations have LTCV.

Assessment of LTCV Populations in Build Alternative 1b

Some of the populations that would be impacted by Build Alternative 1b, including Davidson's saltscale, Plummer's mariposa lily, smooth tarplant, Parry's spineflower, long-spined spineflower, and vernal barley, do not have LTCV. These populations would not require mitigation to comply with the MSHCP.

The little mousetail and smooth tarplant LTCV populations in the indirect impact area and Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve, would be the same as Build Alternative 1a (page 3-532). Although the two Build alternatives would differ in this location, the LTCV assessment would be the same.

Special-Status Plant Species Not Included in the MSHCP

Two non-MSHCP special-status plants could be permanently impacted by construction of Build Alternative 1b. Impacts to these species are described below.

Paniculate Tarplant

Build Alternative 1b is expected to result in the permanent loss of 14 paniculate tarplant populations (1,288 plants). Some of these populations also extend into the indirect impact area, so as many as 15 paniculate tarplant populations (5,706 plants) could be indirectly impacted by construction.

As stated in Section 3.3.3.2 (page 3-544), paniculate tarplant is a CNPS List 4 (watch list) species. These populations are important in a regional context, but the permanent direct impacts expected from constructing Build Alternative 1b would not be substantial.

Robinson's Peppergrass

Impacts to Robinson's peppergrass from Build Alternative 1b would be the same as Build Alternative 1a (page 3-562).

Build Alternative 2a

Build Alternative 2a could have permanent direct or indirect impacts to 12 special-status plant species. Ten of these species are MSHCP Covered Species. Two special-status plants, paniculate tarplant and Robinson's peppergrass, are not included in the MSHCP.

Build Alternative 2a would cross Criteria Area Cells 3683, 3684, 3791, 3887, 3791, 3891, 4007, 3584, 3291, 2774, 2775, 2878, and 2364. Five special-status plant species with LTCV populations could be permanently directly or indirectly impacted—Davidson's saltscale, smooth tarplant, Coulter's goldfields, Parish's brittlescale, and little mousetail. Potential impacts to these LTCV populations are discussed in a separate subsection (page 3-566).

MSHCP Criteria Area, Narrow Endemic, Other MSHCP Covered Species, and MSHCP Planning Species

The 10 MSHCP Covered Species that could be permanently impacted by Build Alternative 2a are listed below and described in the following sections.

- Davidson's saltscale
- Smooth tarplant
- Parry's spineflower
- Long-spined spineflower
- Palmer's grapplinghook
- Vernal barley
- Coulter's goldfields
- Parish's brittlescale

- Small-flowered microseris
- Little mousetail

Davidson's Saltscale

Build Alternative 2a, like all of the other Build alternatives, would have permanent direct impacts to one Davidson's saltscale population (6 plants) located south of Esplanade Avenue. Impacts could not be avoided, regardless of which Build alternative is identified as the Preferred Alternative.

Smooth Tarplant

Impacts to smooth tarplant populations from Build Alternative 2a would be the same as those from Build Alternative 1a (page 3-559). Both Build alternatives would include Roadway Segment L, where the impacts would occur.

Parry's Spineflower

Build Alternative 2a would have permanent direct impacts to 32 populations of Parry's spineflower (13,629 plants). Another 4 populations (264 plants) could be impacted indirectly. Except for one small population in the PIA of Roadway Segment A, all of the Parry's spineflower in Build Alternative 2a would be in the West Hemet Hills. Build Alternative 2a would result in fewer impacts to Parry's spineflower individuals (but not to the number of populations) than Build Alternatives 1a or 1b.

Long-Spined Spineflower

Build Alternative 2a would cause permanent direct impacts to 24 long-spined spineflower populations with 14,651 plants in the PIA. Three populations with 913 plants in the indirect impact area could be impacted. These populations are part of the largest long-spined spineflower complex in the Project area, so Build Alternative 2a would have more impacts to long-spined spineflower than Build Alternative 1a or 1b (page 3-560).

Palmer's Grapplinghook

Palmer's grapplinghook was not found in the PIA, so permanent direct impacts to this species are not expected. However, Build Alternative 2a could have permanent indirect impacts to one population of Palmer's grapplinghook (500 plants) on the lower slopes of the West Hemet Hills in Additional Indirect Impact Study Area 1.

Vernal Barley

With Build Alternative 2a, three vernal barley populations (3,925 plants) in the PIA would be permanently lost. Indirect impacts to more than 5 million plants in 11 populations could also occur. These indirect impacts would be mostly in Additional Indirect Impact Study Area 1. Small populations of vernal barley in the indirect impact area (Roadway Segments I, K, and L) could also be impacted.

Coulter's Goldfields

Impacts to Coulter's goldfields populations would be the same as Build Alternative 1a (3-560).

Parish's Brittlescale

Thirteen populations (1,320 plants) in the MWD Upper Salt Creek Reserve could be indirectly impacted by Build Alternative 2a due to changes in hydrology. All of the Parish's brittlescale populations have LTCV, but because these populations are in the MWD Upper Salt Creek Reserve, conservation has already been attained. However, indirect impacts to vernal pool hydrology could result in the loss of populations or individual plants or degradation of the vernal pool habitat. Such a loss could affect the long-term sustainability of these populations and could make attaining the MSHCP conservation objectives for this species more difficult.

Small-Flowered Microseris

Build Alternative 2a would have permanent direct impacts to one small population of small-flowered microseris (15 plants) in the West Hemet Hills. This population would be in the PIA of the Roadway Segment H portion of this Build alternative.

Little Mousetail

Build Alternative 2a would have permanent direct impacts to one population of little mousetail (approximately 10,000 plants) that would be in the PIA, at the northwest corner of Warren Road and Esplanade Avenue. This is the same population that would be directly impacted by Build Alternative 1a (page 3-560).

Build Alternative 2a could also have permanent indirect impacts to 14 populations of little mousetail (12,750 plants), with one of those populations (7 plants) in the indirect impact area (Roadway Segment F). Twelve (2,799 plants) of the 14 populations have LTCV and are in Additional Indirect Impact Study Area 1.

A portion of a little mousetail population complex (9,886 plants) in Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve, would extend into the indirect impact area (Roadway Segment K). These populations have LTCV.

Assessment of LTCV Populations in Build Alternative 2a

As stated in the previous section, a portion of a little mousetail population complex (9,886 plants) at the Stoney Mountain Preserve would extend into the indirect impact area. These populations have LTCV. They could be permanently and indirectly impacted by Build Alternative 2a.

Permanent indirect impacts to the LTCV little mousetail and smooth tarplant populations in the indirect impact area and in Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve, would be the same as Build Alternative 1a (page 3-561).

Impacts to the 20 populations of Coulter's goldfields and 18 populations of smooth tarplant with LTCV in the PIA and indirect impact area would be the same as Build Alternative 1a (page 3-561).

Build Alternative 2a could cause permanent indirect impacts to the LTCV populations of Parish's brittlescale, smooth tarplant, and little mousetail in Additional Indirect Impact Study Area 1. These impacts could exceed the 90-percent avoidance threshold for these species. If the threshold were exceeded for any of these species, that would be substantial impact. However, measures were taken during the Project development and siting phase to avoid impacts to these populations as much as possible and to maintain the existing hydrologic conditions after construction, as described in Section 3.3.3.4 (page 3-570). Also described in Section 3.3.3.4, measures would be implemented to avoid and minimize permanent indirect impacts during construction. With these measures, permanent indirect impacts to these LTCV populations could be avoided, and the 90-percent LTCV population avoidance threshold could be attained.

Special-Status Plant Species Not Included in the MSHCP

Two non-MSHCP special-status plants could be permanently impacted by Build Alternative 2a. Impacts to these species are described below.

Paniculate Tarplant

Build Alternative 2a would cause the permanent loss of 20 paniculate tarplant populations (29,629 plants) in the PIA. Some of these populations would also extend into the indirect impact area and Additional Indirect Impact Study Area 1. Collectively, 19 paniculate tarplant populations (12,795 plants) could be indirectly impacted.

As stated in Section 3.3.3.2 (page 3-544), paniculate tarplant is a CNPS List 4 (watch list) species. These populations are important in a regional context, but the permanent direct impacts expected from construction of Build Alternative 2a would not be substantial. Therefore, mitigation would not be required.

Robinson's Peppergrass

Build Alternative 2a would have permanent direct impacts to 16 Robinson's peppergrass populations (7,700 plants) in the PIA. Three other small populations of Robinson's peppergrass (172 plants) could be permanently and indirectly impacted.

As stated in Section 3.3.3.2 (page 3-544), Robinson's peppergrass is on CNPS List 1B. Fewer plants would be impacted by Build Alternative 2a than Build Alternatives 1a or 1b, but these impacts would still be substantial. Mitigation would be required.

Build Alternative 2b and Design Option 2b1

Adding Design Option 2b1 in 2009 did not change the PIA or indirect impact area, so the impact assessment for Build Alternative 2b would apply to the design option as well. Build Alternative 2b would have permanent direct and indirect impacts to 12 special-status plant species. Ten of these are MSHCP Covered Species. Two special-status plants, paniculate tarplant and Robinson's peppergrass, are not included in the MSHCP.

Build Alternative 2b would cross Criteria Area Cells 3683, 3684, 3791, 3887, 3791, 3891, 4007, 3584, 3291, 2774, 2775, 2878, and 2364. Similar to Build Alternative 2a (page 3-566), five special-status plant species with LTCV populations could be permanently directly or indirectly impacted by Build Alternative 2b: Davidson's saltscale,

smooth tarplant, Coulter's goldfields, Parish's brittlescale, and little mousetail. Potential impacts to these LTCV populations are discussed in a separate subsection (page 3-569).

MSHCP Criteria Area, Narrow Endemic, Other MSHCP Covered Species, and MSHCP Planning Species

The 10 MSHCP species that would be permanently impacted by Build Alternative 2b are:

- Davidson's saltscale
- Smooth tarplant
- Parry's spineflower
- Long-spined spineflower
- Palmer's grapplinghook
- Vernal barley
- Coulter's goldfields
- Parish's brittlescale
- Small-flowered microseris
- Little mousetail

Davidson's Saltscale

Build Alternative 2b, like all of the Build alternatives, would result in permanent direct impacts to one population of Davidson's saltscale (six plants) in the PIA south of Esplanade Avenue.

Smooth Tarplant

A total of 155 populations of smooth tarplant (374,837 plants) in the PIA would be permanently lost because of Build Alternative 2b. Another 97 populations (152,589 plants) could be permanently impacted in the indirect impact area and Additional Indirect Impact Study Area 1.

Parry's Spineflower

Impacts to Parry's spineflower from Build Alternative 2b would be the same as Build Alternative 2a (page 3-565).

Long-Spined Spineflower

Impacts to long-spined spineflower from Build Alternative 2b would be the same as Build Alternative 2a (page 3-565).

Palmer's Grapplinghook

Impacts to Palmer's grapplinghook from Build Alternative 2b would be the same as Build Alternative 2a (page 3-565).

Vernal Barley

Six vernal barley populations (8,425 plants) would be permanently lost because of Build Alternative 2b. Potential indirect impacts to more than 5 million plants in 11 populations could also occur. These indirect impacts would mostly be in the extensive stands of alkali grasslands in Additional Indirect Impact Study Area 1. Small populations of vernal barley could also be affected in the indirect impact area in the northern portion of this Build alternative (Roadway Segments I, J, and M).

Coulter's Goldfields

Impacts to 2 populations (28,079 plants) of Coulter's goldfields in the PIA of Build Alternative 2b (Roadway Segment M) would be the same as Build Alternative 1b (page 3-563). One other population (2 plants) in the PIA of the Roadway Segment D portion of this Build alternative would also be permanently lost.

Parish's Brittlescale

Impacts to Parish's brittlescale from Build Alternative 2b would be the same as Build Alternative 2a (page 3-566).

Small-Flowered Microseris

Impacts to small-flowered microseris from Build Alternative 2b would be the same as Build Alternative 2a (page 3-566).

Little Mousetail

Impacts to one population of little mousetail (approximately 10,000 plants) in the PIA of Build Alternative 2b (Roadway Segment J) at the northwest corner of Warren Road and Esplanade Avenue would be the same as Build Alternative 1a (page 3-560).

Build Alternative 2b could also have permanent indirect impacts to 14 populations of little mousetail (11,395 plants). One population (7 plants) in the indirect impact area (Roadway Segment D) could be affected. Twelve populations (2,799 plants) of the 14 have LTCV. Those 12 populations are in Additional Indirect Impact Study Area 1.

Assessment of LTCV Populations in Build Alternative 2b

Impacts to the little mousetail and smooth tarplant LTCV populations from Build Alternative 2b would be the same as Build Alternative 1a (page 3-561). Both Build alternatives include Roadway Segment J.

Impacts to the LTCV populations of Parish's brittlescale, smooth tarplant, and little mousetail in Additional Indirect Impact Study Area 1 would be the same as Build Alternative 2a (page 3-566).

Special-Status Plant Species Not Included in the MSHCP

Two non-MSHCP special-status plants could be permanently impacted by Build Alternative 2b. Impacts to these species are described below.

Paniculate Tarplant

Build Alternative 2b is expected to result in the permanent loss of 14 paniculate tarplant populations (22,188 plants). Some of these populations also extend into the indirect impact area and Additional Indirect Impact Study Area 1. In all, 17 paniculate tarplant populations (5,856 plants) in these areas could be indirectly impacted.

As stated in Section 3.3.3.2 (page 3-544), paniculate tarplant is a CNPS List 4 (watch list) species, so these populations are important in a regional context, but the permanent impacts expected from Build Alternative 2b would not be substantial, and mitigation would not be required.

Robinson's Peppergrass

Impacts to Robinson's peppergrass from Build Alternative 2b would be the same as Build Alternative 2a (page 3-567).

Temporary Impacts

As described previously, this impact analysis assumes that all special-status plants present in the PIA and unique design features would be directly and permanently impacted because of construction or operation of the proposed Project, and temporary impacts would not occur. Impacts to special-status plants within the 30.5-m (100-ft) indirect impact area adjacent to the PIA and Additional Indirect Impact Study Areas 1 and 2 are included in the permanent impact analysis in the Permanent Impacts section.

3.3.3.4 Avoidance, Minimization, and/or Mitigation Measures

Avoidance Measures

The Build alternatives for the Project will incorporate the following avoidance measures for plants:

BIO-28 **Environmentally Sensitive Area Fencing.** This ESA fence measure, per Caltrans Standard Specifications, as described in Section 3.3.2.4 (page 3-516), would also protect sensitive plant populations, including Coulter's goldfields (Narrow Endemic), smooth tarplant (Narrow Endemic), and little mousetail (Critical Area), in the Stowe Road Vernal Pool Complex located in Additional Indirect Impact Study Area 1.

BIO-35 **Avoidance of Sensitive Plant Populations.** An ESA fence will be installed at the outer edge of the ROW of either Roadway Segment J or K, depending on the Preferred Alternative that is identified, to avoid long-term conservation value (LTCV) little mousetail populations located in the indirect impact area. A contractor-supplied biological monitor who has knowledge about and experience with local sensitive plant species will determine the location of the ESA fence in the field and identify it on construction drawings and plans and will supervise installation of the fence. The biological monitor will also inspect the ESA fencing regularly during construction and coordinate with the Resident Engineer if fence repairs should be required.

An ESA fence will be installed along the edge of the Roadway Segment L ROW, for either Build Alternative 1a or 2a, to avoid impacts to Coulter's goldfields populations 49 and 52 and smooth tarplant populations 483 and 511 (Figure 3.3-26 and Figure 3.3-30). The locations of these populations will be shown on construction plans and drawings. A contractor-supplied biological monitor who has knowledge about and experience with local sensitive plant species will demark the location of the ESA fence in the field and on construction drawings and plans and will supervise installation of the fence. The biological monitor will also inspect the ESA fencing regularly during construction and coordinate with the Resident Engineer if fence repairs should be required.

An ESA will be established for all Build alternatives at the edge of the Roadway Segment I ROW adjacent to the federally listed as endangered San Jacinto Valley crownscale populations. The location of these populations will be shown on construction plans and drawings. A contractor-supplied biological monitor who has knowledge about and experience with local sensitive plant species will demark the location of the ESA fence in the field and on construction drawings and plans and will supervise installation of the fence. The biological monitor will also inspect the ESA fencing regularly during construction and coordinate with the Resident Engineer if fence repairs should be required.

Minimization Measures

All Build alternatives and design options will incorporate the following measures to comply with all MSHCP guidelines related to minimizing impacts to plant species within or adjacent to the MSHCP Conservation Area.

BIO-1 **Landscaping Plans.** This measure, as described in Section 3.3.1.4 (page 3-497), would also apply to sensitive plant species. Landscaping plans will include native seed for erosion control in areas near the MSHCP Conservation Area.

BIO-2 **Avoid the Use of Invasive and Non-Native Plants.** This measure, as described in Section 3.3.1.4 (page 3-497), would also apply to sensitive plant species. The landscaping plans will avoid the use of invasive and non-native plants listed in MSHCP Table 6-2, Plants that Should be Avoided Adjacent to the MSHCP Conservation Area, where applicable.

BIO-36 **Avoid the Spread of Invasive Plant Species.** The Project will incorporate specifications in the landscape plans to avoid the spread of invasive plant species.

- **BIO-36a. Cleaning of Equipment.** All construction equipment shall be cleaned, with a broom or other appropriate method, of potential invasive plant seeds before entering sensitive habitat areas.

- **BIO-36b. Monitoring.** Periodic invasive plant species monitoring of the ROW and adjacent sensitive areas will be conducted during construction by contractor-supplied plant biologists who have knowledge about and experience with the local flora and invasive species of the

region. Key monitoring objectives are to identify and eradicate any invasive weed infestations that establish or spread within the ROW during construction to prevent them from extending into adjacent sensitive areas. Monitoring will be conducted quarterly, at a minimum, and will focus on the portions of the ROW that are adjacent to Additional Indirect Impact Study Areas 1 and 2, in particular, the Stowe Road Vernal Pool Complex and the Stoney Mountain Preserve. Qualified biologists will demark the location of noxious weeds in the field, on construction and engineering drawings, and with GPS units.

- **BIO-36c. Eradication.** A variety of methods, including mechanical control or herbicides, will be used to eradicate invasive plant species identified during monitoring.

Mitigation Measures

BIO-33a-c **Modification of the Project Design to Construct a Gravity-Based Surface Water Diversion System.** This measure, as described in Section 3.3.2.4 (page 3-516), would reduce impacts to the sensitive plant populations located in Additional Indirect Impact Study Area 1, including Coulter's goldfields (Narrow Endemic), smooth tarplant (Narrow Endemic), and little mousetail (Criteria Area).

BIO-37 **Mitigation for Robinson's Peppergrass Populations.** Applicable mitigation for impacts to populations of Robinson's peppergrass that are considered to have high value will be determined through coordination with the wildlife agencies once the Preferred Alternative has been identified. Potential mitigation could include one of the measures listed below or a combination of the two measures.

- **BIO-37a.** Onsite conservation of existing Robinson's peppergrass populations.
- **BIO-37b.** Translocation of Robinson's peppergrass individuals or seed collection, salvage, and transfer to areas of suitable habitat, as identified by a contractor-supplied plant biologist who has knowledge about and experience with the local flora species of the region, within the Project ROW.

BIO-38 **Coulter's Goldfields and Smooth Tarplant Populations.** Mitigation for permanent direct or indirect impacts to Coulter's goldfields and smooth tarplant populations will be implemented if either Build Alternative 1a or 2a, both of which include Roadway Segment L, is selected. Roadway Segment L would pass through MSHCP Criteria Area Cells 2774, 2775, and 2878 and San Jacinto Area Plan Subunit 4: Vernal Pool Areas – East.

- **BIO-38a.** A Determination of Biological Equivalent or Superior Preservation (DBESP) will be prepared to evaluate and address direct impacts to Criteria Area plant species. Applicable mitigation will be determined through coordination with the resource agencies once the Preferred Alternative has been identified. Potential mitigation measures listed below or a combination of the two measures could be implemented.

- **BIO-38b.** Onsite conservation of existing smooth tarplant and Coulter's goldfields populations.
- **BIO-38c.** Translocation of smooth tarplant and Coulter's goldfields individuals to areas of suitable habitat outside the Project ROW.

BIO-39 **Culvert/Drainage System for Coulter's Goldfields and Smooth Tarplant Populations.** If Build Alternative 1a or 2a is identified as the Preferred Alternative, a culvert/drainage system would be designed to maintain the existing amount of surface water flow in the indirect impact area of Roadway Segment L. This would maintain hydrology for two populations of Narrow Endemic plant species, Coulter's goldfields and smooth tarplant, by capturing flows from the southern edge of the ROW of Roadway Segment L and conveying flow north to the alkali grassland/wetland habitat. The design of this culvert/drainage system would be completed during final design to provide flexibility in the flow discharges after construction is completed.

3.3.4 Animal Species

3.3.4.1 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 Game (CDFG) 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 3.3.5 below (page 3-634). All other special-status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations pertaining to wildlife include the following:

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

State laws and regulations pertaining to wildlife include the following:

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

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) imposes criminal and civil penalties on anyone (including associations, partnerships, and corporations) in the United States or within its jurisdiction who, unless excepted, takes, possesses, sells, purchases, barters, offers to sell or purchase or barter, transports, exports, or imports at any time or in any manner a bald or golden eagle, alive or dead; or any part, nest, or egg of these eagles; or violates any permit or regulations issued under the BGEPA.

California Fully Protected Wildlife Species Provisions (CDFG Code Sections 3511, 4700, 5050, and 5515)

These provisions prohibit the taking of fully protected birds, mammals, amphibians, and fish. The CDFG might authorize a project, with conditions, after reviewing project impacts.

Birds of Prey Protection Provision (CDFG Code Section 3503.5)

This provision prohibits the taking of birds of prey, including any birds of the order Falconiformes or Strigiformes, and includes the nests or eggs of such birds.

3.3.4.2 Affected Environment

The Affected Environment section for Animal Species is based on the findings of the following focused survey reports, which were completed for the Project in December 2007, and the Natural Environment Study of April 2010 and the NES Technical Report Addendum Memorandum of August 2010.

- Final Sensitive Wildlife Survey Report
- Final Riparian Bird Survey Report
- Final Burrowing Owl Survey Report
- Final Vernal Pool Branchiopod Survey Report
- Final Sensitive Small Mammal Focused Survey Report

Study Areas

All survey work for the Project was conducted in accordance with right-of-entry agreements and court orders. Once access was assured and a survey was required on a property, a Project-specific landowner notification process was completed to coordinate survey activities with property owners. Prior to fieldwork, a survey-specific letter was sent to appropriate landowners as notification. The letter included a brief description of the survey activity and proposed survey dates. Many parcels required special handling due to locked gates or loose animals, so appointments were scheduled with landowners to accommodate these requests.

Study areas were defined by the biological resources to be evaluated and included a direct and indirect impact area. The direct impact area for all biological resources is represented by the PIA, utility relocation areas, and connections to Hemet Channel outside the Project ROW. The indirect impact study area for each biological resource varies, which resulted in three study areas for wildlife, described in the following paragraphs.

Rare Plant Aquatic Resources Study Area

The first study area was used to evaluate aquatic animal species and is referred to as the Rare Plant Aquatic Resources Study Area (RPARSA). As previously described in Natural Communities (page 3-437), Wetlands and Other Waters (page 3-502), and Plant Species (page 3-521) sections, the RPARSA included the PIA, utility relocation areas, connections to Hemet Channel outside the Project ROW, and a 30.5-m (100-ft) indirect impact area adjacent to the PIA. Additional Indirect Impact Study Areas 1 and 2 were also included. Specifically, the RPARSA was used to evaluate vernal pool branchiopods and amphibians based on the actual width of the Project footprint, topography, and the proximity of biological resources to the direct impact area. The RPARSA included a buffer large enough to account for reasonably foreseeable indirect impacts to vernal pool branchiopods and amphibians. Vernal pool branchiopods, which are federally listed as endangered or threatened, are discussed in Section 3.3.5 (page 3-634).

Terrestrial Wildlife and Golden Eagle Study Areas

A second study area, the Terrestrial Wildlife Study Area (TWSA), was used to evaluate terrestrial animal species, bats, and some nesting raptors. The TWSA included the PIA, utility relocation areas, connections to Hemet Channel outside the Project ROW, traffic detours, and a 152.4-m (500-ft) indirect impact area adjacent to the PIA and the unique design features. The TWSA is shown in Figure 3.3-3.

As described in Section 3.3.1.2, Natural Communities (page 3-439 [Volume 1]), the TWSA indirect impact area was initially defined according to the guidelines presented by the California Burrowing Owl Consortium (CBOC) for analyzing indirect impacts to burrowing owls because the TWSA contained burrowing owl survey areas identified in the MSHCP (CBOC 1993, CDFG 1995, County 2006a). The Department and the appropriate resource agencies determined that the 152.4-m (500-ft) buffer zone contained in the TWSA would be sufficient to analyze impacts to all sensitive terrestrial animal species, including indirect impacts and wildlife movement.

In addition to general nesting raptor surveys, which were conducted in the TWSA, a third study area, the Golden Eagle Study Area, was used to identify golden eagle nest locations. This study area was added based on background information about nesting golden eagles near the Project area. The nesting habits of golden eagles made it difficult to survey for this species using the same methods that were used for nesting raptors in general. Because golden eagles require extremely large tracts of land, the Golden Eagle Study Area extended 1.6 km (1.0 mi) from the PIA and unique design features. For the proposed Project, impacts could occur to an active golden eagle nest that is within 1.6 km (1.0 mi) of construction activities (blasting and other loud, intermittent noises) (USFWS 2007, Bloom 2006). Therefore, direct and indirect impacts were evaluated for nests within 1.6 km (1.0 mi) of the construction areas. The Golden Eagle Study Area is shown in Figure 3.3-40.

Study Methods

This section describes the species-specific methods and procedures used to conduct surveys for sensitive animal species.

Database Queries

Prior to initiating field surveys, a target list of special-status wildlife species likely to be present in the study area was compiled using the following sources:

- CNDDB (CDFG 2006b)
- Special animal list (CDFG 2006a)
- MSHCP (RCIP 2003)
- USFWS, Carlsbad Field Office species list for Riverside County (USFWS 2007)
- Focused surveys conducted in 2005 and 2006

The reference information used to compile the list was based on known occurrences, historical records, or the presence of suitable habitat for any of the life stages of a particular species. The 5-mile special-status species reference search for CNDDB records included the El Casco, Beaumont, Perris, Lakeview, San Jacinto, Romoland, Winchester, Hemet, Murrieta, and Bachelor, California, 7.5-minute United States Geological Survey (USGS) quadrangles.

The target list of special-status wildlife species that resulted from these queries is provided in Table 3.3-7 (page 3-577). The table also includes special-status wildlife species that were either observed onsite or could be present based on habitat and previous sightings. A complete list of wildlife species observed during the surveys of the Project study area is included in the NES as Appendix H.

Amphibians

Arroyo toad (*Bufo californicus*), California red-legged frog (*Rana aurora draytonii*), mountain yellow-legged frog (*Rana muscosa*), and western spadefoot toad (*Scaphiopus hammondii*) are all MSHCP Covered Species. Although arroyo toad, California red-legged frog, and mountain yellow-legged frog require focused surveys per the MSHCP, none of the MSHCP survey areas for these species was in the Project study area. However, all four species are included in Section 6.1.2 of the MSHCP, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (RCIP 2003), so habitat assessments and amphibian surveys for these species were conducted in 2005 and 2006.

Daytime habitat assessments took place on April 5, 2005, and March 23, 2006. Based on the results of the habitat assessments and literature review, focused protocol surveys were not conducted for arroyo toad, California red-legged frog, or mountain yellow-legged frog. However, general nighttime surveys were conducted on April 5 and April 6, 2005, and March 27 through March 30, 2006, for other sensitive amphibians, such as the western spadefoot toad. To increase the potential for detection, surveys started shortly after dusk and ended about 10:00 p.m. Surveys were conducted in areas where amphibian larvae or adults were observed during vernal pool branchiopod surveys and where suitable riparian vegetation and aquatic habitat were known to be present. Biologists walked throughout all suitable habitat looking for amphibian larvae and/or adults. At strategic locations in each survey site, they paused to listen for amphibian vocalizations. Survey equipment included flashlights, a digital camera, and a Trimble GeoXT GPS unit. Photographs of suitable habitat and a more detailed discussion of the amphibian survey methodology are in the Final Sensitive Wildlife Survey Report.

Table 3.3-7 Potential Special-Status Wildlife in the Project Study Area

Scientific Name/ Common Name	CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/ Absent	Species Observed in Study Area
Fish						
Gila orcutti Arroyo chub	CSC	Covered	Slow moving, fluctuating streams with warm to cool water. Prefers a sandy or muddy bottom. Often found in intermittent streams. Species distribution in Riverside County is limited to the Santa Ana River, Santa Margarita River, Temecula Creek, and Temescal Wash (RCIP 2003).	The Project study area is outside the current distribution in Riverside County. Additionally, slow moving, permanent streams do not occur. Therefore, suitable habitat is not present within the study area.	A	No
Rhinichthys osculus ssp. *3* Santa Ana speckled dace	CSC	-	Permanent, flowing streams with cool water and gravel bottom. Prefers shallow cobble with runs and riffles. Species distribution in Riverside County includes: Santa Clara River, Cuyama River, south fork of the San Jacinto River and associated tributaries, Strawberry Creek, Cajon Creek, and the west fork of City Creek.	The San Jacinto River is in the northern portion of the Project study area. However, this portion of the river does not support permanent flow. Therefore, suitable habitat is not present in the study area.	A	No
Amphibians						
Spea hammondii Western spadefoot toad	CSC	Covered	Primarily in grassland and valley-foothill hardwood communities. Requires vernal pools and ephemeral ponds for breeding. Found in numerous scattered locations and is widely distributed throughout western Riverside County, east of the San Jacinto Mountains, and desert regions.	Suitable vernal pool breeding habitat is present, and there are known occurrences within the special-status species search area (CDFG 2006b). This species was observed outside the Project study area during amphibian surveys.	P	Yes
Taricha torosa torosa Coast Range newt	CSC	Covered	Breeds in low-elevation streams and ponds, primarily near the coast. Upland habitat includes rocky canyons with streams and well-developed pools. Occurs in coastal drainages of the westernmost portions of Riverside County (RCIP 2003).	No suitable habitat along ponds and streams located adjacent to grassland habitat. This species was not detected during amphibian surveys in the Project study area.	A	No
Reptiles						
Anniella pulchra pulchra Silvery legless lizard	CSC	-	Requires moist soil consisting of sandy or loose loam. Often burrows under logs, rocks, or leaf litter. Associated with chaparral, pine-oak woodland, sycamores, cottonwoods, oaks, dunes, and desert scrub.	Potentially suitable sandy soils and habitat located along ponds and drainages adjacent to riparian and scrub habitat.	P	No

Table 3.3-7 Potential Special-Status Wildlife in the Project Study Area

Scientific Name/ Common Name	CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/ Absent	Species Observed in Study Area
Aspidoscelis hyperythra beldingi Belding's orange-throated whiptail	CSC	Covered	Sandy washes, rocky hillsides, chaparral, and sage scrub habitats that support adequate prey species. Located throughout western Riverside County up to 1,040 m (3,400 ft) elevation (RCIP 2003).	Suitable scrub habitat in the Project study area. Known occurrences in the special-status species search area (CDFG 2006b), and this species was observed in the study area.	P	Yes
Aspidoscelis tigris stejnegeri Coastal western whiptail	–	Covered	Open, rocky areas associated with shrub or grassland habitats from sea level to 2,130 m (7,000 ft).	Suitable rocky, scrub, and grassland habitat in the Project study area. Known occurrences in the special-status species search area (CDFG 2006b), and this species was observed in the study area.	P	Yes
Charina trivirgata Rosy boa	–	-	Rocky habitat in scrub and chaparral. Scattered throughout western Riverside County with aggregations present east of Riverside and east of Lake Mathews. Additional locations include Chino area, Allessandro Heights, Santa Ana Mountains, San Jacinto Mountains, Sage area, Corn Springs, Hemet, and Lakeview Mountains and throughout the MSHCP Plan Area where suitable habitat exists (RCIP 2003).	Suitable rocky scrub habitat is present in the Project study area. CNDDB occurrences have been in the special-status species search area (CDFG 2006b).	P	Yes
Actinemys marmorata pallida Southwestern pond turtle	CSC	Covered	Permanent or nearly permanent water. Found along slow-moving streams with deep pools and microhabitats such as partially submerged vegetation, logs, rocks, and undercut banks for basking and shelter. In Riverside County, this species generally ranges from the Santa Ana River to Chino Creek, along the eastern slopes of the Santa Ana Mountains and Elsinore Mountains, and south to the Temecula River at I-15. Other important locations include Temecula Creek at the confluence with Murrieta Creek, Santa Rosa Plateau, San Jacinto River, and Santa Ana River (RCIP 2003).	Stock ponds and treatment wetlands represent the only suitable habitat in the Project study area.	P	No
Coleonyx variegatus abbotti San Diego banded gecko	–	Covered	Granite or rocky outcrops in coastal sage scrub and chaparral habitats. Distributed throughout suitable habitat in western Riverside County.	Suitable rocky outcrops are present in the Project study area. CNDDB occurrences are located in the special-status species search area (CDFG 2006b).	P	No

Table 3.3-7 Potential Special-Status Wildlife in the Project Study Area

Scientific Name/ Common Name	CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/ Absent	Species Observed in Study Area
Crotalus ruber ruber Northern red-diamond rattlesnake	CSC	Covered	Chaparral, woodland, grassland, and desert communities. Often found in rocky areas with dense vegetation and is well distributed throughout western Riverside County.	Suitable rocky scrub and grassland habitat in the Project study area. Known occurrences in the special-status species search area (CDFG 2006b), and this species was observed in the study area.	P	Yes
Lampropeltis zonata pulchra San Diego mountain kingsnake	CSC	CO	Variety of moist habitats, including mixed coniferous habitat, riparian woodlands, coastal sage scrub, and chaparral. Often found in rock outcrops or rock fractures. Found in suitable habitat in the Santa Ana and Santa Rosa Mountains.	Project study area is outside the species' elevation range.	A	No
Phrynosoma coronatum blainvillii San Diego horned lizard	CSC	Covered	Shrub-dominated habitats with friable, rocky, or sandy soils that support adequate prey species. Seeks refuge in areas with low, dense shrubs and basks in open areas with limited overstory. Found throughout western Riverside County in suitable habitats up to 2,100 m (6,890 ft) in elevation.	Suitable scrub and grassland habitat in the Project study area. Known occurrences in the special-status species search area (CDFG 2006b), and this species was observed in the study area.	P	Yes
Birds						
Accipiter cooperii Cooper's hawk (nesting)	CSC	Covered	Wooded areas associated with riparian vegetation and oak woodlands, usually near a water source. Typically nests in dense stands of medium-sized to large trees. Can also be found in suburban settings. Located throughout western Riverside County, with key populations in Prado Basin, Santa Ana River, Lake Elsinore/Canyon Lake, Temecula Creek, Murrieta Creek, and the Santa Margarita River (RCIP 2003).	Although oak woodlands do not exist in the Project study area, suitable nesting habitat is present in riparian vegetation and other wooded areas. Individuals and nesting locations were documented in the study area during nesting raptor surveys.	P	Yes
Accipiter striatus Sharp-shinned hawk (nesting)	CSC	Covered	Nests in dense stands of high- and mid-elevation coniferous forests and woodlands. A fairly common migrant and wintering species in Southern California and much of the MSHCP Plan Area (RCIP 2003).	This species does not breed in the Project study area; however, suitable wintering habitat is present.	Nesting – A Wintering – P	No
Agelaius tricolor Tricolored blackbird (nesting colony)	CSC	Covered	A colonial nester that breeds near fresh water, preferably in wetlands with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, and tall herbs (Zeiner 1990). Forages in nearby grassland and cropland habitats that support insect populations.	Suitable emergent wetland habitat is present in the Project study area. A nesting colony has been documented in the northern portion of the special-status species search area.	P	No

Table 3.3-7 Potential Special-Status Wildlife in the Project Study Area

Scientific Name/ Common Name	CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/ Absent	Species Observed in Study Area
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	CSC	Covered	Associated with coastal sage scrub and sparse, mixed chaparral. Frequents relatively steep, often rocky hillsides that have patches of grass and forbs. Found in the MSHCP Plan Area near Lake Mathews, Lake Elsinore/Canyon Lake area, Santa Rosa Plateau, Wildomar, Murrieta, Temecula, Lake Skinner, Sage, Lakeview Mountains, Diamond Valley Reservoir, Lake Perris, Badlands, and east of the city of Riverside (RCIP 2003).	Suitable scrub habitat is present in the Project study area. Known occurrences in the special-status species search area (CDFG 2006c). Although this species is known to nest in the study area, only sightings of individuals were documented. No nests were found.	P	Yes
Amphispiza belli belli Bell's sage sparrow	CSC	Covered	Fairly dense stands of sagebrush, chaparral, and other dry scrub habitats. Occurrences in western Riverside County include Lake Mathews, Gavilan Hills, Lake Elsinore/Canyon Lake, Santa Rosa Plateau, Wildomar, Murrieta, Temecula, Lake Skinner, Sage, Lakeview Mountains, Diamond Valley Reservoir, Lake Perris, Badlands, and east of the city of Riverside (RCIP 2003).	Riversidian sage scrub is present in the Project study area. Known occurrences in the special-status species search area (CDFG 2006c). Although this species is known to nest in the study area, only sightings of individuals were documented. No nests were found.	P	Yes
Aquila chrysaetos Golden eagle (nesting and wintering)	FP	Covered	Open terrain such as grasslands, deserts, oak savannahs, rolling foothills, and wide arid plateaus. Nests in rugged, mountainous country (Garrett 1981). Located throughout the central and foothill portions of western Riverside County, with key population areas in the Badlands, Lake Perris, Lake Mathews, Steele Peak, Menifee, Temecula, at the western escarpment of the San Jacinto Mountains, Prado Basin, Potrero Valley, Hemet, Banning, and Santa Rosa Plateau (RCIP 2003).	This species is not expected to breed in the Project study area. However, suitable foraging, shelter areas, and roost sites include open grasslands, fields, and rocky outcrops and are present in the study area. Known occurrences in the special-status species search area (CDFG 2006c). Foraging and wintering sightings were documented in the study area.	P	Yes
Ardea herodias Great blue heron (rookery)	–	Covered	A colonial nester found in aquatic environments such as brackish and freshwater marshes, swamps, lakes, and rivers.	Suitable open water habitat is present in the Project study area. No rookery sites were found in the study area; only sightings of individuals were documented during focused surveys.	P	Yes
Asio flammeus Short-eared owl (nesting)	CSC	N/A	A ground-nester found in open habitats such as wetlands, grasslands, wet meadows, and prairies. Considered an uncommon and local winter visitor in the MSHCP Plan Area and is likely overwinter with some regularity (Garrett 1981).	Potentially suitable habitat is present in the Project study area. However, this species was not observed during nesting raptor surveys.	P	No

Table 3.3-7 Potential Special-Status Wildlife in the Project Study Area

Scientific Name/ Common Name	CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/ Absent	Species Observed in Study Area
Asio otus Long-eared owl (nesting)	CSC	N/A	Nests in dense, closed-canopy stands of oak or riparian woodlands or single trees adjacent to open habitats such as grassland, meadow, or open scrub.	Potentially suitable habitat is present in the Project study area. However, this species was not observed during nesting raptor surveys.	P	No
Athene cunicularia Burrowing owl	CSC	CA	Nests and forages in dry, open areas such as shortgrass prairies, pastures, hayfields, and fallow fields (Dechant et al. 1999). Urban habitats include road and railway right-of-ways, irrigation ditches, airports, university campuses, and vacant dirt lots (Haug et al. 1993). Low vegetation cover and mammal burrows are essential. Occurrences in western Riverside County include March Air Reserve Base, Perris Reservoir area, Skinner Reservoir area, upper Menifee Valley, San Jacinto Reservoir area, along Santa Gertrudis Creek, and in the cities of Corona, Riverside, and Banning, Lake Skinner-Domenigoni Valley Reserve, Lake Mathews Reserve, and the Sycamore Canyon-March Air Reserve Base Reserve (RCIP 2003).	Suitable nesting and foraging habitat located within grassland, scrub, agricultural, and urban areas throughout the Project study area. Known occurrences in the special-status species search area (CDFG 2006c). This species was observed in the study area during focused surveys.	P	Yes
Buteo regalis Ferruginous hawk (wintering)	CSC	Covered	Large tracts of dry, open terrain such as grasslands and foothills. Wintering habitat includes open fields, grasslands, and agricultural fields (Garrett 1981). Western Riverside County is an important wintering area for this species. Occurrences throughout the western portion of the county, with key population areas in the Lakeview-Perris area, Prado Basin, the Murrieta area, Domenigoni Valley, and Rawson Canyon (RCIP 2003).	This species does not breed in the Project study area, but suitable wintering habitat in the study area includes open fields, grasslands, and agricultural fields. Known occurrences in the special-status species search area (CDFG 2006c). Wintering individuals were documented in the study area.	Nesting – A Wintering – P	Yes
Campylorhynchus brunneicapillus couesi Coastal cactus wren	CSC	Covered	Nests in thickets of cholla and pricklypear associated with the coastal sage scrub community. Occurrences in western Riverside County include Corona to Alberhill, Lake Mathews, city of Riverside east to Box Springs Mountains, San Jacinto Mountains to the city of San Jacinto, Moreno Valley, Bernasconi Hills, and in the Lakeview Mountains north of Homeland. The Badlands, Anza, Temecula area, and Sage Valley appear to be the remaining strongholds (RCIP 2003).	Although suitable foraging habitat in Riversidian sage scrub is present, suitable stands of cactus for nesting do not exist in the Project study area. However, there are known occurrences in the special-status species search area (CDFG 2006c).	A	No

Table 3.3-7 Potential Special-Status Wildlife in the Project Study Area

Scientific Name/ Common Name	CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/ Absent	Species Observed in Study Area
Charadrius montanus Mountain plover (wintering)	CSC	Covered	A winter resident found in short grasslands, agricultural areas, plowed fields, and alkali playa. Occurrences in western Riverside County include Perris, the Mystic Lake area, Nuevo, the Domenigoni Valley, and in the vicinity of Winchester (RCIP 2003).	Suitable wintering habitat is present.	P	No
Circus cyaneus Northern harrier (nesting)	CSC	Covered	Associated with saltwater marshes, fresh and saltwater wetlands, and grasslands. Also forages in agricultural fields and pastures. Widespread distribution throughout suitable habitat in the MSHCP Plan Area (RCIP 2003).	Suitable grassland and marsh habitat is present in the Project study area. Observed foraging in the study area. Although a nest site was not confirmed, breeding behavior was observed during nesting raptor surveys, species was assumed to be nesting adjacent to the study area.	P	Yes
Dendroica petechia brewsteri Yellow warbler (nesting)	CSC	Covered	Associated with open-canopy riparian habitats, and prefers willows, cottonwoods, aspens, and alders for nesting and foraging. Found scattered throughout much of western Riverside County in appropriate woodland habitats (RCIP 2003).	Suitable nesting habitat is present. Observed in the Project study area during riparian bird surveys. Although no nest sites were confirmed, pairs were observed regularly. Males were heard singing throughout suitable riparian habitat in the study area.	P	Yes
Elanus leucurus White-tailed kite (nesting)	FP	Covered	Nests mainly in scattered tall trees in open grasslands, oak woodlands, wetlands, savannah-like areas, orchards, and agricultural areas. Found scattered throughout western Riverside County as a year-round resident (RCIP 2003).	Suitable woodlands are present in the Project study area. Individual sightings and nesting locations were documented in the study area during nesting raptor surveys.	P	Yes
Eremophila alpestris actia California horned lark	CSC	Covered	Found in open habitats such as short-grass prairie, open coastal plains, fallow agricultural fields, and alkali flats. Occurs throughout much of western Riverside County in suitable habitat and is broadly scattered throughout the central portion of the MSHCP Area.	Suitable grassland and open habitat is present throughout the Project study area. Known occurrences in the special-status species search area (CDFG 2006c). Although this species is known to nest in the area, only individuals were sighted during surveys. No nests were found.	P	Yes
Falco columbarius Merlin (wintering)	CSC	Covered	Sparse and widespread distribution throughout suitable habitat in the MSHCP Plan Area. Is a transient in the spring and fall and may occasionally winter in the area.	Nesting habitat is not present in the Project study area, but suitable grassland and open wintering habitat is available throughout the study area.	P	No

Table 3.3-7 Potential Special-Status Wildlife in the Project Study Area

Scientific Name/ Common Name	CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/ Absent	Species Observed in Study Area
Falco mexicanus Prairie falcon (nesting)	CSC	Covered	Nests in cliffs and bluffs in open habitats such as grasslands, savannahs, rangeland, agricultural fields, and desert scrub. Occurs in the Santa Ana Mountains during the winter and as a year-round resident throughout the rest of western Riverside County from the central portion to the eastern boundary (Zeiner 1990).	Nesting habitat is not present in the Project study area, wintering habitat is. Wintering individuals were sighted outside the study area.	Nesting – A Wintering – P	No
Icteria virens Yellow-breasted chat (nesting)	CSC	Covered	Inhabits riparian thickets of willow with a brushy understory near water. Nests in low, dense vegetation, often consisting of willow, blackberry, and wild grape. Found scattered throughout much of western Riverside County in appropriate woodland habitats, often in habitats occupied by yellow warblers (RCIP 2003).	Suitable riparian habitat is present in the Project study area, but this species was not observed during riparian bird surveys.	P	No
Lanius ludovicianus Loggerhead shrike (nesting)	CSC	Covered	Prefers open country for hunting, perches for scanning, and fairly dense shrubs and brush for nesting. Occurs throughout areas of suitable habitat as a year-long resident, breeding and wintering in western Riverside County (Zeiner 1990). Frequently found in the central portion of the MSHCP Plan Area, with a few recorded in the mountains (RCIP 2003).	Suitable grassland and open habitat is present throughout the Project study area. Known occurrences in the special-status species search area (CDFG 2006c). Regularly observed throughout the study area, and several nest locations were documented.	P	Yes
Nycticorax nycticorax Black-crowned night heron (rookery)	–	Covered	Various wetland areas, including marshes, ponds, and man-made areas such as canals and reservoirs. Nests in dense trees and wetlands. Although the only known rookery is in Prado Basin, individual sightings in western Riverside County include Santa Ana River, Temescal Wash, Cajalco Creek, Woodcrest, San Jacinto Wildlife Area, San Jacinto, Winchester, Lake Elsinore, Canyon Lake, Temecula Creek, and Lake Skinner (RCIP 2003).	Several areas with suitable nesting and foraging habitat in emergent vegetation are present in the Project study area. No rookery sites were found, only individuals were sighted.	P	Yes
Pandion haliaetus Osprey (nesting)	CSC	Covered	Restricted to large water bodies that support fish. Often use rivers, lakes, and reservoirs for foraging and rocky pinnacles, large trees, and snags for cover and nesting (Zeiner 1990; Call 1978). An uncommon winter visitor along the coast of California, including the western Riverside County area.	Suitable nesting habitat is not present in the Project study area. However, this species was observed adjacent to and could be expected to forage in the study area.	A	No

Table 3.3-7 Potential Special-Status Wildlife in the Project Study Area

Scientific Name/ Common Name	CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/ Absent	Species Observed in Study Area
Phalacrocorax auritus Double-crested cormorant (rookery site)	CSC	Covered	Aquatic environments such as lakes, reservoirs, estuaries, and oceans for foraging. Nests on the mainland in tall trees, rock ledges, or rugged slopes near a water source (Zeiner 1990). Although the only known rookery is in Prado Basin, other occurrences in western Riverside County include Lake Mathews, Lake Perris, Lake Skinner, and Lake Elsinore (RCIP 2003).	Limited suitable aquatic environments are present in and immediately adjacent to the Project study area. Known occurrences in the special-status species search area (CDFG 2006c). Individuals were observed in the study area. No rookery sites were found.	P	Yes
Plegadis chihi White-faced ibis (rookery)	CSC	Covered	Rookery sites consist of freshwater marsh habitat. Requires dense tule thickets for nesting. Wintering habitats include marshy pasture lands, managed or natural freshwater marsh, pond edges, lake shores, and margins of brackish lagoons and estuaries (Shuford et al. 1996). Migrants or wintering birds can be found in appropriate habitat throughout most of the MSHCP Plan Area (RCIP 2003).	Wetland and open-water habitat is present in the Project study area. Observed primarily in the northern portion of the study area near agricultural areas with standing water. A rookery site was documented in the EMWD treatment wetlands.	P	Yes
Mammals						
Antrozous pallidus Pallid bat	CSC	N/A	Prefers to roost in rock and boulder outcrops, rocky cliff faces, and bridges.	Suitable rocky outcrop and bridges are present in the Project study area, but this species was not observed during bat surveys.	P	No
Chaetodipus californicus femoralis Dulzura pocket mouse	CSC	N/A	Variety of habitats, including coastal sage scrub, chaparral, and grasslands primarily in San Diego County. Microhabitat includes grassland-chaparral edges.	Suitable scrub habitat is limited and grassland habitat is present in the Project study area. Known to occur in the special-status species search area (CDFG 2006c). This species was not captured during small mammal trapping.	P	No
Chaetodipus fallax fallax Northwestern San Diego pocket mouse	CSC	Covered	Sandy herbaceous areas in a variety of habitats, including coastal scrub, chaparral, grasslands, and sagebrush, primarily in western San Diego County. Often associated with rocks or coarse gravel.	Suitable open, sandy scrub and grassland habitat is present in the Project study area. Known to occur in the special-status search area (CDFG 2006c). This species was captured during small mammal trapping.	P	Yes
Corynorhinus townsendii Townsend's big-eared bat	CSC	N/A	Variety of roost habitats that include rock and boulder outcrops, trees, buildings, and bridges.	Suitable roost habitats are in the Project study area, but this species was not observed during bat surveys.	P	No

Table 3.3-7 Potential Special-Status Wildlife in the Project Study Area

Scientific Name/ Common Name	CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/ Absent	Species Observed in Study Area
Dipodomys merriami collinus Aguanga kangaroo rat (Earthquake Merriam's kangaroo rat)	–	Covered	Associated with Riversidian sage scrub, chaparral, and non-native grassland. Known only in San Diego and Riverside counties. Requires sandy loam substrates for digging burrows.	Suitable habitat is not located in the Project study area. This species was not captured during small mammal trapping.	A	No
Euderma maculatum Spotted bat	CSC	N/A	Cliffs and rock, boulder outcrops.	Suitable roost habitats are in the Project study area, but this species was not observed during bat surveys.	P	No
Eumops perotis Western mastiff bat	CSC	N/A	Rock cliffs and buildings.	Suitable rock cliffs and buildings are present in the Project study area. This species was observed during bat surveys.	P	Yes
Lasiurus blossevillii Western red bat	–	N/A	External foliage rooster that prefers deciduous trees, especially Fremont cottonwood and western sycamore.	Suitable trees are present in the Project study area. This species was observed during bat surveys.	P	Yes
Lasiurus xanthinus Western yellow bat	–	N/A	External foliage rooster that prefers dead palm frond skirts in unmanicured Washington fan palms and other broad-leaved palms.	Suitable palm trees are present in the Project study area. This species was observed during bat surveys. Known to occur in the special-status search area (CDFG 2006c).	P	Yes
Lepus californicus bennettii San Diego black-tailed jackrabbit	CSC	Covered	Coastal sage scrub habitats in Southern California. Prefers intermediate canopy stages of shrub habitats and open shrub with herbaceous and tree layers.	Suitable grassland, scrub, and open habitat is in the Project study area. Known occurrences in the special-status species search area (CDFG 2006c). Was regularly observed throughout the study area. Successful reproduction was assumed from observations of individuals that varied in age from juveniles to fully mature.	P	Yes
Neotoma lepida intermedia San Diego desert woodrat	CSC	Covered	Coastal scrub habitat in Southern California from San Luis Obispo to San Diego County. Prefers moderate-to-dense canopy scrub and rock outcrops/cliffs and slopes.	Suitable scrub and rocky habitat is present in the Project study area. Known to occur in the special-status search area (CDFG 2006c). Observed in the study area and captured during small mammal trapping.	P	Yes

Table 3.3-7 Potential Special-Status Wildlife in the Project Study Area

Scientific Name/ Common Name	CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/ Absent	Species Observed in Study Area
Nyctinomops femorosaccus Pocketed free-tailed bat	CSC	N/A	Rock and boulder outcrops and bridges.	Suitable rock cliffs (limited) and buildings are present in the Project study area, but this species was not observed during bat surveys.	P	No
Nyctinomops macrotis Big free-tailed bat	CSC	N/A	Rock and boulder outcrops and bridges.	Suitable rock cliffs (limited) and buildings are present in the Project study area, but this species was not observed during bat surveys.	P	No
Onychomys torridus ramona Southern grasshopper mouse	CSC	N/A	Desert areas with moderate shrub cover, especially in scrub habitats with friable soils for digging. Adequate prey base is critical and consists almost exclusively of arthropods.	Suitable open scrub habitat is present in the Project study area. Known to occur in the special-status search area (CDFG 2006c), but this species was not captured during small mammal trapping.	P	No
Perognathus longimembris brevinasus Los Angeles pocket mouse	CSC	CA	Alluvial systems or areas with wind-blown deposition that exhibit fine sandy soils. Found in a variety of habitats with relatively open substrate and limited vegetative cover, including alluvial fan sage scrub, sage scrub, grassland, and chaparral.	Suitable open, sandy habitat is present in the northern portion of the Project study area. Known to occur fairly regularly in the special-status species search area (Montgomery 1994, 2002, 2005a; LSA 2004; RCIP 2003; CDFG 2006c). Occupied habitat was found adjacent to and within San Jacinto River sandy wash. This species was captured during small mammal trapping.	P	Yes
Taxidea taxus American badger	CSC	Covered	Variety of arid habitats, including grasslands, savannahs, mountain meadows, and desert scrub. Requires a sufficient prey base, friable soils, and relatively open habitat in areas of low to moderate slope.	Suitable open grassland habitat is present in the Project study area, but scrub habitat is limited. Known to occur in the special-status search area (CDFG 2006c).	P	No

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

Note: The following USGS 7.5-minute quadrangles were queried, and they include the PIA and an 8-km (5-mi) buffer adjacent to the PIA: Bachelor Mountain, Beaumont, El Casco, Hemet, Lakeview, Murrieta, Perris, Romoland, San Jacinto, and Winchester.

[a]**Status Codes:**

California Department of Fish and Game

CSC – California Species of Concern

FP – Fully protected

N/A – not applicable

Table 3.3-7 Potential Special-Status Wildlife in the Project Study Area

Scientific Name/ Common Name	CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/ Absent	Species Observed in Study Area

Other Designations:

[b]Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) Definitions (RCIP 2003).

Special Conditions of MSHCP Covered Species:

CA – Surveys may be required for these species within locations shown on survey maps as described in Section 6.3.2 of the MSHCP. This includes the list of additional survey needs and procedures species and the Criteria Area Species (see MSHCP pages 6-63 to 6-65) and the MSHCP Errata Letter, dated August 9, 2004.

CO – These Covered Species will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met. Species-specific conservation objectives for these species are presented in Section 9.0 of the MSHCP. Refer to Table 9-3 of the MSHCP for specific conservation objectives that must be met for these species prior to including them on the list of Covered Species Adequately Conserved.

Covered – Species addressed in the MSHCP and included in the 10(a)(1)(B) permit. Also includes species that will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met.

NE – Surveys may be required for these species within Narrow Endemic Plant Species survey areas as described in Section 6.1.3 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

PS – Planning Species – Subsets of Covered Species that are identified to provide guidance for Reserve Assembly in Cores and Linkages and/or Area Plans per Volume I, Section 3, of the MSHCP (RCIP 2003) and the MSHCP Errata Letter, dated August 9, 2004.

RRVP – These species should be protected as they are associated with riparian/riverine areas and vernal pools as described in Section 6.1.2 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

Aguanga Kangaroo Rat and Los Angeles Pocket Mouse

Aguanga Kangaroo Rat

Although it is not expected in the Project study area or vicinity, surveys were conducted for Aguanga kangaroo rat (*Dipodomys merriami collinus*), also known as the Earthquake Merriam's kangaroo rat, concurrently with surveys for the San Bernardino kangaroo rat (*Dipodomys merriami parvus*) and Los Angeles pocket mouse (*Perognathus longimembris longimembris*), according to the survey protocols. Surveys were conducted in areas with suitable habitat, shown in Figure 3.3-41. Because the Aguanga kangaroo rat was not detected and is not expected in the study area, this species is not discussed further.

Los Angeles Pocket Mouse

The Los Angeles pocket mouse is a California Species of Special Concern (CSC) and an MSHCP Covered Species, for which focused surveys are required.

The small mammal surveys followed the requirements of the MSHCP survey protocols for Los Angeles pocket mouse and San Bernardino kangaroo rat, as well as the survey protocols developed by CDFG and USFWS. The surveys also satisfied CEQA and NEPA requirements. The following section discusses the methodology for the focused surveys for small mammals conducted for the Project. The San Bernardino Kangaroo Rat is discussed further in Section 3.3.5 (page 3-634).

Habitat Assessment

Prior to field surveys, CNDDB, USFWS, museum, and professional and personal records were reviewed for previous documentation of Los Angeles pocket mouse and San Bernardino kangaroo rat captures in the Project area.

Habitat assessments for Los Angeles pocket mouse and San Bernardino kangaroo rat involved systematic surveys on foot. Suitable habitat includes Riversidian sage scrub, coastal sage scrub, Riversidian alluvial fan sage scrub, desert scrub, chaparral, grassland, and/or playas that support sandy or otherwise granular soils. These species are usually (but not always) found in or adjacent to sandy washes or areas of windblown sand. Surveys consisted of examining suitable habitat areas for burrows, scat, and tracks.

Because of the rarity of these two species and the potential for indirect and habitat fragmentation impacts because of the Project, surveys for Los Angeles pocket mouse and San Bernardino kangaroo rat were conducted well beyond the Project study area, up to 1.6 km (1 mi) from the PIA. In addition, intensive evaluation and habitat assessment surveys were conducted in areas identified by the MSHCP as having high potential for Los Angeles pocket mouse and San Bernardino kangaroo rat. Once suitable habitat was identified, live-trapping took place to confirm the presence or absence of Los Angeles pocket mouse and San Bernardino kangaroo rat.

Live-Trapping

Live-trapping was conducted when the target species was most likely to be active aboveground. For Los Angeles pocket mouse, this is generally between April 15 and October 15. There is no defined trapping period for San

Bernardino kangaroo rat. Traps were placed in areas that best typified suitable habitat. Live-trapping was conducted by qualified biologists (authorized under existing permits) for five consecutive nights or until target species were captured. Traps were set at dusk and checked twice each night, once about midnight and again at sunrise. Traps were closed during the day. To ensure the well-being of captured animals, trapping was conducted in mild weather conditions (relatively dry and calm, with a minimum nighttime temperature of 50 degrees Fahrenheit [°F]). Target species were held only long enough to identify their species, sex, age-class, reproductive conditions, and weight. All captured animals (target and nontarget) were released unharmed at the trap site.

Traps were set between August 22, 2005, and September 30, 2005, and between April 6, 2006, and June 24, 2006, in areas that exhibited varying potential for Los Angeles pocket mouse (see the Final Sensitive Wildlife Focused Survey Report for mapped locations of all trap lines). Although traps were set throughout the proposed Project in potentially suitable habitats, most of the trap lines were in the northern portion, near the MSHCP focused survey area for Los Angeles pocket mouse.

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is a CSC and an MSHCP Covered Species, for which focused surveys are required. The Project study area contains suitable habitat for burrowing owl and is in MSHCP-designated survey areas (shown in Figure 3.3-42). A habitat assessment and focused surveys were conducted during 2005 and 2006.

A baseline habitat assessment was conducted throughout the study area on January 24, 2005. Habitat suitability was determined by driving and walking throughout the study area. Initial habitat suitability determinations were continually refined throughout the course of the 2005 and 2006 focused surveys as the study area was walked, surveyed, and closely inspected for burrowing owl indicators. The three categories of habitat suitability included excellent, suitable, and excluded. They are described below.

Excellent Burrowing Owl Habitat

Excellent habitat included a wide range of habitat types, land uses, and disturbance levels, both natural and man made. Types of excellent habitat included equestrian areas, pastures, grasslands, alkali playas, canal and railroad berms, dairies, poultry farms, and rock outcrops. Common factors in excellent habitat included abundant ground squirrel burrows in open areas with short vegetation and suitable perch sites. An abundant food source was assumed present.

Suitable Burrowing Owl Habitat

Because of the rural character of the region, most of the study area can be considered suitable habitat for burrowing owls. Suitable habitat included a wide range of habitat types, land uses, and disturbance levels, both natural and man made. Types of suitable habitat included agricultural fields, equestrian areas, pastures, grasslands, dairies, poultry farms, and rural residential areas. Suitable habitat still included suitable perch sites, but had few or no ground squirrel burrows, taller vegetation with more dense cover, and more human disturbance. Areas with irrigated row crops were considered suitable habitat, but only the perimeter roads, berms, canals, or debris piles were surveyed.

Excluded Burrowing Owl Habitat

Excluded habitat included developed areas with 100-percent asphalt or concrete and landscaped vegetation. Types of excluded areas included residences, mobile home parks, shopping plazas, industrial areas, and areas being actively graded for future development. Steep hillsides were also excluded because burrowing owls require relatively flat areas.

Focused Surveys

Focused surveys were conducted according to guidelines set forth by the California Burrowing Owl Consortium, CDFG-approved Project-specific survey methodology, the MSHCP, and the County of Riverside (CBOC 1993, CDFG 1995, RCIP 2003, County 2006). The large scale of the Project required a revised survey methodology, which was approved by CDFG in July 2005 (see Final Burrowing Owl Survey Report, Appendix B).

Qualified biologists experienced with burrowing owl habitat and identification conducted focused nesting surveys during the peak of breeding season, between April 15 and July 15. Three more surveys were conducted after July 15, but were still within the nesting cycle (February 1 to August 31). These three surveys were primarily to determine the number of young at several late nesting territories, so they had to take place after July 15, when the young were aboveground.

As stated earlier, burrowing owl surveys were conducted in 2005 and 2006. During the 2005 surveys, suitable habitat and excluded areas were surveyed once, and excellent habitat was surveyed twice. Night surveys were not conducted in 2005. The study area was expanded in 2006, in keeping with the change in methodology that had been approved by CDFG. Therefore, during the 2006 surveys of the new areas, suitable habitat and excluded areas were surveyed once, and excellent quality habitat was surveyed twice. Any excellent habitat that was surveyed twice in 2005 was surveyed once in 2006. All active territories (at least one adult sighted) discovered in 2005 were revisited in 2006 to determine whether they were still active and to document alternate nest sites. One night survey took place in 2006 to locate foraging areas. Details about dates and personnel for the 2005 and 2006 focused surveys are in the Final Burrowing Owl Survey Report.

Burrowing owl presence was determined at all active territories by direct observation of at least one adult. A territory can be a single owl, a pair, or a family group. Nest burrows were observed in all cases. After detecting a territory, the biologists visited the area throughout the course of the breeding season until the breeding status and nest success were determined. Surveys were conducted during suitable weather conditions and, therefore, were not conducted within 5 days of measurable precipitation, during high winds (more than 32 km per hour [20 mi per hour]), or dense fog. Because burrowing owls tend to stay underground during the heat of the day, surveys were suspended when temperatures exceeded 90°F, then resumed when temperatures were conducive to detecting juvenile and adult owls outside their burrows. Specific information about survey times and weather conditions is in the Final Burrowing Owl Survey Report. Survey equipment included binoculars, spotting scopes, digital cameras, and Trimble GeoXT GPS units.

During all surveys, biologists recorded the habitat type and land use for each parcel on standardized data sheets. The presence of ground squirrel burrows, perimeter roads or berms, and posts were also documented. Biologists counted and mapped all burrowing owl observations, occupied nest burrows, and burrows with owl sign.

Burrowing owls were color banded to determine dispersal and movement. The breeding activity and status of burrowing owls were determined by the number of young and stage of development. No attempt was made to quantify territory size or foraging range.

Pedestrian Surveys

Traditional pedestrian surveys were conducted throughout excellent and suitable habitat. As recommended by the CBOC (1993), CDFG (1995), and County of Riverside Environmental Programs Department (2006), transects were spaced at approximately 30-m (98.43-ft) intervals, depending on terrain and vegetative cover. This enabled 100-percent visual coverage of the study area.

Perimeter Surveys

Perimeter surveys were conducted in portions of the study area that contained densely planted row crops, which were not considered suitable burrowing owl habitat and were essentially devoid of owls. However, many of these areas contain perimeter roads, berms, and canals that constitute excellent and/or suitable habitat. In these cases, the planted fields were not surveyed, but all perimeter roads, berms, and canals were surveyed at 100-percent visual coverage. In some cases, after areas with row crops were disked and harvested, perimeter surveys were followed by standard pedestrian surveys because disked fields provide excellent foraging habitat.

Nesting Raptors

Except for burrowing owls, there are no MSHCP survey areas or additional survey requirements for nesting raptors. However, general nesting raptor surveys were conducted in the Project study area to comply with the Birds of Prey Protection Provision (CDFG Code Section 3503.5), the California Fully Protected Wildlife Species Provisions (CDFG Code Sections 3511, 4700, 5050, and 5515), the Bald and Golden Eagle Protection Act (BGEPA), and the Migratory Bird Treaty Act (MBTA) in 2005 and 2006.

Surveys for nesting raptors took place in the Project study area in 2005 and 2006. In addition to nonlisted raptor species, general raptor surveys also focused on white-tailed kites (*Elanus leucurus*) because they are considered Fully Protected CSCs and, like all other raptor species, are protected by the California Birds of Prey Protection Provision and the MBTA. Additionally, the MSHCP 10(a)(1)(B) permit only covers habitat loss for this species. The permit does not authorize actual take or disturbance of the species, eggs, or active nests. Compliance with these regulations would require that there be no impacts to active nests during the nesting season. Therefore, nesting raptor surveys were conducted to locate nests and assess potential impacts based on proximity to Project activity. Assessments included potential impacts to the nests, eggs, or young because active nest sites could be used by the same pair of raptors each year. Golden eagles and white-tailed kites are Fully Protected CSCs. A separate helicopter survey was necessary for golden eagles because they require such large areas of land (see page 3-575 for a description of the golden eagle study area). White-tailed kite nest searches were concurrent with the general nesting raptor surveys because, unlike golden eagles, their nesting characteristics are similar to other raptors. The golden eagle survey is discussed in a separate subsection (page 3-593).

Although most of the nesting raptor surveys were conducted during the breeding seasons (March through August), some nests were identified during the winter months. Nests were located by walking and driving throughout the

study area. Where feasible, active nests were revisited to determine nest success. Survey equipment included binoculars, spotting scopes, digital cameras, and Trimble GeoXT GPS units. All raptor nests (natural and man-made) were mapped on aerial photographs or using a Trimble GeoXT GPS unit.

Bats

No federally listed bat species are in the Project study area, but several bats listed as CSCs could be present. Consequently, bat surveys were conducted to determine the presence of these CSCs.

Although some bat species were considered during the initial wildlife status review for the MSHCP in March 1999, they were removed from the list of species that were initially considered for conservation because of insufficient data. The amount of data available about bat species was not adequate for conservation planning (RCIP 2003). Therefore, no bats are designated as Covered Species in the MSHCP.

Habitat suitability assessments for bats were conducted on March 15 and 16 and October 10, 2007. Bat habitat was classified by type, location, and qualitative value (roosting and foraging potential). Roosting habitat in the study area included bridges, buildings, and other man-made structures, as well as trees, cliffs, rocks, and boulder outcrops. High-quality foraging areas included open space with natural vegetation that created habitat edges (or ecotones), open water areas with some emergent vegetation, and other riparian habitat.

Bridge Surveys

Bridges in the study area were assessed for suitable bat roosting habitat by searching for evidence of bats (such as guano and urine staining). Only one existing bridge was surveyed closely, the SR 79/Sanderson Avenue bridge across the San Jacinto River. This bridge is located outside the study area, but it has expansion joints that are suitable for several sensitive bat species. The bridge joints were inspected for the presence of urine staining or guano, and joint spaces were visually checked for bats.

Outflight Surveys

Bat outflights were observed at several palm trees that contained well-developed skirts of dead fronds. These palm trees were targeted in the survey because of the preference that western yellow bats, a CSC species, have for these trees as roost sites.

Palm tree outflights were observed with night-vision scopes as the bats exited the palms. The outflights were recorded acoustically for identification. Selected palms were watched for about 90 minutes, beginning about 30 minutes after sunset.

Acoustic Surveys

Acoustic surveys for the Project were conducted using Anabat II and Pettersen D240x bat detectors in areas with suitable habitat. The bat detectors were placed in the field at these locations and retrieved later the same evening for analysis. Acoustic recordings were later analyzed with Analook and Sonobat bat-call analysis software.

Golden Eagle

Focused golden eagle (*Aquila chrysaetos*) nest surveys were conducted because golden eagles are considered Fully Protected CSCs, are included in the California Birds of Prey Protection Provision, and are covered by the BGEPA and the MBTA. The MSHCP 10(a)(1)(B) permit only covers habitat loss for this species. The permit does not authorize actual take or disturbance of the species, eggs, or active nests. Also, because the anticipated construction schedule would require year-round access to the Project site, suspending work during the nesting season would not be feasible. Therefore, locating nests was necessary to determine what impacts, if any, the Project might have on this species. Because the golden eagle has such a large range, this required an expanded study area and a different survey method than those used for other raptors. The golden eagle study area is described on page 3-575.

The golden eagle nest survey was conducted on August 9, 2006, via helicopter (MD 500, Western Helicopters). Canyons, cliff faces, and areas with large boulders and rugged topography were overflown to survey for nest sites. Equipment included binoculars, digital camera, Trimble GeoXT GPS unit, and detailed topographic and aerial maps. A more detailed discussion of the golden eagle nest surveys is in the Final Sensitive Wildlife Survey Report.

Animal Species in the Study Area

Los Angeles Pocket Mouse

The Los Angeles pocket mouse was observed during focused surveys in the northern portion of the study area. Five individuals were captured there in 2005 and 2006. Los Angeles pocket mice were also observed along the berms/levees of the San Jacinto River and in the Massacre Canyon wash (west of the existing SR 79 alignment, south of Gilman Springs Road, and north of the San Jacinto wash). About 2.7 ha (6.7 ac) of occupied habitat is present in the study area. In the study area, Los Angeles pocket mice were observed south of the San Jacinto wash and east of the existing SR 79 alignment (Figure 3.3-44).

Although the alluvial fan scrub habitat for Los Angeles pocket mouse in the San Jacinto River area is high in quantity and quality in relation to the known species range, repeated disturbances to this Los Angeles pocket mouse habitat in recent years have severely threatened this population. Relatively recent disturbances in the San Jacinto River area have been caused by sand mining, clearing vegetation, flood-control activities, offroad vehicle use, and agricultural activities and have likely resulted in the loss and degradation of previously occupied habitat in the study area.

Amphibians

Sensitive amphibians were not detected in the study area. However, western spadefoot toads (larvae, metamorphs, and adults) were detected outside the study area, about 283 m (928 ft) from the PIA. Because no sensitive amphibian species were detected inside the study area, they will not be discussed further.

Burrowing Owl

As described in Study Methods (page 3-589), existing burrowing owl habitat in the study area was classified into three categories—excellent, suitable, and excluded. Ten pairs and a single male were observed in the excellent

and suitable habitat areas. Habitat suitability and survey results are summarized in Table 3.3-8. Habitat suitability is shown in Figure 3.3-47, and burrowing owl territories are shown in Figure 3.3-48. An active territory consisted of at least one adult burrowing owl and a nest burrow. The territories in Figure 3.3-48 are centered on the nest burrow. Some territories that were active during both survey years used the same nest burrow, so the same location is shown in the figure for 2005 and 2006 (locations appear to be on top of one another). Some territories that were active during both survey years used alternate nest burrows, so the figure shows different locations for 2005 and 2006 (two different locations for the same territory).

Table 3.3-8 2005 and 2006 Burrowing Owl Survey Results in the Study Area

Territory Number	Activity Status 2005	Activity Status 2006	Alternate Nest Site 2006	Habitat Suitability	Habitat Type
RIV-BUO-004	Active	Active	No	Excellent	Annual Grassland
RIV-BUO-005	Active	Active	Yes	Excellent	Annual Grassland (was Annual Grassland/Riversidian Sage Scrub in 2005)
RIV-BUO-006	Active	Active	Yes	Excellent	Annual Grassland
RIV-BUO-023	Active	Active	Yes	Excellent	Agriculture – Barley Field
RIV-BUO-024	Active	Inactive	No	Suitable	Ruderal
RIV-BUO-031	Active	Active	No	Excellent	Annual Grassland
RIV-BUO-041	N/A[a]	Yes	N/A	Excellent	Man-Made – Water Canal
RIV-BUO-042	N/A[a]	Yes	N/A	Excellent	Man-Made – Developed
RIV-BUO-052	N/A[a]	Yes	N/A	Excellent	Annual Grassland
RIV-BUO-053	N/A[a]	Yes	N/A	Excellent	Ruderal
RIV-BUO-056	N/A[a]	Yes	N/A	Excellent	Agriculture – Barley Field

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010
Note: RIV = Riverside County
BUO = Burrowing Owl
001 = Territory Number
[a]Territory not determined until 2006

Of the six active territories detected during 2005, four were successful and fledged at least 10 young. Of the 10 active territories detected in 2006, 9 were successful and fledged at least 30 young. A nest was considered successful if at least one young was observed. A failed nest was defined as an area where adult owls were observed or where there was evidence of a breeding attempt, but for unknown reasons the pair did not fledge young. Nest success summaries for territories detected in the study area during 2005 and 2006 are presented in Table 3.3-9.

Table 3.3-9 2005 and 2006 Burrowing Owl Nest Success

Territory Number	2005			2006		
	Activity Status	Nest Success	Minimum Number of Young	Activity Status	Nest Success	Minimum Number of Young
RIV-BUO-004	Active	Unknown	N/A	Active	Successful	1
RIV-BUO-005	Active	Unknown	N/A	Active	Successful	3
RIV-BUO-006	Active	Successful	2	Active	Successful	5

Table 3.3-9 2005 and 2006 Burrowing Owl Nest Success

Territory Number	2005			2006		
	Activity Status	Nest Success	Minimum Number of Young	Activity Status	Nest Success	Minimum Number of Young
RIV-BUO-023	Active	Successful	3	Active	Successful	1
RIV-BUO-024	Active	Successful	4	Inactive	N/A	N/A
RIV-BUO-031	Active	Successful	1	Active	Successful	5
RIV-BUO-041	ND[a]	N/A	N/A	Yes	Successful	5
RIV-BUO-042	ND[a]	N/A	N/A	Yes	Successful	4
RIV-BUO-052	ND[a]	N/A	N/A	Yes	Successful	5
RIV-BUO-053	ND[a]	N/A	N/A	Yes	Failed	0
RIV-BUO-056	ND[a]	N/A	N/A	Yes	Successful	1
Total	10 young			30 young		

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

Note: Territories were numbered consecutively as they were discovered.
BUO = burrowing owl 001 = territory number
RIV = Riverside [a]Territory was not detected until 2006.

Nine of the 10 pairs and the single male were in excellent quality habitat, with either grassland or agricultural components, or were in man-made habitat (e.g., water canal and water treatment facility). Only one pair was found in suitable habitat, a ruderal field.

Golden Eagle

Habitat Assessment

Nesting habitat for the golden eagle in the study area is considered marginal due to rural development and a general lack of steep topography, large boulders, and cliff faces. The foraging habitat could also be considered marginal because it has been altered by rural development, but the rolling hills and open space could provide some foraging opportunities.

Focused Surveys

No golden eagles or active nests were observed in the study area during the focused surveys. However, golden eagle perches were found in Tres Cerritos Hills and the central portions of the study area.

Although no golden eagles were observed during the focused surveys, they were seen foraging and using perch sites in the hills surrounding Stowe Road during other biological survey work. Most of the golden eagles were overwintering individuals. The locations of all golden eagle sightings are shown in Figure 3.3-40.

Four golden eagle nests were found outside the study area during focused surveys. All four nests are located well beyond the study area, so impacts from the Project are not expected. Therefore, golden eagles are not discussed further.

Nesting and Foraging Raptors

As described in Study Methods (page 3-591), general raptor surveys were performed in 2005 and 2006. Six raptor species were observed in the study area. Of the six raptor species, four were nesting and two were either foraging or overwintering. The observation locations are shown in Figure 3.3-49. A summary of the raptors found in the study area is presented in Table 3.3-10.

Table 3.3-10 Raptors Observed during Surveys in the Study Area

Species Name	MSHCP Status	Federal Status	State Status	Comments
Cooper's hawk (*Accipiter cooperii*)	Covered Species	–	CSC Nesting	Individual and nesting locations in the study area were documented.
Ferruginous hawk (*Buteo regalis*)	Covered Species	–	CSC Wintering	Only wintering observations were documented.
Northern harrier (*Circus cyaneus*)	Covered Species	–	CSC Nesting	Although the nest site was not confirmed, breeding behavior was observed, and northern harriers were assumed to be nesting adjacent to the study area. Additionally, foraging observations were documented.
White-tailed kite (*Elanus leucurus*)	Covered Species	–	CSC Nesting Fully Protected	Individual and nesting locations in the study area were documented.
Barn owl (*Tyto alba*)	Noncovered Species	–	–	Four barn owl nests were observed in a man-made nest (boxes and hay bales) in the study area.
Red-tailed hawk (*Buteo jamaicensis*)	Noncovered Species	–	–	A total of 11 pairs nested in eucalyptus, willow, pine, and tamarisk.

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

Note: CSC = California Species of Concern

Five additional raptor species were observed outside the study area, American kestrel (*Falco sparverius*), prairie falcon (*Falco mexicanus*), osprey (*Pandion haliaetus*), red-shouldered hawk (*Buteo lineatus*), and Swainson's hawk (*Buteo swainsoni*). Although these raptor species were observed outside the study area, the study area contains potential foraging habitat that these species could use. Therefore, raptor foraging habitat was calculated, and potential impacts to foraging habitat were evaluated.

Of these additional species, American kestrel, northern harrier, and red-shouldered hawk nested outside the study area, but are located in the immediate vicinity and would be expected to forage in the study area. A few prairie falcons were observed during the spring, but these individuals did not nest because of the lack of suitable cliff and open, arid habitat within or immediately adjacent to the study area. A few ospreys were observed flying over, but these individuals did not nest in the study area because of the lack of suitable aquatic and open water habitat. A male Swainson's hawk was observed soaring and displaying on two different days. However, this male did not nest in the study area. Hemet is south of the current distribution for nesting Swainson's hawks, so this species would not be expected to nest in the study area. Swainson's hawks have not nested in Riverside County since before 1950 (BLM 1980, Bloom 2007).

Raptor foraging habitat in the study area is summarized in Table 3.3-7 (page 3-577) and was calculated based on the following types of plant communities: Agricultural (which includes Dryland Farming, Irrigated Crops, Pasture, and Developed), Annual Grassland/Riversidian sage scrub, Alkali Grassland, Annual Grassland, Alkali Playa, Ruderal alkali flats, and Ruderal.

The diversity of raptor species observed in the study area can be attributed to the wide variety of high-quality nesting, foraging, and wintering habitat. Most of the raptor species that would be expected to breed onsite were observed nesting within or immediately adjacent to the study area. The combination of tall, mature tree groves and windrows and man-made structures such as hay bales and nest boxes located in a sparsely populated area provides excellent nesting habitat. The quality of nesting habitat is enhanced by abundant grasslands, intermittent scrub habitat, and open pastures for foraging. Wintering habitat includes large contiguous tracts of agricultural fields and pastures. The sparsely populated area and rural nature of the region is conducive to raptors that live almost exclusively in natural areas, as well as those that frequent the urban-rural interface. Raptors are often at the top of many food chains, so they are good indicators of overall ecosystem health. The numbers and varieties of raptors observed during the surveys show the biological richness of the study area.

Bats

Rock and Boulder Outcrop Roosting Bats

Many species of bats use crevices in boulders, cracks in cliff faces, spaces between rocks and natural holes, mud cracks and solution caves, and mines and rock caves as roosting habitat (USFWS 1999). Most of the rock outcrops in the study area are granitic and metamorphic boulder clusters and exposed bedrock in the hills north and west of Diamond Valley Lake, on the eastern slopes of the Lakeview Mountains northwest of Hemet and San Jacinto, and in the hills between Winchester and Hemet. Some of the boulders in these formations contain numerous fractures that provide suitable roost sites for bats.

Based on known species distribution and habitat preferences (roosting in rocks, boulders, and rocky cliff faces), bat species with CSC status that are present or have the potential to be present in the study area include fringed myotis (*Myotis thysanodes*), long-legged myotis (*M. volans*), spotted bat (*Euderma maculatum*), Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat (*Antrozous pallidus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), big free-tailed bat (*N. macrotis*), and western mastiff bat (*Eumops perotis californicus*) (WBWG 2006).

Tree Roosting Bats

Various CSC-status bat species roost in trees, and some types of trees are favored over others. External foliage roosters, which are bats that roost among the leaves of trees, include western yellow bats (*Lasiurus xanthinus*) and western red bats (*L. blossevillii*). Western yellow bats prefer to roost in the dead palm-frond "skirts" that occur in unmanicured Washington fan palms and other broad-leafed palms. Western red bats prefer to roost among deciduous tree leaves, such as those of the Fremont cottonwood, western sycamore, and others. Some CSC-status bat species roost in trees that have internal cavities. These include the fringed myotis, long-legged myotis, Townsend's big-eared bat, and pallid bat (WBWG 2006).

Building Roosting Bats

Bats that roost in buildings include both roost-site generalists and specialists (e.g., cliff-roosting bats). Bats can roost in buildings that contain enclosed but not sealed attic spaces and/or crawl spaces, shutters, roof tiles, or other structures that can protect them during the day. They have been known to use these structures year round as maternity roosts. CSC bat species that use suitable buildings for roosting and that could be present in the study area include fringed myotis, long-legged myotis, Townsend's big-eared bat, pallid bat, pocketed free-tailed bat, big free-tailed bat, and western mastiff bats (WBWG 2006).

Bridge Roosting Bats

Depending on their design, concrete bridges can simulate rock- and boulder-like roosting crevices in their expansion joints and small cave-like internal spaces in their superstructures. None of the bridges in the study area showed substantial evidence of bats, but the SR 79/Sanderson Avenue bridge across the San Jacinto River did. The bridge, which is about 61 m (200 ft) north of the study area and contains expansion joints that are suitable for bats, and was occupied by nonstatus Mexican free-tailed bats (*Tadarida brasiliensis*) during bat surveys. CSC status bat species that could also use this bridge for roosting include fringed myotis, Townsend's big-eared bat, and pallid bats (WBWG 2006). However, because this bridge is outside the study area, it will not be discussed further.

The bat species that could be found in the study area are summarized in Table 3.3-11. Potential bat roost habitat in the study area is summarized in Table 3.3-12 (page 3-599).

Table 3.3-11 Potential Bat Species in the Study Area

Family/Scientific Name	Common Name	Legal Status	WBWG Priority	Presence	Roost Preference
Vespertilionidae	***Mouse-eared bats***				
Myotis californicus	California myotis	None	Low	P	Multiple
Myotis ciliolabrum	small-footed myotis	FSC, BLM, MSHCP	Med	P	Cliffs, rocks, bridges
Myotis yumanensis	Yuma myotis	FSC, BLM	Low	LP	Multiple
Myotis evotis	long-eared myotis	FSC, BLM, MSHCP	Med	R	Multiple
Myotis thysanodes	fringed myotis	CSC*, FSC, BLM, MSHCP	High	R	Multiple
Myotis volans	long-legged myotis	CSC*, FSC, BLM, MSHCP	High	R	Multiple
Pipistrellus hesperus	western pipistrelle	None	Low	P	Rocks, mines
Eptesicus fuscus	big brown bat	None	Low	P	Multiple
Lasionycteris noctivagans	silver-haired bat	None	Med	R	Trees
Lasiurus blossevillii	western red bat	CSC*, FSS	High	P	Trees
Lasiurus cinereus	hoary bat	None	Med	LP	Trees
Lasiurus xanthinus	western yellow bat	CSC*, MSHCP	High	P	Palm trees
Euderma maculatum	spotted bat	CSC, FSC, BLM, MSHCP	High	R	Cliffs
Corynorhinus townsendii	Townsend's big-eared bat	CSC, FSC, FSS, BLM, MSHCP	High	LP	Multiple
Antrozous pallidus	pallid bat	CSC, FSS, BLM, MSHCP	High	LP	Multiple

Table 3.3-11 Potential Bat Species in the Study Area

Family/Scientific Name	Common Name	Legal Status	WBWG Priority	Presence	Roost Preference
Molossidae	***Free-tailed bats***				
Tadarida brasiliensis	Mexican free-tailed bat	None	Low	P	Multiple
Nyctinomops femorosaccus	pocketed free-tailed bat	CSC, MSHCP	Med	LP	Rock cliffs, buildings
Nyctinomops macrotis	big free-tailed bat	CSC, MSHCP	Med	R	Rock cliffs, buildings
Eumops perotis californicus	western mastiff bat	CSC, FSC, BLM, MSHCP	High	P	Rock cliffs, buildings

Source: WBWG 1998 and MSR 2006

Note:

Legal Status:

CA Species of Special Concern (CSC)

Proposed CA Species of Special Concern (CSC*)

Federal Endangered (FE)

Federal Species of Concern (FSC)

Forest Service Sensitive (FSS)

Western Bat Working Group

Prioritizes funding, planning, and conservation actions:

Low Priority (Low)

Medium Priority (Med)

High Priority (High)

Present (P)

Bureau of Land Management Sensitive (BLM)

Riverside County Multi-Species Habitat Conservation Plan (MSHCP) – All of the bat species noted in this category were initially considered, but not included as Covered Species to the MSHCP due to insufficient population data.

Presence/Reference

Currently Roosting and/or Foraging in Study Area (P), Likely to be Present in Study Area (Both roosting and/or foraging) (LP), Rare/Only Low Possibly of Presence in Study Area (R)

Table 3.3-12 Bat Roost Habitat and Potential Bat Roost Bridges in the Study Area by Roadway Segment and Unique Design Feature

Roadway Segment	Rock Outcrops and Boulders	Trees	Buildings	Proposed Bridges
A	X	X	X	Salt Creek
B	X	X	X	
C		X	X	Salt Creek, Hemet Channel, and San Jacinto Branch Line
D	X	X	X	Salt Creek, Hemet Channel, and San Jacinto Branch Line
E		X	X	San Jacinto Branch Line
F	X	X	X	Hemet Channel and San Jacinto Branch Line
G	X	X	X	
H	X	X	X	
I	X	X	X	San Diego Canal
J	X	X	X	San Diego Canal
K	X	X	X	San Diego Canal
L		X	X	Casa Loma Canal
M		X	X	Casa Loma Canal
N		X	X	Unnamed Drainage Area

Table 3.3-12 Bat Roost Habitat and Potential Bat Roost Bridges in the Study Area by Roadway Segment and Unique Design Feature

Roadway Segment	Rock Outcrops and Boulders	Trees	Buildings	Proposed Bridges
Unique Design Feature				
Utility Relocation Area 1		X		
Utility Relocation Area 2		X	X	
Connection 1 to Hemet Channel Outside the ROW				
Connection 2 to Hemet Channel Outside the ROW				
Connection 3 to Hemet Channel Outside the ROW		X		

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

Note: Although all of the roadway segments would include bridges over existing streets, they would also include bridges that would cross a seldom-used railway, a canal, or a wash that could offer the highest quality undisturbed roosting habitat for bridge-roosting bats. Existing roadway bridges are not listed as suitable habitat.

MSHCP Covered Animal Species that Did Not Require Surveys

Additional sensitive wildlife species observed within the study area during 2005 and 2006 are listed in Table 3.3-13 (page 3-601). These are all MSHCP Covered Species Considered to be Adequately Conserved, so they do not require additional surveys or analyses. Because the MSHCP has already been certified through the CEQA review process in Volume 4 of the MSHCP, Final EIR/EIS, impacts to these Covered Species have been adequately addressed and mitigated. Specifically, Section 4.1.4, Impacts, Non-Listed Covered Species, of the Final EIR/EIS for the MSHCP discusses impacts to sensitive wildlife species covered in the MSHCP. Section 4.1.5 of the Final EIR/EIS for the MSHCP discusses mitigation measures, and Section 4.1.6 discusses level of significance after mitigation. The management and monitoring programs in the MSHCP would be implemented to mitigate to the extent feasible any significant effects that remain after applying the minimization measures incorporated in the MSHCP (RCIP 2003). The Final EIR/EIS for the MSHCP can be found online at *http://www.rctlma.org/mshcp/volume4/index.html*. Therefore, these species are not discussed further. Avoidance and minimization measures for sensitive wildlife are discussed in detail in Section 3.3.4.4 (page 3-630).

Planning Species for the Harvest Valley/Winchester Area Plan (HVWAP), San Jacinto Valley Area Plan (SJVAP), proposed Noncontiguous Habitat Blocks 6 and 7 and Existing Constrained Linkage B (Salt Creek), that were observed in the study area include burrowing owl, Los Angeles pocket mouse, loggerhead shrike (*Lanius ludovicianus*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), and white-faced ibis (*Plegadis chihi*).

Although burrowing owl and Los Angeles pocket mouse required focused surveys, the other three wildlife species are considered Covered Species that do not require additional surveys. Individual and nesting loggerhead shrikes were distributed throughout the study area. Although Southern California rufous-crowned sparrows are known to nest in the region, only individuals were observed in the southern portion of the study area. No nests were found.

White-faced ibis were observed scattered throughout the study area in flooded fields and other areas with standing water.

Table 3.3-13 Additional Sensitive Wildlife Observations in the Study Area

Species Name	MSHCP Status	Federal Status	State Status	Comments
Reptiles				
Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*)	Covered Species	–	CSC	Individual observations in the study area were documented.
Coastal western whiptail (*Aspidoscelis tigris stejnegeri*)	Covered Species	–	-	Individual observations in the study area were documented.
San Diego horned lizard (*Phrynosoma coronatum blainvillii*)	Covered Species	–	CSC	An individual observation in the study area was documented.
Birds				
Bell's sage sparrow (*Amphispiza belli belli*)	Covered Species	–	CSC	Although this species is known to breed in the vicinity of the study area, this species was not observed nesting; only individual observations were documented.
Black-crowned night heron (*Nycticorax nycticorax*)	Covered Species	–	-	No rookery sites were observed in the study area; only individual observations were documented.
California horned lark (*Eremophila alpestris actia*)	Covered Species	–	CSC	Although this species is known to breed in the vicinity of the study area, it was not observed nesting; only individual observations were documented.
Cooper's hawk (*Accipiter cooperii*)	Covered Species	–	CSC Nesting	Individual and nesting locations in the study area were documented.
Ferruginous hawk (*Buteo regalis*)	Covered Species	–	CSC Wintering	Only wintering observations were documented.
Golden eagle (*Aquila chrysaetos*)	Covered Species	–	CSC Fully Protected	This species was not observed nesting in the study area; only individual observations (foraging and wintering occurrences) were documented.
Great blue heron (*Ardea herodias*)	Covered Species	–	-	No rookery sites were observed in the study area; only individual observations were documented.
Loggerhead shrike (*Lanius ludovicianus*)	Covered Species	–	CSC Nesting	Although this species was regularly observed throughout the study area, there were only a few locations where nesting was documented.
Northern harrier (*Circus cyaneus*)	Covered Species	–	CSC Nesting	Although the nest site was not confirmed, breeding behavior was observed and northern harriers were assumed to be nesting adjacent to the study area. Additionally, foraging observations were documented.
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	Covered Species	–	CSC	Although this species is known to breed in the vicinity of the study area, it was not observed nesting; only individual observations were documented.
White-faced ibis (*Plegadis chihi*)	Covered Species	–	CSC Rookery Site	This species was observed primarily in the northern portion of the study area near agricultural areas with standing water. A rookery site was documented in the EMWD treatment wetlands.

Table 3.3-13 Additional Sensitive Wildlife Observations in the Study Area

Species Name	MSHCP Status	Federal Status	State Status	Comments
White-tailed kite (*Elanus leucurus*)	Covered Species	–	CSC Nesting Fully Protected	Individual and nesting locations in the study area were documented.
Mammals				
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	Covered Species	–	CSC	This species was regularly observed throughout the study area. Successful reproduction was assumed to have occurred based on observations of juveniles.

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

[a]California Species of Special Concern

Animal Species in the Build Alternatives and Design Options

All Build Alternatives and Design Options

Because of the nature of the sensitive wildlife surveys, affected environment determinations can be the same for otherwise dissimilar Build alternatives and design options. These instances are discussed first for all of the Build alternatives and design options, then individually when the determinations differ.

MSHCP Covered Species and/or Planning Species

Los Angeles Pocket Mouse

The affected environment determination for Los Angeles pocket mouse is the same for all of the Build alternatives and design options. All of the study areas contain Criteria Area Cell 2364. Conservation in this Cell will contribute to the assembly of Proposed Core 3, where Los Angeles pocket mouse is a Planning Species.

The study area contains 2.7 ha (6.7 ac) of occupied Los Angeles pocket mouse habitat. Los Angeles pocket mice were observed at the northeastern end of the study area, south of the San Jacinto wash and east of the existing SR 79 alignment. Five individual Los Angeles pocket mice were captured in the study area from 2005 to 2006.

Build Alternative 1a

MSHCP Covered Species and/or Planning Species

Burrowing Owl

The study area for Build Alternative 1a contains Criteria Area Cells 3584, 3683, and 3684. Conservation in these Cells will contribute to the assembly of Proposed Noncontiguous Habitat Block 7, where burrowing owl is a Planning Species.

Five pairs of burrowing owls and a single male, RIV-BUO-005, RIV-BUO-006, RIV-BUO-023, RIV-BUO-024, RIV-BUO-052, and RIV-BUO-053 (single male), were observed in the study area for Build Alternative 1a. The

study area for Build Alternative 1a contains 325.79 ha (805.04 ac) of excellent quality habitat, 725.01 ha (1,791.54 ac) of suitable quality habitat, and 224.68 ha (555.19 ac) of excluded habitat.

White-Tailed Kite

Three pairs of white-tailed kites were observed nesting in the study area for Build Alternative 1a. The study area for Build Alternative 1a contains 988.99 ha (2,443.84 ac) of raptor foraging habitat.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Thirteen pairs of nesting raptors not covered by the MSHCP were observed in the study area for Build Alternative 1a. These include four pairs of barn owls and nine pairs of red-tailed hawks. As stated above, the study area for Build Alternative 1a contains 988.99 ha (2,443.84 ac) of raptor foraging habitat.

Bats

The study area for Build Alternative 1a contains bat foraging habitat in Salt Creek Channel and other open areas, including undisturbed coastal sage scrub habitat, non-native annual grasslands, and agricultural fields. It also contains numerous boulder outcrops with suitable crevices for potential CSC bat species roost sites. Western mastiff bats were detected acoustically in the southern portion of the study area for this Build alternative during surveys conducted in 2006 for the Southwestern Riverside County Multi-Species Reserve (MSR 2006). Numerous mixed trees, and some isolated buildings, that could provide suitable roost habitat are present throughout the study area. The study area for Build Alternative 1a also includes the open-water tertiary treatment wetlands owned by EMWD off Sanderson Avenue. These wetlands contain numerous willows and cottonwoods that could provide additional tree-roosting habitat for CSC bat species.

Build Alternative 1b

MSHCP Covered Species and/or Planning Species

Burrowing Owl

Like Build Alternative 1a, the study area for Build Alternative 1b contains Criteria Area Cells 3584, 3683, and 3684. Conservation in these Cells will contribute to the assembly of Proposed Noncontiguous Habitat Block 7, where burrowing owl is a Planning Species.

Seven pairs of burrowing owls, RIV-BUO-005, RIV-BUO-006, RIV-BUO-023, RIV-BUO-024, RIV-BUO-041, RIV-BUO-042, and RIV-BUO-052, were observed in the study area for Build Alternative 1b. The study area for Build Alternative 1b contains 304.45 ha (752.30 ac) of excellent quality habitat, 700.76 ha (1,731.62 ac) of suitable quality habitat, and 217.94 ha (538.54 ac) of excluded habitat.

White-Tailed Kite

Two pairs of white-tailed kites were observed nesting in the study area for Build Alternative 1b. The study area for Build Alternative 1b contains 948.20 ha (2,343.05 ac) of raptor foraging habitat.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Two pairs of barn owls and 10 pairs of red-tailed hawks, which are not covered by the MSHCP, were observed in the study area for Build Alternative 1b. These species use the same raptor foraging habitat as the white-tailed kite.

Bats

The bat roosting and foraging habitat in the study area for Build Alternative 1b is identical to that in Build Alternative 1a, except that Build Alternative 1b would not pass by the EMWD tertiary treatment wetlands in the northern portion of the Project. The study area for this Build alternative does contain several cottonwoods, black willows, pines, eucalyptus, pepper, tamarisk, and a few palms. Adjacent to Simpson Road, there are a few mature fan palm trees, one of which contained a red bat observed during outflight surveys. Additional roost sites may be present in other trees and isolated buildings within this study area, which could provide suitable roost habitat for tree and building roosting CSC-status bats.

Design Option 1b1

The affected environment for Design Option 1b1 would be the same as Build Alternative 1b for Los Angeles pocket mouse, burrowing owl, white-tailed kite, and bats. The amount of raptor foraging habitat would increase slightly, from 948.20 ha (2,343.05 ac) in the base condition to 948.21 ha (2,343.10 ac) in the design option.

Build Alternative 2a

MSHCP Covered Species and/or Planning Species

Burrowing Owl

The study area for Build Alternative 2a contains Criteria Area Cells 3584, 3683, 3684, and 3791. Conservation in these Cells will contribute to the assembly of Proposed Noncontiguous Habitat Block 7, where burrowing owl is a planning species.

Seven pairs of burrowing owls and a single male, RIV-BUO-004, RIV-BUO-005, RIV-BUO-023, RIV-BUO-031, RIV-BUO-041, RIV-BUO-052, RIV-BUO-053 (single male), and RIV-BUO-056, were observed in the study area for Build Alternative 2a. The study area for this Build alternative contains 333.59 ha (824.32 ac) of excellent quality habitat, 699.05 ha (1,727.39 ac) of suitable quality habitat, and 232.46 ha (574.42 ac) of excluded habitat.

White-Tailed Kite and Cooper's Hawk

Five pairs of white-tailed kites and one pair of Cooper's hawks were observed nesting in the study area for Build Alternative 2a. These species would be expected to use the raptor foraging habitat that is quantified in the next section.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Thirteen pairs of nesting raptors not covered by the MSHCP, 4 pairs of barn owls and 9 pairs of red-tailed hawks, were observed in the study area for Build Alternative 2a. The study area for Build Alternative 2a contains 980.87 ha (2,423.76 ac) of raptor foraging habitat.

Bats

The affected environment for bats in Build Alternative 2a is much the same as Build Alternative 1a (page 3-602), except that part of the study area for Build Alternative 2a, adjacent to Simpson Road, contains a few mature fan palm trees. A red bat was observed in one them during outflight surveys.

Build Alternative 2b

MSHCP Covered Species and/or Planning Species

Burrowing Owl

The study area for Build Alternative 2b contains the same Criteria Area Cells (3584, 3683, 3684, and 3791) as Build Alternative 2a (page 3-604).

Eight pairs of burrowing owls, RIV-BUO-004, RIV-BUO-005, RIV-BUO-023, RIV-BUO-031, RIV-BUO-041, RIV-BUO-042, RIV-BUO-052, and RIV-BUO-056, were observed in the study area for Build Alternative 2b. The study area for Build Alternative 2b contains 312.33 ha (771.79 ac) of excellent quality habitat, 650.79 ha (1,608.13 ac) of suitable quality habitat, and 233.51 ha (577.01 ac) of excluded habitat.

White-Tailed Kite and Cooper's Hawk

Two pairs of white-tailed kites and one pair of Cooper's hawks were observed nesting in the study area for Build Alternative 2b. These species would be expected to use the raptor foraging habitat that is quantified in the next section.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Twelve pairs of nesting raptors not covered by the MSHCP, 2 pairs of barn owls and 10 pairs of red-tailed hawks, were observed in the study area for Build Alternative 2b. The study area for Build Alternative 2b contains 916.36 ha (2,264.36 ac) of raptor foraging habitat.

Bats

The affected environment in the study area for Build Alternative 2b is the same as Build Alternative 2a (page 3-604).

Design Option 2b1

The affected environment in the study area for Design Option 2b1 is the same as Build Alternative 2b for Los Angeles pocket mouse, burrowing owl, white-tailed kite, and bats.

Nesting and Foraging Raptors

The affected environment for nesting and foraging raptors in the study area for Design Option 2b1 is the same Build Alternative 2b, except that the raptor foraging habitat would increase slightly, from 916.36 ha (2,264.36 ac) for the Build alternative to 916.37 ha (2,264.41 ac) for the design option.

3.3.4.3 Environmental Consequences

This section describes the potential permanent (direct and indirect) and temporary impacts to animal species from each of the Project alternatives and design options. A detailed discussion of impacts for each roadway segment is presented in the NES. All quantities are expressed in both metric and customary values. Conversions from metric to customary values that appear similar may differ due to rounding.

MSHCP Covered Species are addressed first, followed by special-status animal species not covered by the MSHCP. Potential permanent impacts to bats are also presented. Animal species that could be permanently and temporarily impacted by the proposed Project are shown in Table 3.3-3 (page 3-471).

Permanent Impacts

For this analysis, permanent direct impacts to animal species can include direct take of habitat or individuals in the PIA or the direct impact areas of the unique design features. Indirect impacts can include increased noise from roadway operation, degraded habitat due to fragmentation and the resulting reduction in numbers of prey and foraging area, and more potential for being struck by vehicles due to increased traffic. Habitat fragmentation results not only in isolated populations, but encourages invasive animal species that degrade habitat quality and availability. Permanent indirect impacts from the Project are expected to the Los Angeles pocket mouse, burrowing owls, nesting raptors, and bats.

Los Angeles Pocket Mouse

Permanent direct impacts associated with the Project would include the loss of grassland, sage scrub, and alluvial fan scrub habitats. Roadway operation could also impede the movement of small mammals across the San Jacinto River Valley floor. This would be a permanent indirect impact.

Burrowing Owls and Nesting Raptors

CDFG and CBOC guidance for avoiding impacts to burrowing owls specifies that no disturbance should occur within 75 m (246 ft) of occupied burrows during the nonbreeding season (CDFG 1995, CBOC 1993). The standard CDFG buffer for indirect impacts to nesting raptors is 150 m (500 ft). Following this guidance, 75-m (246-ft) and 150-m (500-ft) buffers for burrowing owls and nesting raptors, respectively, were used to analyze permanent indirect impacts from operational roadway noise.

Operational roadway noise can affect burrowing owls and raptors because birds communicate through vocalizations and auditory cues, and increased traffic noise can interfere with this communication. Background traffic noise can interfere with contact between mated birds, warning and distress calls that signify predators and other threats, feeding behavior, and protection of the young. High noise levels can make an area that is otherwise appropriate for nesting unsuitable. Currently, a standard noise threshold does not exist for birds; however, when assessing noise impacts, 60 A-weighted decibels (dBA) is typically used, based on a study by Rieger (AASHTO 2008) and guidance from the USFWS and CDFG. This threshold was used for this noise analysis.

For this analysis, operational roadway noise levels were based on monitoring data from the Project noise study (see Section 3.2.7 [Volume 1, page 3-378]) and on several variables. Future roadway noise was calculated based on the distance from the resource to the roadway centerline, existing noise at the closest reference receiver, and distance of the resource from the reference receiver. Existing ambient noise levels were taken from monitoring locations. Projected peak-hour noise levels were included in the calculations. Operational roadway noise levels for burrowing owls and nesting raptors are listed in Tables 3.3-14 and 3.3-15 (page 3-608), respectively.

Table 3.3-14 Operational Roadway Noise Levels for Burrowing Owls

Build Alternative	Burrowing Owl	Burrowing Owl Distance from Centerline	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Future Operational Noise Level (dBA)
1a	RIV-BUO-053	309 m (1,015 ft)	1A-A3	45-53	60	65
	RIV-BUO-023 (2005 nest)	303 m (993 ft)	1A-E2	40-47	60	63
	RIV-BUO-023 (2006 nest)	0 m (0 ft)	1A-E2	40-47	60	Assume Impact
	RIV-BUO-024	209 m (685 ft)	1A-E2	40-47	60	66
	RIV-BUO-005	223 m (733 ft)	1A-G2	42-48	60	64
	RIV-BUO-006	185 m (607 ft)	1A-G2	42-48	60	61
	RIV-BUO-052	91 m (298 ft)	1A-G2	42-48	60	66
1b (including Design Option 1b1)[b]	RIV-BUO-023 (2005 nest)	266 m (874 ft)	1A-E2	40-47	60	64
	RIV-BUO-023 (2006 nest)	0 m (0 ft)	1A-E2	40-47	60	Assume Impact
	RIV-BUO-024	209 m (685 ft)	1A-E2	40-47	60	66
	RIV-BUO-005	223 m (733 ft)	1A-G2	42-48	60	64
	RIV-BUO-006	185 m (607 ft)	1A-G2	42-48	60	61
	RIV-BUO-052	91 m (298 ft)	1A-G2	42-48	60	66
	RIV-BUO-042	428 m (1,404 ft)	1A-L14	53-51	60	63
2a	RIV-BUO-053	309 m (1,015 ft)	1A-A3	45-53	60	65
	RIV-BUO-056	0 m (0 ft)	1A-G2	42-48	60	Assume Impact
	RIV-BUO-023	133 m (436 ft)	1A-E2	40-47	60	69
	RIV-BUO-031	0 m (0 ft)	1B-G11	41-42	60	Assume Impact
	RIV-BUO-004	188 m (620 ft)	1A-G2	42-48	60	65

Table 3.3-14 Operational Roadway Noise Levels for Burrowing Owls

Build Alternative	Burrowing Owl	Burrowing Owl Distance from Centerline	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Future Operational Noise Level (dBA)
	RIV-BUO-005	138 m (454 ft)	1A-G2	42-48	60	67
	RIV-BUO-052	170 m (558 ft)	1A-G2	42-48	60	62
2b (including Design Option 2b1)[b]	RIV-BUO-056	0 m (0 ft)	1A-E2	40-47	60	Assume Impact
	RIV-BUO-023	133 m (436 ft)	1A-E2	40-47	60	69
	RIV-BUO-031	0 m (0 ft)	1B-G11	41-42	60	Assume Impact
	RIV-BUO-004	188 m (620 ft)	1A-G2	42-48	60	65
	RIV-BUO-005	138 m (454 ft)	1A-G2	42-48	60	67
	RIV-BUO-052	170 m (558 ft)	1A-G2	42-48	60	62
	RIV-BUO-042	428 m (1,404 ft)	1A-L14	53-51	60	63

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

[a]Represents existing noise at monitoring location and projected peak hour noise level.

[b]Information for Design Options 1b1 and 2b1 is the same as Build Alternatives 1b and 2b. Because there is no variation between the base condition and the design options, the information is given only once.

Table 3.3-15 Operational Noise Levels for Nesting Raptors

Build Alternative	Nesting Raptor Species	Nesting Raptor Distance from Centerline	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Future Operational Noise Level (dBA)
1a	Barn owl 1	235 m (772 ft)	1A-I1	45-39	60	66
	Barn owl 2	0 m (0 ft)	1A-L2	50-47	60	Assume Impact
	Barn owl 3	108 m (353 ft)	1A-L4	43-38	60	78
	Red-tailed hawk 1	0 m (0 ft)	1A-A3	45-53	60	Assume Impact
	Red-tailed hawk 2	0 m (0 ft)	1A-A3	45-53	60	Assume Impact
	Red-tailed hawk 3	336 m (1,103 ft)	1A-A2	45-58	60	62
	Red-tailed hawk 4	348 m (1,140 ft)	1A-A2	45-58	60	62
	Red-tailed hawk 5	134 m (439 ft)	1A-G11	39-40	60	67
	Red-tailed hawk 6	309 m (1,015 ft)	1A-I6	56-54	60	65
	Red-tailed hawk 7	0 m (0 ft)	1A-L5	55-48	60	Assume Impact
	Red-tailed hawk 8	318 m (1,044 ft)	1A-L14	53-51	60	66
	Red-tailed hawk 9	0 m (0 ft)	–[b]	49-57	60	Assume Impact
	White-tailed kite 1	124 m (406 ft)	1A-E31	44-47	60	60
	White-tailed kite 2	58 m (191 ft)	1A-G11	39-40	60	73
1b (including Design Option 1b1)[c]	Barn owl 1	235 m (772 ft)	1A-I1	45-39	60	66
	Barn owl 2	0 m (0 ft)	1A-L2	50-47	60	Assume Impact
	Red-tailed hawk 1	0 m (0 ft)	1B-B2	45-52	60	Assume Impact
	Red-tailed hawk 2	0 m (0 ft)	1B-B2	45-52	60	Assume Impact
	Red-tailed hawk 3	400 m (1,313 ft)	1A-A2	45-58	60	61

Table 3.3-15 Operational Noise Levels for Nesting Raptors

Build Alternative	Nesting Raptor Species	Nesting Raptor Distance from Centerline	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Future Operational Noise Level (dBA)
	Red-tailed hawk 4	411 m (1,348 ft)	1A-A2	45-58	60	61
	Red-tailed hawk 5	134 m (439 ft)	1A-G11	39-40	60	67
	Red-tailed hawk 6	309 m (1,015 ft)	1A-I6	56-54	60	65
	Red-tailed hawk 7	0 m (0 ft)	1A-L5	55-48	60	Assume Impact
	Red-tailed hawk 8	122 m (400 ft)	1A-L16	46-41	60	71
	Red-tailed hawk 9	346 m (1,135 ft)	1A-L14	53-51	60	66
	Red-tailed hawk 10	0 m (0 ft)	–[b]	49-57	60	Assume Impact
	White-tailed kite 1	58 m (191 ft)	1A-G11	39-40	60	73
2a	Barn owl 1	235 m (772 ft)	1A-I1	45-39	60	66
	Barn owl 2	0 m (0 ft)	1A-L2	50-47	60	Assume Impact
	Barn owl 3	108 m (353 ft)	1A-L4	43-38	60	78
	Cooper's hawk	199 m (651 ft)	1A-G2	42-48	60	62
	Red-tailed hawk 1	0 m (0 ft)	1A-A3	45-53	60	Assume Impact
	Red-tailed hawk 2	0 m (0 ft)	1A-A3	45-53	60	Assume Impact
	Red-tailed hawk 3	336 m (1,103 ft)	1A-A2	45-58	60	62
	Red-tailed hawk 4	348 m (1,140 ft)	1A-A2	45-58	60	62
	Red-tailed hawk 5	134 m (439 ft)	1A-G11	39-40	60	67
	Red-tailed hawk 6	309 m (1,015 ft)	1A-I6	56-54	60	65
	Red-tailed hawk 7	0 m (0 ft)	1A-L5	55-48	60	Assume Impact
	Red-tailed hawk 8	318 m (1,044 ft)	1A-L14	53-51	60	66
	Red-tailed hawk 9	0 m (0 ft)	–[b]	49-57	60	Assume Impact
	White-tailed kite 1	116 m (380ft)	1A-E26	45-50	60	61
	White-tailed kite 2	58 m (191 ft)	1A-G11	39-40	60	73
	White-tailed kite 3	233 m (765 ft)	1A-G4	45-51	60	61
2b (including Design Option 2b1)[c]	Barn owl 1	235 m (772 ft)	1A-I1	45-39	60	66
	Barn owl 2	0 m (0 ft)	1A-L2	50-47	60	Assume Impact
	Cooper's hawk	199 m (651 ft)	1A-G2	42-48	60	62
	Red-tailed hawk 1	0 m (0 ft)	1B-B2	45-52	60	Assume Impact
	Red-tailed hawk 2	0 m (0 ft)	1B-B2	45-52	60	Assume Impact
	Red-tailed hawk 3	400 m (1,313 ft)	1A-A2	45-58	60	61
	Red-tailed hawk 4	411 m (1,348 ft)	1A-A2	45-58	60	61
	Red-tailed hawk 5	134 m (439 ft)	1A-G11	39-40	60	67
	Red-tailed hawk 6	309 m (1,015 ft)	1A-I6	56-54	60	65
	Red-tailed hawk 7	0 m (0 ft)	1A-L5	55-48	60	Assume Impact
	Red-tailed hawk 8	122 m (400 ft)	1A-L16	46-41	60	71
	Red-tailed hawk 9	346 m (1,135 ft)	1A-L14	53-51	60	66
	Red-tailed hawk 10	0 m (0 ft)	–[b]	49-57	60	Assume Impact

Table 3.3-15 Operational Noise Levels for Nesting Raptors

Build Alternative	Nesting Raptor Species	Nesting Raptor Distance from Centerline	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Future Operational Noise Level (dBA)
	White-tailed kite 1	58 m (191 ft)	1A-G11	39-40	60	73
	White-tailed kite 2	233 m (765 ft)	1A-G4	45-51	60	61

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

Note: NI – No Impact. Species was not observed and impacts are not anticipated.

N/A – Not Applicable. Unique design features are not associated with roadway segments and operational roadway noise.

[a]Represents existing noise at monitoring location and projected peak hour noise level.

[b]Noise receiver location not available adjacent to resource. Ambient noise range was extrapolated.

[c]Information for Design Options 1b1 and 2b1 is the same as Build Alternatives 1b and 2b. Because there is no variation between the base condition and the design options, the information is given only once.

Permanent Impacts to Animal Species from the Project Alternatives and Design Options

No Build Alternative

No Project-related impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

Build Alternative 1a

MSHCP Covered Species and/or Planning Species

Los Angeles Pocket Mouse

Build Alternative 1a could permanently impact 2.0 ha (4.8 ac) of habitat occupied by the Los Angeles pocket mouse just east of the existing SR 79 alignment, north of Ramona Expressway and south of the San Jacinto River. This Los Angeles pocket mouse population is part of the regionally important core population within and near the San Jacinto River and Massacre Canyon wash. Permanent impacts would include direct impacts to 1.0 ha (2.6 ac) and indirect impacts to 0.9 ha (2.2 ac) of occupied habitat.

Build Alternative could also have permanent direct and indirect impacts to the Los Angeles pocket mouse itself. Direct impacts would include the loss of grassland, sage scrub, and alluvial fan scrub habitats. Indirect impacts to the population of Los Angeles pocket mouse in the indirect impact area north of Build Alternative 1a could include degraded habitat due to increased vehicle noise, vibration, lights from vehicles, dispersing Los Angeles pocket mice being struck by vehicles, and long-term effects of habitat fragmentation. Habitat fragmentation could decrease gene flow in the species and could increase the number of subpopulations through isolation. Populations that were once continuous could become divided into separate fragments, forming small islands isolated from one another. Subsequently, local extirpations and genetic inbreeding could result.

Additionally, Build Alternative 1a would have permanent direct and indirect impacts to the southern portion of Criteria Area Cell 2364, where occupied habitat and Los Angeles pocket mice were observed. However, Build Alternative 1a would not preclude the goals of this Criteria Area Cell.

Burrowing Owl

Six pairs of burrowing owls and a single male could be permanently impacted by Build Alternative 1a. Of these, one pair would be directly impacted (RIV-BUO-023, 2006 nest). A total of 4.03 ha (9.95 ac) of excellent quality habitat and 49.38 ha (122.02 ac) of suitable quality habitat could be directly impacted.

The remaining five pairs of burrowing owls and single male could be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles. Their locations include RIV-BUO-005, 223 m (733 ft) from the roadway centerline, RIV-BUO-006, 185 m (607 ft) from centerline, RIV-BUO-023 (2005 nest), 303 m (993 ft) from centerline, RIV-BUO-024, 209 m (685 ft) from centerline, RIV-BUO-052, 91 m (298 ft) from centerline, and RIV-BUO-053 (single male), 309 m (1,015 ft) from centerline.

Additionally, Build Alternative 1a would directly impact the western portion of Criteria Area Cell 3683, so could indirectly impact RIV-BUO-005, which was observed in excellent quality habitat in the southwestern corner. However, Build Alternative 1a would not preclude the goals of this Criteria Area Cell.

Nesting and Foraging Raptors

No MSHCP covered nesting raptors would be directly impacted by Build Alternative 1a. However, two pairs of white-tailed kites were found 58 m (191 ft) and 124 m (406 ft) from centerline and could be indirectly impacted. The pair at 58 m (191 ft) is expected to be impacted by operational roadway noise. The pair at 124 m (406 ft) is expected to be impacted by habitat fragmentation and increased potential for collisions with vehicles. Therefore, this Build alternative may result in permanent, indirect impacts to two pairs of white-tailed kites.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Twelve pairs of nesting raptors could be permanently impacted by Build Alternative 1a. Of these 12 pairs, one pair of barn owls and four pairs of red-tailed hawks, would be directly impacted. A total of 142.33 ha (351.70 ac) of raptor foraging habitat would be directly impacted.

The remaining seven pairs of nesting raptors could be indirectly impacted by operational roadway noise, habitat fragmentation, or increased potential for collisions with vehicles. Their locations include two pairs of barn owls 235 m (772 ft) and 108 m (353 ft) from centerline and five pairs of red-tailed hawks at 336 m (1,103 ft), 348 m (1,140 ft), 134 m (439 ft), 309 m (1,015 ft), and 318 m (1,044 ft) from centerline.

Bats

Removal of rock outcrops would permanently reduce available roosting habitat for bat species that are dependent on this limited resource. Additional permanent impacts to roosting habitat would also include removal of mature trees that may offer tree roosts (e.g., those containing cavities, exfoliating bark, suitable foliage, or well-developed frond skirts) for sensitive bat species. Established building roosts could also be permanently impacted by the demolition of man-made structures.

Build Alternative 1b

MSHCP Covered Species and/or Planning Species

Los Angeles Pocket Mouse

Impacts to Los Angeles pocket mouse, both habitat and populations, from Build Alternative 1b would be the same as Build Alternative 1a (page 3-610).

Burrowing Owl

Seven pairs of burrowing owls would be permanently impacted by Build Alternative 1b. Of these, one pair would be directly impacted (RIV-BUO-023, 2006 nest). A total of 9.52 ha (23.54 ac) of excellent quality habitat and 58.26 ha (143.96 ac) of suitable quality habitat would be directly impacted.

The remaining six pairs of burrowing owls would be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles. Locations include RIV-BUO-005, 233 m (733 ft) from centerline, RIV-BUO-006, 185 m (607 ft) from centerline, RIV-BUO-023 (2005 nest), 266 m (874 ft) from centerline, RIV-BUO-024, 209 m (685 ft) from centerline, RIV-BUO-042, 428 m (1,404 ft) from centerline, and RIV-BUO-052, 91 m (298 ft) from centerline.

Impacts to burrowing owls in the western portion of Criteria Area Cell 3683 would be the same as Build Alternative 1a (page 3-611).

Nesting and Foraging Raptors

No MSHCP covered nesting raptors would be directly impacted by Build Alternative 1b. However, one pair of white-tailed kites was found 58 m (191 ft) from centerline, so could be indirectly impacted by operational roadway noise.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Twelve pairs of nesting raptors would be permanently impacted by Build Alternative 1b. Of these 12 pairs, one pair of barn owls and four pairs of red-tailed hawks would be directly impacted. A total of 107.01 ha (264.42 ac) of raptor foraging habitat would be directly impacted.

The remaining seven pairs of nesting raptors could be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles. Locations include one pair of barn owls 235 m (772 ft) from centerline and six pairs of red-tailed hawks at 400 m (1,313 ft), 411 m (1,348 ft), 134 m (439 ft), 309 m (1,015 ft), 122 m (400 ft), and 346 m (1,135 ft) from centerline.

Bats

Impacts to bats would be the same as Build Alternative 1a (page 3-611).

Design Option 1b1

Impacts from Design Option 1b1 to Los Angeles pocket mouse, burrowing owl, white-tailed kite, and bats would be the same as Build Alternative 1b.

Nesting and Foraging Raptors

The direct and indirect impacts to nesting and foraging raptors from Design Option 1b1 would be the same as Build Alternative 1b, except that the amount of raptor foraging habitat impacted by the design option would be 107.35 ha (265.25 ac), versus 107.01 ha (264.42 ac) with the base condition.

Build Alternative 2a

MSHCP Covered Species and/or Planning Species

Los Angeles Pocket Mouse

Impacts Los Angeles pocket mouse from Build Alternative 2a would be the same as Build Alternative 1a (page 3-610).

Burrowing Owl

Six pairs of burrowing owls and a single male would be permanently impacted by Build Alternative 2a. Of these, two pairs (RIV-BUO-031 and RIV-BUO-056) would be directly impacted. A total of 31.13 ha (76.92 ac) of excellent quality habitat and 52.95 ha (130.84 ac) of suitable quality habitat would be directly impacted.

The remaining four pairs of burrowing owls and single male could be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles. Locations include RIV-BUO-004, 188 m (620 ft) from centerline, RIV-BUO-005, 138 m (454 ft) from centerline, RIV-BUO-023, 133 m (436 ft) from centerline, RIV-BUO-052, 170 m (558 ft) from centerline, and RIV-BUO-053 (single male), 309 m (1,015 ft) from centerline.

Impacts to burrowing owls in the western portion of Criteria Area Cell 3683 would be similar to Build Alternative 1a (page 3-611), except that Build Alternative 2a would impact both RIV-BUO-004 and RIV-BUO-005.

Nesting and Foraging Raptors

No MSHCP covered nesting raptors would be permanently, directly impacted by Build Alternative 2a. However, three pairs of white-tailed kites located 116 m (380 ft), 58 m (191 ft), and 233 m (765 ft) from centerline and one pair of Cooper's hawks 199 m (651 ft) from the centerline would be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Twelve pairs of nesting raptors would be permanently impacted by Build Alternative 2a. Of these 12 pairs, one pair of barn owls and four pairs of red-tailed hawks would be directly impacted. A total of 142.33 ha (351.70 ac) of raptor foraging habitat would be directly impacted.

The remaining seven pairs of nesting raptors would be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles. Locations include two pairs of barn owls 235 m (772 ft) and 108 m (353 ft) from centerline and five pairs of red-tailed hawks at 336 m (1,103 ft), 348 m (1,140 ft), 134 m (439 ft), 309 m (1,015 ft), and 318 m (1,044 ft) from centerline.

Bats

Impacts to bats from Build Alternative 2a would be the same as Build Alternative 1a (page 3-611).

Build Alternative 2b

MSHCP Covered Species and/or Planning Species

Los Angeles Pocket Mouse

Impacts to Los Angeles pocket mouse from Build Alternative 2b would be the same as Build Alternative 1a (page 3-610).

Burrowing Owl

Seven pairs of burrowing owls would be permanently impacted by Build Alternative 2b. Of these, two pairs, RIV-BUO-031 and RIV-BUO-056, would be directly impacted. A total of 33.07 ha (81.72 ac) of excellent quality habitat and 61.01 ha (150.77 ac) of suitable quality habitat would be directly impacted.

The remaining five pairs of burrowing owls could be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles. Locations include RIV-BUO-004, 188 m (620 ft) from centerline, RIV-BUO-005, 138 m (454 ft) from centerline, RIV-BUO-023, 133 m (436 ft) from centerline, RIV-BUO-042, 428 m (1,404 ft) from centerline, and RIV-BUO-052, 170 m (558 ft) from centerline.

Impacts to burrowing owls in the western portion of Criteria Area Cell 3683 would be the same as Build Alternative 2a (page 3-613).

Nesting and Foraging Raptors

No MSHCP covered nesting raptors would be directly impacted by Build Alternative 2b. However, two pairs of white-tailed kites located 58 m (191 ft) and 233 m (765 ft) from centerline and one pair of Cooper's hawks 199 m (651 ft) from centerline would be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Impacts to nesting and foraging raptors from Build Alternative 2b would be the same as Build Alternative 1b (page 3-612).

Bats

Impacts to bats from Build Alternative 2a would be the same as Build Alternative 1a (page 3-611).

Design Option 2b1

The impacts to Los Angeles pocket mouse, burrowing owl, white-tailed kite, and bats would be the same as Build Alternative 2b.

Nesting and Foraging Raptors

Impacts to nesting and foraging raptors from Design Option 2b1 would be the same and Design Option 1b1 (page 3-613).

Temporary Impacts

No temporary construction easements are required for any of the Project features, so no temporary impacts to animal species habitat would occur. Of the animal species presented in this document, those that were included in the temporary impact analysis include Los Angeles pocket mice, burrowing owls, nesting raptors, and bats. The temporary impact analysis for these species overlaps with the permanent, indirect impact analysis because the species located in the indirect impact area would be impacted by construction activities and by operation of the roadway once construction is complete.

All other impacts to animal species are presented in Permanent Impacts (page 3-606). That discussion includes direct impacts associated with the PIA and unique design features and impacts in the indirect impact area.

A summary of potential temporary impacts from the Build alternatives and design options is provided in Table 3.3-3 (page 3-471).

Los Angeles Pocket Mouse

Temporary impacts to occupied Los Angeles pocket mouse habitat that could result from the Project include degraded habitat quality and suitability because of construction noise, lights, vibration, dust, and soil compaction along the PIA, as well as disturbance from staging and access routes. Los Angeles pocket mice may be subject to mortality and injury from being struck by construction vehicles and equipment traveling along access dirt roads and staging areas. Although construction is temporary, the effects can be long-term disruptions to the species because Los Angeles pocket mice have short lives and are very sensitive to disturbances in their environment. Therefore, the Project could have long-term impacts on Los Angeles pocket mouse breeding, foraging, movement, hibernation/sleeping patterns, dispersal, and predator-avoidance behavior.

Because the Los Angeles pocket mouse is small and has very specific metabolic requirements, this species is only able to be active in a very narrow range of temperatures. While active, they require a relatively high intake of calories to maintain their body temperature and activity patterns and avoid going into torpor. Construction could disrupt foraging, which would lower calorie intake. Vibration and noise from construction could also disrupt sleeping and aestivating (lying dormant in warm temperatures) patterns. Some individuals might leave the immediate Project area during the construction process because of noise and vibration. Los Angeles pocket mouse survival often depends on using their acute hearing to detect approaching predators in the dark, and this ability could be affected by construction noise. In addition, trash and food discarded by construction contractors could attract predators of the Los Angeles pocket mouse.

Burrowing Owls and Nesting Raptors

Temporary impacts to burrowing owls and nesting raptors may include construction noise, night lighting, and increased human presence (construction personnel). Temporary construction noise may affect burrowing owls and raptors because birds primarily communicate with one another through vocalizations and auditory cues. Increased noise levels can interfere with normal communication. Therefore, background noise and isolated, impulsive noise (e.g., drilling, excavation) can interfere with contact between mated birds, warning and distress calls that signify predators and other threats, feeding behavior, and protection of the young. In addition, high noise levels may prevent an area that is otherwise appropriate for nesting from being suitable.

The same 75-m (246-ft) and 150-m (500-ft) buffers used in the permanent impacts analysis were used to analyze temporary indirect impacts to burrowing owls and nesting raptors from construction noise, night lighting, and increased human presence.

Night lighting and increased human presence during construction can affect normal foraging patterns for burrowing owls and raptors. Although construction activities would be located entirely within the PIA and would not extend into the indirect impact area for burrowing owls or nesting raptors, the sheer amount of construction activity, equipment, and increased human presence for the 3-year construction period could still affect daily behavior for these species. The potential for impacts would vary throughout the construction period, but the beginning and middle stages, when construction activities and numbers of personnel would peak, would be most likely to have the most effect. The potential for impacts would decrease as construction winds down, and activities and personnel would be minimal.

Construction of the Project could be phased (see Section 2.2.1.3 [Volume 1, page 2-20]), so temporary impacts from construction noise would vary depending on the phase the Project is in. The two construction activities that would generate the highest noise levels are roadway excavation, which would require blasting, and construction of roadway overpasses and bridges, which would require pile driving. Both of these activities create impulsive noises that occur in isolated events, which can result in startle effects.

Roadway excavation would take place in the West Hemet Hills for all Build alternatives and design options. However, the low frequency impulsive noise from blasting has the potential to affect species within a 1.6-km (1.0-mi) radius, so the potential for startle effects could extend into the valley.

Roadway overpasses and bridges would be required with all Build alternatives and design options, but not all of these structures would require pile driving. However, the structures that would require pile driving will not be determined until final design, so to include all potential impacts to burrowing owls and nesting raptors, this construction noise impact analysis assumes that every roadway overpass and bridge would require pile driving.

Construction noise levels were based on the distance of the resource from the PIA. Existing ambient noise levels were taken from monitoring locations and were compared to projected peak-hour noise levels. Reference noise levels of 98 decibels (dB) were used for general roadway and 105 dB for structure construction. To take a conservative approach and account for the loudest possible construction activity, both reference noise levels represent the loudest noise level for that activity (e.g., noises associated with dump trucks and pile driving). Construction noise calculations were based on the reference numbers and a standard attenuation formula. The reference number for excavation (e.g., blasting) has been left blank because this number depends on variables, such as amount of detonation material and blasting method, that cannot be determined until construction. Therefore, it is assumed that all resources within a 1.6-km (1.0-mi) radius of blasting will be temporarily impacted by excavation activities and that the radius includes all Build alternatives and design options. Construction noise for burrowing owls and nesting raptors is shown in Tables 3.3-16 and 3.3-17 (page 3-621), respectively.

Construction is scheduled to take place in two 12-hour timeframes over a 24-hour period, in a 5-day work week, Monday through Friday. Although excessive noise levels would occur from roadway excavation and bridge superstructure construction, this would be only during daylight, Monday through Friday. Project construction is estimated to take 39 to 40 months, depending on which Build alternative is selected.

Table 3.3-16 Construction Noise Levels for Burrowing Owls

Build Alternative	Burrowing Owl	Burrowing Owl Distance from PIA	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Type of Construction Activity	Construction Activity Reference Noise Level (dBA at 15.2 m [50 ft])	Resulting Construction Noise Level (dBA)
1a	RIV-BUO-053	147 m (481 ft)	1A-A3	45-53	60	General Roadway	98	78.3
	RIV-BUO-053	147 m (481 ft)	1A-A3	45-53	60	Structure Construction	105	85.3
	RIV-BUO-053	147 m (481 ft)	1A-A3	45-53	60	Substantial Excavation	95	N/A
	RIV-BUO-023 (2005 nest)	173 m (568 ft)	1A-E2	40-47	60	General Roadway	98	76.9
	RIV-BUO-023 (2005 nest)	173 m (568 ft)	1A-E2	40-47	60	Structure Construction	105	83.9
	RIV-BUO-023 (2005 nest)	173 m (568 ft)	1A-E2	40-47	60	Substantial Excavation	95	N/A
	RIV-BUO-024	32 m (104 ft)	1A-E2	40-47	60	General Roadway	98	91.6
	RIV-BUO-024	32 m (104 ft)	1A-E2	40-47	60	Structure Construction	105	98.6
	RIV-BUO-024	32 m (104 ft)	1A-E2	40-47	60	Substantial Excavation	95	N/A

Table 3.3-16 Construction Noise Levels for Burrowing Owls

Build Alternative	Burrowing Owl	Burrowing Owl Distance from PIA	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Type of Construction Activity	Construction Activity Reference Noise Level (dBA at 15.2 m [50 ft])	Resulting Construction Noise Level (dBA)
	RIV-BUO-005	138 m (454 ft)	1A-G2	42-48	60	General Roadway	98	78.8
	RIV-BUO-005	138 m (454 ft)	1A-G2	42-48	60	Structure Construction	105	85.8
	RIV-BUO-005	138 m (454 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-006	118 m (387 ft)	1A-G2	42-48	60	General Roadway	98	80.2
	RIV-BUO-006	118 m (387 ft)	1A-G2	42-48	60	Structure Construction	105	87.2
	RIV-BUO-006	118 m (387 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-052	14 m (47 ft)	1A-G2	42-48	60	General Roadway	98	98.5
	RIV-BUO-052	14 m (47 ft)	1A-G2	42-48	60	Structure Construction	105	105.5
	RIV-BUO-052	14 m (47 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
1b (including Design Option 1b1)[b]	RIV-BUO-023 (2005 nest)	173 m (568 ft)	1A-E2	40-47	60	General Roadway	98	76.9
	RIV-BUO-023 (2005 nest)	173 m (568 ft)	1A-E2	40-47	60	Structure Construction	105	83.9
	RIV-BUO-023 (2005 nest)	173 m (568 ft)	1A-E2	40-47	60	Substantial Excavation	95	N/A
	RIV-BUO-024	32 m (104 ft)	1A-E2	40-47	60	General Roadway	98	91.6
	RIV-BUO-024	32 m (104 ft)	1A-E2	40-47	60	Structure Construction	105	98.6
	RIV-BUO-024	32 m (104 ft)	1A-E2	40-47	60	Substantial Excavation	95	N/A
	RIV-BUO-005	138 m (454 ft)	1A-G2	42-48	60	General Roadway	98	78.8
	RIV-BUO-005	138 m (454 ft)	1A-G2	42-48	60	Structure Construction	105	85.8
	RIV-BUO-005	138 m (454 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-006	118 m (387 ft)	1A-G2	42-48	60	General Roadway	98	80.2
	RIV-BUO-006	118 m (387 ft)	1A-G2	42-48	60	Structure Construction	105	87.2
	RIV-BUO-006	118 m (387 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-052	14 m (47 ft)	1A-G2	42-48	60	General Roadway	98	98.5

Table 3.3-16 Construction Noise Levels for Burrowing Owls

Build Alternative	Burrowing Owl	Burrowing Owl Distance from PIA	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Type of Construction Activity	Construction Activity Reference Noise Level (dBA at 15.2 m [50 ft])	Resulting Construction Noise Level (dBA)
	RIV-BUO-052	14 m (47 ft)	1A-G2	42-48	60	Structure Construction	105	105.5
	RIV-BUO-052	14 m (47 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-042	176 m (577 ft)	1A-L14	53-51	60	General Roadway	98	76.8
	RIV-BUO-042	176 m (577 ft)	1A-L14	53-51	60	Structure Construction	105	83.8
	RIV-BUO-042	176 m (577 ft)	1A-L14	53-51	60	Substantial Excavation	95	N/A
2a	RIV-BUO-053	147 m (481 ft)	1A-A3	45-53	60	General Roadway	98	78.3
	RIV-BUO-053	147 m (481 ft)	1A-A3	45-53	60	Structure Construction	105	85.3
	RIV-BUO-053	147 m (481 ft)	1A-A3	45-53	60	Substantial Excavation	95	N/A
	RIV-BUO-023	173 m (568ft)	1A-E2	40-47	60	General Roadway	98	88.6
	RIV-BUO-023	173 m (568 ft)	1A-E2	40-47	60	Structure Construction	105	95.6
	RIV-BUO-023	173 m (568 ft)	1A-E2	40-47	60	Substantial Excavation	95	N/A
	RIV-BUO-004	129 m (424 ft)	1A-G2	42-48	60	General Roadway	98	79.7
	RIV-BUO-004	129 m (424 ft)	1A-G2	42-48	60	Structure Construction	105	86.7
	RIV-BUO-004	129 m (424 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-005	138 m (454 ft)	1A-G2	42-48	60	General Roadway	98	84.2
	RIV-BUO-005	138 m (454 ft)	1A-G2	42-48	60	Structure Construction	105	91.2
	RIV-BUO-005	138 m (454 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-052	14 m (47 ft)	1A-G2	42-48	60	General Roadway	98	83.0
	RIV-BUO-052	14 m (47 ft)	1A-G2	42-48	60	Structure Construction	105	90.0
	RIV-BUO-052	14 m (47 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-023	173 m (568 ft)	1A-E2	40-47	60	General Roadway	98	88.6
	RIV-BUO-023	173 m (568 ft)	1A-E2	40-47	60	Structure Construction	105	95.6
	RIV-BUO-023	173 m (568 ft)	1A-E2	40-47	60	Substantial Excavation	95	Assume Impact

Table 3.3-16 Construction Noise Levels for Burrowing Owls

Build Alternative	Burrowing Owl	Burrowing Owl Distance from PIA	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Type of Construction Activity	Construction Activity Reference Noise Level (dBA at 15.2 m [50 ft])	Resulting Construction Noise Level (dBA)
	RIV-BUO-004	129 m (424 ft)	1A-G2	42-48	60	General Roadway	98	79.7
	RIV-BUO-004	129 m (424 ft)	1A-G2	42-48	60	Structure Construction	105	86.7
	RIV-BUO-004	129 m (424 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-005	138 m (454 ft)	1A-G2	42-48	60	General Roadway	98	84.2
	RIV-BUO-005	138 m (454 ft)	1A-G2	42-48	60	Structure Construction	105	91.2
	RIV-BUO-005	138 m (454 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-052	14 m (47 ft)	1A-G2	42-48	60	General Roadway	98	83.0
	RIV-BUO-052	14 m (47 ft)	1A-G2	42-48	60	Structure Construction	105	90.0
	RIV-BUO-052	14 m (47 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-042	176 m (577 ft)	1A-L14	53-51	60	General Roadway	98	76.8
	RIV-BUO-042	176 m (577 ft)	1A-L14	53-51	60	Structure Construction	105	83.8
	RIV-BUO-042	176 m (577 ft)	1A-L14	53-51	60	Substantial Excavation	95	N/A
2b (including Design Option 2b1)[b]	RIV-BUO-023	45 m (147 ft)	1A-E2	40-47	60	General Roadway	98	88.6
	RIV-BUO-023	45 m (147 ft)	1A-E2	40-47	60	Structure Construction	105	95.6
	RIV-BUO-023	45 m (147 ft)	1A-E2	40-47	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-004	129 m (424 ft)	1A-G2	42-48	60	General Roadway	98	79.7
	RIV-BUO-004	129 m (424 ft)	1A-G2	42-48	60	Structure Construction	105	86.7
	RIV-BUO-004	129 m (424 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-005	65 m (213 ft)	1A-G2	42-48	60	General Roadway	98	84.2
	RIV-BUO-005	65 m (213 ft)	1A-G2	42-48	60	Structure Construction	105	91.2
	RIV-BUO-005	65 m (213 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-052	85 m (280 ft)	1A-G2	42-48	60	General Roadway	98	83.0
	RIV-BUO-052	85 m (280 ft)	1A-G2	42-48	60	Structure Construction	105	90.0

Table 3.3-16 Construction Noise Levels for Burrowing Owls

Build Alternative	Burrowing Owl	Burrowing Owl Distance from PIA	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Type of Construction Activity	Construction Activity Reference Noise Level (dBA at 15.2 m [50 ft])	Resulting Construction Noise Level (dBA)
	RIV-BUO-052	85 m (280 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	RIV-BUO-042	176 m (577 ft)	1A-L14	53-51	60	General Roadway	98	76.8
	RIV-BUO-042	176 m (577 ft)	1A-L14	53-51	60	Structure Construction	105	83.8
	RIV-BUO-042	176 m (577 ft)	1A-L14	53-51	60	Substantial Excavation	95	N/A

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

[a]Represents existing noise at monitoring location and projected peak hour noise level.

[b]Information is the same for the design options as the base condition of Build Alternatives 1b and 2b. Because there is no variation between the base condition and the design option, the information is given only once.

Table 3.3-17 Construction Noise Levels for Nesting Raptors

Build Alternative	Nesting Raptor Species	Nesting Raptor Distance from PIA	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Type of Construction Activity	Construction Activity Reference Noise Level (dBA at 15.2 m [50 ft])	Resulting Construction Noise Level (dBA)
1a	Red-tailed hawk 3	84 m (275 ft)	1A-A2	45-58	60	General Roadway	98	83.2
	Red-tailed hawk 3	84 m (275 ft)	1A-A2	45-58	60	Structure Construction	105	90.2
	Red-tailed hawk 3	84 m (275 ft)	1A-A2	45-58	60	Substantial Excavation	95	N/A
	Red-tailed hawk 4	95 m (313 ft)	1A-A2	45-58	60	General Roadway	98	82.1
	Red-tailed hawk 4	95 m (313 ft)	1A-A2	45-58	60	Structure Construction	105	89.1
	Red-tailed hawk 4	95 m (313 ft)	1A-A2	45-58	60	Substantial Excavation	95	N/A
	White-tailed kite 1	75 m (245 ft)	1A-E31	44-47	60	General Roadway	98	84.2
	White-tailed kite 1	75 m (245 ft)	1A-E31	44-47	60	Structure Construction	105	91.2
	White-tailed kite 1	75 m (245 ft)	1A-E31	44-47	60	General Roadway	98	N/A
	Red-tailed hawk 5	34 m (112 ft)	1A-G11	39-40	60	General Roadway	98	91.0
	Red-tailed hawk 5	34 m (112 ft)	1A-G11	39-40	60	Structure Construction	105	98.0
	Red-tailed hawk 5	34 m (112 ft)	1A-G11	39-40	60	Substantial Excavation	95	Assume Impact

Table 3.3-17 Construction Noise Levels for Nesting Raptors

Build Alternative	Nesting Raptor Species	Nesting Raptor Distance from PIA	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Type of Construction Activity	Construction Activity Reference Noise Level (dBA at 15.2 m [50 ft])	Resulting Construction Noise Level (dBA)
	White-tailed kite 2	11 m (36 ft)	1A-G11	39-40	60	General Roadway	98	100.9
	White-tailed kite 2	11 m (36 ft)	1A-G11	39-40	60	Structure Construction	105	107.9
	White-tailed kite 2	11 m (36 ft)	1A-G11	39-40	60	Substantial Excavation	95	Assume Impact
	White-tailed kite 3	146 m (478 ft)	1A-G4	45-51	60	General Roadway	98	78.4
	White-tailed kite 3	146 m (478 ft)	1A-G4	45-51	60	Structure Construction	105	85.4
	White-tailed kite 3	146 m (478 ft)	1A-G4	45-51	60	Substantial Excavation	95	Assume Impact
	Barn owl 1	63 m (207 ft)	1A-I1	45-39	60	General Roadway	98	85.7
	Barn owl 1	63 m (207 ft)	1A-I1	45-39	60	Structure Construction	105	92.7
	Barn owl 1	63 m (207 ft)	1A-I1	45-39	60	Substantial Excavation	95	Assume Impact
	Red-tailed hawk 6	18 m (60 ft)	1A-I6	56-54	60	General Roadway	98	96.4
	Red-tailed hawk 6	18 m (60 ft)	1A-I6	56-54	60	Structure Construction	105	103.4
	Red-tailed hawk 6	18 m (60 ft)	1A-I6	56-54	60	Substantial Excavation	95	Assume Impact
	Barn owl 2	0 m (0 ft)	1A-L2	50-47	60	General Roadway	98	Assume Impact
	Barn owl 2	0 m (0 ft)	1A-L2	50-47	60	Structure Construction	105	Assume Impact
	Barn owl 2	0 m (0 ft)	1A-L2	50-47	60	Substantial Excavation	95	Assume Impact
	Barn owl 3	46 m (151 ft)	1A-L4	43-38	60	General Roadway	98	88.4
	Barn owl 3	46 m (151 ft)	1A-L4	43-38	60	Structure Construction	105	95.4
	Barn owl 3	46 m (151 ft)	1A-L4	43-38	60	Substantial Excavation	95	N/A
	Red-tailed hawk 7	0 m (0 ft)	1A-L5	55-48	60	General Roadway	98	Assume Impact
	Red-tailed hawk 7	0 m (0 ft)	1A-L5	55-48	60	Structure Construction	105	Assume Impact
	Red-tailed hawk 7	0 m (0 ft)	1A-L5	55-48	60	Substantial Excavation	95	Assume Impact
	Red-tailed hawk 8	4 m (13 ft)	–[b]	49-57	60	General Roadway	98	110.4
	Red-tailed hawk 8	4 m (13 ft)	–[b]	49-57	60	Structure Construction	105	117.4

Table 3.3-17 Construction Noise Levels for Nesting Raptors

Build Alternative	Nesting Raptor Species	Nesting Raptor Distance from PIA	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Type of Construction Activity	Construction Activity Reference Noise Level (dBA at 15.2 m [50 ft])	Resulting Construction Noise Level (dBA)
	Red-tailed hawk 8	4 m (13 ft)	–[b]	49-57	60	Substantial Excavation	95	N/A
1b (including Design Option 1b1)[c]	Red-tailed hawk 3	84 m (275 ft)	1A-A2	45-58	60	General Roadway	98	83.2
	Red-tailed hawk 3	84 m (275 ft)	1A-A2	45-58	60	Structure Construction	105	90.2
	Red-tailed hawk 3	84 m (275 ft)	1A-A2	45-58	60	Substantial Excavation	95	N/A
	Red-tailed hawk 4	95 m (313 ft)	1A-A2	45-58	60	General Roadway	98	82.1
	Red-tailed hawk 4	95 m (313 ft)	1A-A2	45-58	60	Structure Construction	105	89.1
	Red-tailed hawk 4	95 m (313 ft)	1A-A2	45-58	60	Substantial Excavation	95	N/A
	Red-tailed hawk 5	34 m (112 ft)	1A-G11	39-40	60	General Roadway	98	91.0
	Red-tailed hawk 5	34 m (112 ft)	1A-G11	39-40	60	Structure Construction	105	98.0
	Red-tailed hawk 5	34 m (112 ft)	1A-G11	39-40	60	Substantial Excavation	95	Assume Impact
	White-tailed kite 1	11 m (36 ft)	1A-G11	39-40	60	General Roadway	98	100.9
	White-tailed kite 1	11 m (36 ft)	1A-G11	39-40	60	Structure Construction	105	107.9
	White-tailed kite 1	11 m (36 ft)	1A-G11	39-40	60	Substantial Excavation	95	Assume Impact
	White-tailed kite 2	146 m (478 ft)	1A-G4	45-51	60	General Roadway	98	78.4
	White-tailed kite 2	146 m (478 ft)	1A-G4	45-51	60	Structure Construction	105	85.4
	White-tailed kite 2	146 m (478 ft)	1A-G4	45-51	60	Substantial Excavation	95	Assume Impact
	Barn owl 1	63 m (207 ft)	1A-I1	45-39	60	General Roadway	98	85.7
	Barn owl 1	63 m (207 ft)	1A-I1	45-39	60	Structure Construction	105	92.7
	Barn owl 1	63 m (207 ft)	1A-I1	45-39	60	Substantial Excavation	95	Assume Impact
	Red-tailed hawk 6	18 m (60 ft)	1A-I6	56-54	60	General Roadway	98	96.4
	Red-tailed hawk 6	18 m (60 ft)	1A-I6	56-54	60	Structure Construction	105	103.4
	Red-tailed hawk 6	18 m (60 ft)	1A-I6	56-54	60	Substantial Excavation	95	Assume Impact
	Red-tailed hawk 8	4 m (13 ft)	–[b]	49-57	60	General Roadway	98	109.7

Table 3.3-17 Construction Noise Levels for Nesting Raptors

Build Alternative	Nesting Raptor Species	Nesting Raptor Distance from PIA	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Type of Construction Activity	Construction Activity Reference Noise Level (dBA at 15.2 m [50 ft])	Resulting Construction Noise Level (dBA)
	Red-tailed hawk 8	4 m (13 ft)	–[b]	49-57	60	Structure Construction	105	116.7
	Red-tailed hawk 8	4 m (13 ft)	–[b]	49-57	60	Substantial Excavation	95	N/A
	Red-tailed hawk 9	45 m (148 ft)	1A-L14	53-51	60	General Roadway	98	88.6
	Red-tailed hawk 9	45 m (148 ft)	1A-L14	53-51	60	Structure Construction	105	95.6
	Red-tailed hawk 9	45 m (148 ft)	1A-L14	53-51	60	Substantial Excavation	95	N/A
2a	Red-tailed hawk 3	84 m (275 ft)	1A-A2	45-58	60	General Roadway	98	83.2
	Red-tailed hawk 3	84 m (275 ft)	1A-A2	45-58	60	Structure Construction	105	90.2
	Red-tailed hawk 3	84 m (275 ft)	1A-A2	45-58	60	Substantial Excavation	95	N/A
	Red-tailed hawk 4	95 m (313 ft)	1A-A2	45-58	60	General Roadway	98	82.1
	Red-tailed hawk 4	95 m (313 ft)	1A-A2	45-58	60	Structure Construction	105	89.1
	Red-tailed hawk 4	95 m (313 ft)	1A-A2	45-58	60	Substantial Excavation	95	N/A
	White-tailed kite 1	44 m (144 ft)	1A-E26	45-50	60	General Roadway	98	88.8
	White-tailed kite 1	44 m (144 ft)	1A-E26	45-50	60	Structure Construction	105	95.8
	White-tailed kite 1	44 m (144 ft)	1A-E26	45-50	60	Substantial Excavation	95	N/A
	White-tailed kite 2	54 m (176 ft)	1A-E31	44-47	60	General Roadway	98	87.1
	White-tailed kite 2	54 m (176 ft)	1A-E31	44-47	60	Structure Construction	105	94.1
	White-tailed kite 2	54 m (176 ft)	1A-E31	44-47	60	Substantial Excavation	95	N/A
	White-tailed kite 3	11 m (36 ft)	1A-G11	39-40	60	General Roadway	98	100.9
	White-tailed kite 3	11 m (36 ft)	1A-G11	39-40	60	Structure Construction	105	107.9
	White-tailed kite 3	11 m (36 ft)	1A-G11	39-40	60	Substantial Excavation	95	Assume Impact
	White-tailed kite 4	125 m (411 ft)	1A-G4	45-51	60	General Roadway	98	79.7
	White-tailed kite 4	125 m (411 ft)	1A-G4	45-51	60	Structure Construction	105	86.7
	White-tailed kite 4	125 m (411 ft)	1A-G4	45-51	60	Substantial Excavation	95	Assume Impact

Table 3.3-17 Construction Noise Levels for Nesting Raptors

Build Alternative	Nesting Raptor Species	Nesting Raptor Distance from PIA	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Type of Construction Activity	Construction Activity Reference Noise Level (dBA at 15.2 m [50 ft])	Resulting Construction Noise Level (dBA)
	Red-tailed hawk 5	34 m (112 ft)	1A-G11	39-40	60	General Roadway	98	91.0
	Red-tailed hawk 5	34 m (112 ft)	1A-G11	39-40	60	Structure Construction	105	98.0
	Red-tailed hawk 5	34 m (112 ft)	1A-G11	39-40	60	Substantial Excavation	95	Assume Impact
	Cooper's hawk	131 m (430 ft)	1A-G2	42-48	60	General Roadway	98	79.3
	Cooper's hawk	131 m (430 ft)	1A-G2	42-48	60	Structure Construction	105	86.3
	Cooper's hawk	131 m (430 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	Barn owl 1	63 m (207 ft)	1A-I1	45-39	60	General Roadway	98	85.7
	Barn owl 1	63 m (207 ft)	1A-I1	45-39	60	Structure Construction	105	92.7
	Barn owl 1	63 m (207 ft)	1A-I1	45-39	60	Substantial Excavation	95	Assume Impact
	Red-tailed hawk 6	18 m (60 ft)	1A-I6	56-54	60	General Roadway	98	96.4
	Red-tailed hawk 6	18 m (60 ft)	1A-I6	56-54	60	Structure Construction	105	103.4
	Red-tailed hawk 6	18 m (60 ft)	1A-I6	56-54	60	Substantial Excavation	95	Assume Impact
	Barn owl 3	46 m (151 ft)	1A-L4	43-38	60	General Roadway	98	88.4
	Barn owl 3	46 m (151 ft)	1A-L4	43-38	60	Structure Construction	105	95.4
	Barn owl 3	46 m (151 ft)	1A-L4	43-38	60	Substantial Excavation	95	N/A
	Red-tailed hawk 8	4 m (13 ft)	–[b]	49-57	60	General Roadway	98	110.4
	Red-tailed hawk 8	4 m (13 ft)	–[b]	49-57	60	Structure Construction	105	117.4
	Red-tailed hawk 8	4 m (13 ft)	–[b]	49-57	60	Substantial Excavation	95	N/A
2b (including Design Option 2b1)[c]	Red-tailed hawk 3	84 m (275 ft)	1A-A2	45-58	60	General Roadway	98	83.2
	Red-tailed hawk 3	84 m (275 ft)	1A-A2	45-58	60	Structure Construction	105	90.2
	Red-tailed hawk 3	84 m (275 ft)	1A-A2	45-58	60	Substantial Excavation	95	N/A
	Red-tailed hawk 4	95 m (313 ft)	1A-A2	45-58	60	General Roadway	98	82.1
	Red-tailed hawk 4	95 m (313 ft)	1A-A2	45-58	60	Structure Construction	105	89.1

Table 3.3-17 Construction Noise Levels for Nesting Raptors

Build Alternative	Nesting Raptor Species	Nesting Raptor Distance from PIA	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Type of Construction Activity	Construction Activity Reference Noise Level (dBA at 15.2 m [50 ft])	Resulting Construction Noise Level (dBA)
	Red-tailed hawk 4	95 m (313 ft)	1A-A2	45-58	60	Substantial Excavation	95	N/A
	White-tailed kite 1	11 m (36 ft)	1A-G11	39-40	60	General Roadway	98	100.9
	White-tailed kite 1	11 m (36 ft)	1A-G11	39-40	60	Structure Construction	105	107.9
	White-tailed kite 1	11 m (36 ft)	1A-G11	39-40	60	Substantial Excavation	95	Assume Impact
	White-tailed kite 2	125 m (411 ft)	1A-G4	45-51	60	General Roadway	98	79.7
	White-tailed kite 2	125 m (411 ft)	1A-G4	45-51	60	Structure Construction	105	86.7
	White-tailed kite 2	125 m (411 ft)	1A-G4	45-51	60	Substantial Excavation	95	Assume Impact
	Red-tailed hawk 5	34 m (112 ft)	1A-G11	39-40	60	General Roadway	98	91.0
	Red-tailed hawk 5	34 m (112 ft)	1A-G11	39-40	60	Structure Construction	105	98.0
	Red-tailed hawk 5	34 m (112 ft)	1A-G11	39-40	60	Substantial Excavation	95	Assume Impact
	Cooper's hawk	131 m (430 ft)	1A-G2	42-48	60	General Roadway	98	79.3
	Cooper's hawk	131 m (430 ft)	1A-G2	42-48	60	Structure Construction	105	86.3
	Cooper's hawk	131 m (430 ft)	1A-G2	42-48	60	Substantial Excavation	95	Assume Impact
	Barn owl 1	63 m (207 ft)	1A-I1	45-39	60	General Roadway	98	85.7
	Barn owl 1	63 m (207 ft)	1A-I1	45-39	60	Structure Construction	105	92.7
	Barn owl 1	63 m (207 ft)	1A-I1	45-39	60	Substantial Excavation	95	Assume Impact
	Red-tailed hawk 6	18 m (60 ft)	1A-I6	56-54	60	General Roadway	98	96.4
	Red-tailed hawk 6	18 m (60 ft)	1A-I6	56-54	60	Structure Construction	105	103.4
	Red-tailed hawk 6	18 m (60 ft)	1A-I6	56-54	60	Substantial Excavation	95	Assume Impact
	Red-tailed hawk 8	4 m (13 ft)	–[b]	49-57	60	General Roadway	98	109.7
	Red-tailed hawk 8	4 m (13 ft)	–[b]	49-57	60	Structure Construction	105	116.7
	Red-tailed hawk 8	4 m (13 ft)	–[b]	49-57	60	Substantial Excavation	95	N/A
	Red-tailed hawk 9	45 m (148 ft)	1A-L14	53-51	60	General Roadway	98	88.6

Table 3.3-17 Construction Noise Levels for Nesting Raptors

Build Alternative	Nesting Raptor Species	Nesting Raptor Distance from PIA	Noise Receiver Location	Existing Ambient Noise Range[a] (dB)	Wildlife Noise Threshold (dBA)	Type of Construction Activity	Construction Activity Reference Noise Level (dBA at 15.2 m [50 ft])	Resulting Construction Noise Level (dBA)
	Red-tailed hawk 9	45 m (148 ft)	1A-L14	53-51	60	Structure Construction	105	95.6
	Red-tailed hawk 9	45 m (148 ft)	1A-L14	53-51	60	Substantial Excavation	95	N/A

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

[a]Represents existing noise at monitoring location and projected peak hour noise level.

[b]Noise receiver location not available adjacent to resource. Ambient noise range was extrapolated.

[c]Information the same for the design options as the base condition of Build Alternatives 1b and 2b. Because there is no variation between the base condition and the design option, the information is given only once.

Temporary Impacts to Animal Species from the Project Alternatives and Design Options

No Build Alternative

No Project-related impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

All Build Alternatives and Design Options

MSHCP Covered Species and/or Planning Species

Los Angeles Pocket Mouse

Although construction-related activities would be limited to the PIA and the utility relocation areas, the Los Angeles pocket mice in the indirect impact areas are expected to be temporarily impacted by increased noise, dust, vibration, and lights during construction. The Project would temporarily impact 1.7 ha (4.1 ac) of habitat occupied by the Los Angeles pocket mouse just east of the existing SR 79 alignment, north of Ramona Expressway and south of the San Jacinto River. This Los Angeles pocket mouse population is part of the regionally important core population within and near the San Jacinto River and Massacre Canyon wash.

Animal Species Not Covered by the MSHCP

Bats

Temporary impacts to bats from construction of any of the Build alternatives or design options could include disturbances to roost sites and disruptions of foraging areas due to increased vehicular traffic, night illumination, pile driving for bridges, tree cutting, building demolition, grubbing, and other construction noise, as well as blasting, drilling, rock hammering, and grading in areas that have rock outcrops or hills. Bats could abandon roost sites as a result of local disturbances and could alter their foraging behavior near lights, which could benefit them by attracting insects or repel them from an area to avoid predators.

Build Alternative 1a

MSHCP Covered Species and/or Planning Species

Burrowing Owl

Five pairs of burrowing owls and a single male, RIV-BUO-005, 138 m (454 ft) from the PIA, RIV-BUO-006, 118 m (387 ft) from the PIA, RIV-BUO-023, 173 m (568 ft) from the PIA, RIV-BUO-024, 32 m (104 ft) from the PIA, RIV-BUO-052, 14 m (47 ft) from the PIA, and RIV-BUO-053 (single male), 147 m (481 ft) from the PIA, could be temporarily impacted by construction of Build Alternative 1a. Temporary impacts to these five pairs of burrowing owls and single male could include construction noise, night lighting, or increased human presence.

Nesting and Foraging Raptors

Three pairs of white-tailed kites were found 11m (36 ft), 75 m (245 ft), and 146 m (478 ft) from the PIA of Build Alternative 1a. Although these raptors would be outside the PIA, they could still be impacted by construction activities. Therefore, this Build alternative could result in temporary impacts to three pairs of white-tailed kites from construction noise, night lighting, or increased human presence.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Two pairs of barn owls were found 63 m (207 ft) and 46 m (151 ft) from the PIA of Build Alternative 1a. In addition, five pairs of red-tailed hawks were found 84 m (275 ft), 95 m (313 ft), 34 m (112 ft), 18 m (60 ft), and 4 m (13 ft) from the PIA of Build Alternative 1a. Although these raptors would be outside the PIA, they could still be impacted by construction activities. Therefore, this Build alternative could result in temporary impacts to seven pairs of nesting raptors from construction noise, night lighting, or increased human presence.

Build Alternative 1b and Design Option 1b1

Any temporary impacts from Design Option 1b1 would be the same as those from Build Alternative 1b, so the following discussion applies to both.

MSHCP Covered Species and/or Planning Species

Burrowing Owl

Six pairs of burrowing owls, RIV-BUO-005, 138 m (454 ft) from the PIA, RIV-BUO-006, 118 m (387 ft) from the PIA, RIV-BUO-023, 173 m (568 ft) from the PIA, RIV-BUO-024, 32 m (104 ft) from the PIA, RIV-BUO-042, 176 m (577 ft) from the PIA, and RIV-BUO-052, 14 m (47 ft) from the PIA, could be temporarily impacted by construction of Build Alternative 1b. Temporary impacts to these six pairs of burrowing owls could include construction noise, night lighting, or increased human presence.

Nesting and Foraging Raptors

Two pairs of white-tailed kites were found 11 m (36 ft) and 146 m (478 ft) from the Build Alternative 1b PIA. Although these raptors would be outside the PIA, they could still be impacted by construction activities. Impacts

to these two pairs of white-tailed kites could include construction noise, night lighting, or increased human presence.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

One pair of barn owls and six pairs of red-tailed hawks would be in the indirect impact area of Build Alternative 1b. Although these raptors would be outside the PIA, they could still be impacted by construction activities. The barn owls were 63 m (207 ft) from the PIA, and the red-tailed hawks were 84 m (275 ft), 95 m (313 ft), 34 m (112 ft), 18 m (60 ft), and 4 m (13 ft), and 45 m (148 ft) from the PIA. Temporary impacts to these raptors could include construction noise, night lighting, or increased human presence.

Build Alternative 2a

MSHCP Covered Species and/or Planning Species

Burrowing Owl

Four pairs of burrowing owls and a single male, including RIV-BUO-004, 129 m (424 ft) from the PIA, RIV-BUO-005, 138 m (454 ft) from the PIA, RIV-BUO-023, 173 m (568 ft) from the PIA, RIV-BUO-052, 14 m (47 ft) from the PIA, and RIV-BUO-053 (single male), 147 m (481 ft) from the PIA, could be temporarily impacted by Build Alternative 2a. Impacts could include construction noise, night lighting, or increased human presence.

Nesting and Foraging Raptors

One pair of Cooper's hawks and four pairs of white-tailed kites would be in the indirect impact area of Build Alternative 2a. Although these raptors would be outside the PIA, they could still be impacted by construction activities. The Cooper's hawks were found 131 m (430 ft) from the PIA, and the white-tailed kites were found 54 m (176 ft), 44 m (144 ft), 125 m (411 ft), and 11 m (36 ft) from the PIA. Temporary impacts could include construction noise, night lighting, or increased human presence.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Two pairs of barn owls and five pairs of red-tailed hawks were found in the indirect impact area of Build Alternative 2a. Although these raptors would be outside the PIA, they could still be impacted by construction activities. The barn owls were 63 m (207 ft) and 46 m (151 ft) from the PIA, and the red-tailed hawks were 84 m (275 ft), 95 m (313 ft), 34 m (112 ft), 18 m (60 ft), and 4 m (13 ft) from the PIA. Temporary impacts to these raptors could include construction noise, night lighting, or increased human presence.

Build Alternative 2b and Design Option 2b1

Any temporary impacts from Design Option 2b1 would be the same as those from Build Alternative 2b, so the following discussion applies to both.

MSHCP Covered Species and/or Planning Species

Burrowing Owl

Five pairs of burrowing owls, RIV-BUO-004, 129 m (424 ft) from the PIA, RIV-BUO-005, 138 m (454 ft) from the PIA, RIV-BUO-023, 173 m (568 ft) from the PIA, RIV-BUO-042, 176 m (577 ft) from the PIA, and RIV-BUO-052, 14 m (47 ft) from the PIA, could be temporarily impacted by construction of Build Alternative 2b. These impacts could include construction noise, night lighting, or increased human presence.

Nesting and Foraging Raptors

One pair of Cooper's hawks and two pairs of white-tailed kites were found in the indirect impact area of Build Alternative 2b. Although these raptors would be outside the PIA, they could still be impacted by construction activities. The Cooper's hawks were 131 m (430 ft) from the PIA, and the white-tailed kites were 125 m (411 ft) and 11 m (36 ft) from the PIA. Temporary impacts could include construction noise, night lighting, or increased human presence.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

One pair of barn owls and six pairs of red-tailed hawks were found in the indirect impact area of Build Alternative 2b. Although these raptors would be outside the PIA, they could still be impacted by construction activities. The barn owls were 63 m (207 ft) from the PIA, and the red-tailed hawks were 84 m (275 ft), 95 m (313 ft), 34 m (112 ft), 18 m (60 ft), and 4 m (13 ft), and 45 m (148 ft) from the PIA. Temporary impacts could include construction noise, night lighting, or increased human presence.

3.3.4.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

No impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged. No Project avoidance, minimization, or mitigation would be required.

Minimization Measures

All Build Alternatives and Design Options

The following avoidance measures will apply regardless of the Build alternative or design option identified for construction.

MSHCP Additional Survey Areas

Burrowing Owl

The following measures will be implemented for all Build alternatives to minimize impacts to burrowing owls.

BIO-40 **Conduct Presence/Absence Surveys Immediately Prior to Construction Each Year.** Preconstruction presence/absence surveys will be conducted for burrowing owls in each year of

construction during the spring immediately prior to ground disturbance and construction activities. Surveys will be conducted within the PIA and 75-m (225-ft) buffer or additional areas based on construction and operations noise impacts, if warranted.

BIO-41 **Relocation of Burrowing Owls.** All burrowing owls found in the PIA will be actively relocated away from the Project to translocation sites. Burrowing owls found 75 m (225 ft) or less from the PIA will be considered for relocation based on the adjacent construction activities and consultation with the wildlife agencies. Burrowing owls found more than 75 m (225 ft) from the PIA will only be considered for active relocation if CDFG deems appropriate based on construction noise impacts.

Noncontiguous Habitat Blocks 6 and 7

BIO-42 **Maintenance of Hydrology to Existing Vernal Pool/Alkali Playa Habitat.** The planning species for Noncontiguous Habitat Blocks 6 and 7 are as follows.

- Vernal pool fairy shrimp
- Riverside fairy shrimp
- Burrowing owl
- Mountain plover
- Loggerhead shrike
- Davidson's saltscale
- Thread-leaved brodiaea
- Vernal barley
- Little mousetail
- Spreading navarretia
- California Orcutt grass
- Munz's onion
- Los Angeles pocket mouse
- San Jacinto Valley crownscale
- Parish's brittlescale
- Coulter's goldfields
- Wright's trichocoronis

The Project will maintain hydrology to existing vernal pool/alkali playa habitat to provide for the conservation of the Planning Species listed above. This will be accomplished by maintaining natural hydrologic processes or designing and implementing an engineered solution that has the same effect.

Urban/Wildlands Interface, Siting and Design Criteria, Construction Guidelines and Best Management Practices (Appendix C of the MSHCP)

Although BIO-14 was presented in the Natural Communities discussion in Section 3.3.1.4 (page 3-497), it is specific to animal species and is therefore presented again.

BIO-14 **Night Lighting.** Lighting used during nighttime construction activities shall be directed away from the MSHCP Conservation Area. If lighting can not be directed away from the MSHCP Conservation Area, shielding will be incorporated into the Project to ensure that ambient light in the MSHCP Conservation Area is not increased.

BIO-43 **Conducting Vegetation Clearance to Avoid Active Breeding Season (March 1 through June 30).** For each year of construction, vegetation clearing will avoid the active breeding season (March 1 through June 30) in designated upland habitats. If avoiding the active breeding season is not possible and ground disturbance and construction activities must occur during this period, a contractor-supplied biologist who is experienced in bird identification will conduct preconstruction surveys to determine the presence of nesting birds protected by the Migratory Bird Treaty Act (MBTA). If birds that are protected by the MBTA are observed nesting within 152 m (500 ft) of proposed construction activities, the biologist will determine whether or not construction activities could disturb nesting birds. If necessary, the biologist will coordinate with the wildlife agencies and implement appropriate measures (e.g., onsite monitor, timing restriction, chick relocation) to adequately protect the nesting birds.

Nesting Raptors

BIO-44 **Nesting Raptor Surveys and Implementation of Nest Exclusion.** To ascertain the presence of nesting raptors, preconstruction surveys will be conducted by a contractor-supplied biologist who is experienced in raptor identification. The surveys will be conducted in the PIA and within 152.4 m (500 ft) of the PIA between January 15 and August 15 for each year of construction, 1 year prior to ground disturbance and construction activities.

If raptor nests are found in the preconstruction survey, nest exclusion will be coordinated with the wildlife agencies and implemented during the nonbreeding season by a contractor-supplied biologist who is experienced in raptor ecology.

Bats

Bat minimization measures for impacts associated with all Build alternatives will include the following.

BIO-45 **Inspections for Roosting Bats before Demolition.** Buildings, structures, and trees identified for demolition or removal will be inspected prior to construction activities to determine if roosting bats are present or are likely to be seasonally present. Before beginning the inspections, the inspectors will be trained by a contractor-supplied biologist who is experienced in bat identification.

If roosting bats are present or are likely to be seasonally present in trees with palm fronds or other hollows suitable for bats, removal of the trees will be scheduled at an appropriate time. A contractor-supplied biologist who is experienced in bat ecology will supervise the removal.

If roosting bats are present in a building slated for demolition, bats will be removed using approved bat exclusion techniques. Such techniques may include bat exclusion devices, which are designed to allow one-way exits for bats from the structure, that are installed under the direction of a contractor-

supplied biologist who is experienced in bat ecology. Installation of new exclusion devices, and the repair of failed or incomplete exclusion devices, will be conducted between September and March to avoid entrapping nonvolant (nonflying) young bats inside structures during the maternity season, as feasible.

Mitigation Measures

All Build Alternatives and Design Options

The following mitigation measures are applicable regardless of the Build alternative or design option that is identified as the Preferred Alternative. All Build alternatives would provide mitigation for bat species.

Bats

BIO-46 **Installation of Bat-Friendly Gate on Mine Adit Adjacent to Roadway Segments A, B, and C.** To mitigate impacts to rock roosting bats, RCTC will provide funding to install a bat-friendly gate on a mine adit (entrance) located on the Southwestern Riverside County Multi-Species Reserve (Reserve) adjacent to Roadway Segments A, B, and C. The gate would deter human disturbance and restore the roost-site quality of the mine for sensitive bat species. Reserve staff will install and maintain the gate.

BIO-47 **Provision of Suitable Habitat for Vegetation-Roosting Bats.** During final design, areas proposed for mature plantings will be determined as part of the development of the landscaping plan for the Project. In these areas, mature specimens of native deciduous trees, such as Fremont cottonwood, black willow, and western sycamore, and ornamental fan palms, particularly the California native Washington, or Mexican, fan palm, will be considered for planting because these species would provide suitable habitat for vegetation-roosting bats.

Burrowing Owl

BIO-40, 41 Minimization measures BIO-40 and BIO-41, which are described earlier in this section, will provide consistency with species conservation objectives identified in the MSHCP, Volume II-B, Species Accounts, Burrowing Owl. No additional mitigation is proposed.

Los Angeles Pocket Mouse

BIO-48 **Los Angeles Pocket Mouse Conservation Objectives Identified in the MSHCP, Volume II-B, Species Accounts.** A DBESP will be prepared for impacts to Los Angeles pocket mouse for review by the wildlife agencies to ensure that species conservation objectives are attained, as identified in the MSHCP, Volume II-B, Species Accounts, Los Angeles Pocket Mouse.

3.3.5 Threatened and Endangered Species

3.3.5.1 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 subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA), are required to consult with the U.S. Fish and Wildlife Service (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 Game (CDFG) 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 take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the 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.

Stephens' Kangaroo Rat Habitat Conservation Plan

The Riverside County Habitat Conservation Agency prepared a long-term HCP (SKR HCP) under Section 10(a)(1)(B) (incidental take authorization) of FESA and under Section 2081 of the California Fish and Game Code (Endangered Species Permit) for the Stephens' kangaroo rat (federally listed as endangered), in western Riverside County. The preparation of the SKR HCP included a combined NEPA/CEQA document (EIS/EIR) (Volume III of the HCP) which analyzed the potential effects of the actions from USFWS and CDFG in providing this federal and state authorization/approval, subsequently issued in 1996.

The SKR HCP established a "core reserve" system consisting of seven reserves managed to maintain the long-term survival of SKR. As part of the approval of the SKR HCP, incidental take would be authorized for projects within the SKR HCP plan area (Figure S-1 of HCP Plan), which would be outside of the core reserve. Conditions were provided for approval of projects within the core reserve. The proposed Project is within the SKR HCP plan area and not within any of the seven core reserves. Additionally, the Department does not anticipate that the Project would result in any adverse effects to the SKR that were not previously evaluated in the EIS/EIR for the SKR HCP and so the mitigation required in the EIS/EIR for the HCP, and further clarified in Riverside County Ordinance No. 663.10, is sufficient.

Riverside County Ordinance No. 663.10 was established to implement the mitigation provisions of the HCP, which included a mitigation fee for new development in western Riverside County, but outside the limits of the proposed HCP core reserve areas. The fee program is considered adequate to implement the mitigation provisions of the HCP despite specifically exempting public works projects from the fee. Therefore, so long as the Project receives a Consistency Determination from the Wildlife Agencies, no fee would be required for the proposed Project, but the Project's effects would still be addressed by the HCP.

3.3.5.2 Affected Environment

This section is based on the findings in the following survey reports, which were approved in December 2007 and used to complete the Natural Environment Study of April 2010 and the NES Technical Report Addendum Memorandum of August 2010.

- Final Sensitive Wildlife Survey Report
- Final Riparian Bird Survey Report
- Final Burrowing Owl Survey Report
- Final Vernal Pool Branchiopod Survey Report
- Final Sensitive Small Mammal Focused Survey Report

A summary of threatened and endangered plant and animal species in the study area is presented first, followed by specific information for each Project alternative. A summary of resource agency coordination on the Project is provided as well.

Study Area

The study area for threatened and endangered species encompassed both the Rare Plant Aquatic Resource Study Area (RPARSA) and the Terrestrial Wildlife Study Area (TWSA). This section presents information on threatened and endangered plant and animal species located within the study area. A summary of listed plants and animals is presented first. Following the summary, specific discussions about listed plant and animal species within the study area are presented for each Project alternative and design option.

Study Methods

Plants

The study methods for threatened and endangered plants are described in Section 3.3.3.2 (page 3-522). The target list of potential threatened and/or endangered plants and species observed during plant surveys is in Table 3.3-18 (page 3-636).

Table 3.3-18 Potential Threatened or Endangered Plants for which Suitable Habitat is Present in the Study Area

Scientific Name/Common Name	Federal/State/CNPS Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Description	Blooming Period	Occurrence in Project Vicinity	Species Observed during Surveys
Allium munzii Munz's onion	FE/ST/ 1B.1	NE	Upland clay soils, generally in clay grasslands and shrublands and juniper woodlands; endemic to western Riverside County. Elevation 305 to 1,065 m (1,000 to 3,500 ft).	April – May	North Domenigoni Hills and Bachelor Mountain	No
Atriplex coronata var. *notatior* San Jacinto Valley crownscale	FE/-/1B.1	CA, PS, RRVP	Alkali grasslands, playas, vernal pools, saltbush scrub and alkaline sinks; silty-clay soils; endemic to Perris and Elsinore basins, western Riverside County. Elevation 365 to 520 m (1,200 to 1,700 ft).	April – May	Upper Salt Creek area, west of Hemet, and the San Jacinto River, from Mystic Lake to the Perris area	Yes
Brodiaea filifolia Thread-leaved brodiaea	FT/SE/1B.1	CA, PS, RRVP	Clay grasslands, alkali grasslands, alkaline seeps, needlegrass grasslands, vernal pools and riparian herb; scattered localities in foothills and valleys (Los Angeles County east to San Bernardino County, south to San Diego County). Elevation below 610 m (2,000 ft).	April – June	Upper Salt Creek area, west of Hemet	Yes
Deinandra mohavensis [Hemizonia mohavensis] Mojave tarplant	-/SE/1B.3	CO, RRVP	Riparian scrub, meadows and mesic ephemeral washes in sandy, eroded granitic landscapes; San Jacinto Mountains and foothills, mountains of San Diego County; one historic location in Mojave River wash north of San Bernardino Mountains, 2 locations in eastern Kern County. Elevation 610 to 1,830 m (2,000 to 6,000 ft).	July – October	Gibbel Flat area of the Santa Rosa Hills, about 8 km (5 mi) southeast of Hemet; San Jacinto River, 1.6 km (1 mi) south of the State Street bridge	No
Dodecahema leptoceras Slender-horned spineflower	FE/SE/1B.1	NE, RRVP	Open alluvial fan sage scrub found on upper sandy alluvial benches in valleys and canyons, sometimes with cryptogramic crusts; San Fernando, San Bernardino, Santa Clarita valleys, western Riverside County. Elevation 200 to 760 m (650 to 2,500 ft).	April – June	San Jacinto River 2.4 km (1.5 mi) east of Valle Vista; Bautista Canyon 9.7 km (6 mi) southeast of Valle Vista	No
Navarretia fossalis Spreading navarretia	FT/-/1B.1	NE, PS, RRVP	Vernal pools and margins and playas on saline-alkaline soils; northwestern Los Angeles County, western Riverside and San Diego counties to Baja California, Mexico. Elevation sea level to 1,280 m (4,200 ft).	April – June	Stowe Road Vernal Pool Complex (located north of Stowe Road and west of California Avenue), Upper Salt Creek area, west of Hemet	Yes
Orcuttia californica California Orcutt grass	FE/SE/1B.1	NE, PS, RRVP	Vernal pools; Simi Hills south to San Diego County and northern Baja California, Mexico, and inland to western Riverside County. Elevation below 670 m (2,200 ft).	April –August	Stowe Road Vernal Pool Complex, Upper Salt Creek area, west of Hemet	Yes

Table 3.3-18 Potential Threatened or Endangered Plants for which Suitable Habitat is Present in the Study Area

Scientific Name/Common Name	Federal/State/CNPS Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Description	Blooming Period	Occurrence in Project Vicinity	Species Observed during Surveys

Source: *Source:* Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

Note: The following USGS 7.5-minute quadrangles were queried, and they include the study area and a 12.9-km (8-mi) buffer adjacent to the study area: Bachelor Mountain, Beaumont, Cabazon, El Casco, Hemet, Lake Fulmor, Lakeview, Murrieta, Perris, Romoland, Sage, San Jacinto, Sunnymead, and Winchester.

[a]***Status Codes:***

Federal Status

FE – Federally listed as endangered

FT – Federally listed as threatened

State Status

SE – State listed as endangered

ST – State listed as threatened

California Native Plant Society (CNPS) Status (CNPS 2007)

1A – Plants Presumed Extinct in California

1B – Plants Rare, Threatened, or Endangered in California and Elsewhere

2 – Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere

3 – Plants About Which We Need More Information - A Review List

4 – Plants of Limited Distribution - A Watch List

CNPS Threat Rank (Suffixes to CNPS List Status Codes):

1 –Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)

2 – Fairly endangered in California (20-80% occurrences threatened)

3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Other Designations:

[b] **Western Riverside MSHCP Definitions (RCIP 2003).**

Special Conditions of MSHCP Covered Species:

CA – Surveys may be required for these species within locations shown on survey maps as described in Section 6.3.2 of the MSHCP. This includes the list of additional survey needs and procedures species and the Criteria Area Species (see MSHCP pp. 6-63 to 6-65) and the MSHCP Errata Letter, dated August 9, 2004.

CO – These species will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met. Species-specific conservation objectives for these species are presented in Section 9.0 of the MSHCP. Refer to Table 9-3 of the MSHCP for specific conservation objectives that must be met for these species prior to including them on the list of Covered Species Adequately Conserved.

Covered – Species addressed in the MSHCP and included in the 10(a)(1)(B) permit. Also includes species that will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met.

Table 3.3-18 Potential Threatened or Endangered Plants for which Suitable Habitat is Present in the Study Area

Scientific Name/Common Name	Federal/State/CNPS Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Description	Blooming Period	Occurrence in Project Vicinity	Species Observed during Surveys

NE – Surveys may be required for these species within Narrow Endemic Plant Species survey areas as described in Section 6.1.3 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

PS – Planning Species - Subsets of Covered Species that are identified to provide guidance for Reserve Assembly in Cores and Linkages and/or Area Plans per Volume I, Section 3, of the MSHCP (RCIP 2003) and the MSHCP Errata Letter, dated August 9, 2004.

RRVP – These species should be protected as they are associated with riparian/riverine areas and vernal pools as described in Section 6.1.2 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

Animals

This section describes the species-specific methods and procedures used to conduct surveys for threatened and/or endangered animal species potentially located within the study area.

Database Queries

Prior to initiating field surveys, a target list of potential threatened and/or endangered wildlife species was compiled for the study area using the following sources: CNDDB (CDFG 2006b); Special Animal list (CDFG 2006a); MSHCP (RCIP 2003); USFWS, Carlsbad Field Office species list for Riverside County (USFWS 2012); and focused surveys conducted in 2005 and 2006. The reference information is based on known occurrences, historical records, or the presence of suitable habitat for any life stage of a particular species. The special-status species reference search for CNDDB records within 8.05 km (5 mi) of the Project included the El Casco, Beaumont, Perris, Lakeview, San Jacinto, Romoland, Winchester, Hemet, Murrieta, and Bachelor, California, 7.5-minute United States Geological Survey (USGS) quadrangles.

The target list of potential threatened and/or endangered wildlife species in the study area that resulted from these queries is provided in Table 3.3-19 (page 3-640). The table also includes listed wildlife species that were either observed onsite or had the potential to occur.

Vernal Pool Branchiopods

Two listed branchiopod species have the potential to occur in the study area.

- Riverside fairy shrimp (*Streptocephalus woottoni*), which is federally listed as endangered
- Vernal pool fairy shrimp (*Branchinecta lynchi*), which is federally listed as threatened

The Santa Rosa Plateau fairy shrimp is not expected to be present in the study area because it is restricted to the basalt flow vernal pools located on the Santa Rosa Plateau about 40 km (25 mi) southwest of the study area.

Focused Surveys

Vernal pool branchiopod surveys were conducted by permitted biologists from 2000 through 2007 in accordance with both MSHCP requirements (RCIP 2003) and the USFWS wet season and dry season survey guidelines (USFWS 1996) to determine the presence or absence of listed vernal pool branchiopods in the study area.

Table 3.3-19 Potential Threatened and/or Endangered Wildlife in the Project Study Area

Scientific Name/ Common Name	Federal/State/ CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/Absent	Species Observed in the Study Area
Invertebrates						
Branchinecta lynchi Vernal pool fairy shrimp	FT/-/-	RRVP	Vernal pools and seasonally wet areas that are often short lived. Prefers cool-water pools and often requires a frost before emerging.	Vernal pools and seasonally wet areas are present in the study area. CNDDB occurrences have been documented in the special-status species search area (CDFG 2006a). This species was observed during focused surveys.	P	Yes
Euphydryas editha quino Quino checkerspot butterfly	FE/-/-	CO	Open-canopy habitats such as sparsely vegetated hilltops, ridgelines, and rocky outcrops. Often associated with sage scrub, chaparral, vernal pools, juniper and oak woodlands, and grasslands with moderate to high amounts of clay. Topographically diverse areas with host plants and nectar sources are also required.	Suitable open-canopy sage scrub, grassland, and vernal pool habitats are present in the study area. CNDDB occurrences have been documented in the special-status species search area (CDFG 2006a).	P	No
Streptocephalus woottoni Riverside fairy shrimp	FE/-/-	RRVP	Deep vernal pools, seasonally wet areas, and stock ponds that remain ponded for extended periods of time. Prefers warm-water pools most often associated with annual grassland, sage scrub, and chaparral habitats. Species distribution in Riverside County includes Skunk Hollow and the Pechanga Indian Reservation in Rancho California (RCIP 2003).	Vernal pools, seasonally wet areas, and stock ponds are present within the study area. CNDDB occurrences have been documented in the special-status species search area (CDFG 2006a). This species was not detected during focused surveys.	P	No
Fish						
Catostomus santaanae Santa Ana sucker	FT/ - /CSC	Covered	Permanent flowing streams with shallow cobble, gravel riffle, or other coarse substrate. Prefers cool, clean, and clear waters. Species distribution in Riverside County includes the lower reaches of the Santa Ana River and associated tributaries such as Temescal Wash and San Timoteo Creek (RCIP 2003).	The study area does not include Temescal Wash or San Timoteo Creek. It has no shallow, permanent streams. Therefore, suitable habitat is not present in the study area.	A	No

Table 3.3-19 Potential Threatened and/or Endangered Wildlife in the Project Study Area

Scientific Name/ Common Name	Federal/State/ CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/Absent	Species Observed in the Study Area
Amphibians						
Ambystoma californiense California tiger salamander	FE/ - /CSC	-	A lowland species restricted to grasslands and low foothill regions. Requires seasonally ponded areas for breeding and adjacent upland habitat for refuge sites and overwintering.	Although suitable habitat is present, the study area is outside the current distribution. This species was not detected during amphibian surveys in the study area.	P	No
Bufo californicus Arroyo toad	FE/ - /CSC	CA	Found in semi-arid regions, often near washes or intermittent streams with sandy banks, flood terraces, and riparian vegetation. Occasionally found in ephemeral drainages. Key population areas in Riverside County include Temecula Creek, Arroyo Seca, San Mateo Creek, Tenaja Creek, and Dripping Springs (RCIP 2003).	Suitable habitat does not exist in the study area, so focused surveys were not conducted. This species was not detected during amphibian surveys in the study area.	A	No
Rana aurora draytonii California red-legged frog	FT/ - /CSC	CA	Highly aquatic. Requires dense, shrubby riparian vegetation associated with deep, still, or slow-moving water. Species is very rare in Riverside County and is only known from the Santa Rosa Plateau (RCIP 2003).	Stock ponds and treatment wetlands represent the only suitable habitat in the study area. Focused surveys were not conducted. This species was not detected during amphibian surveys within the study area.	P	No
Rana muscosa Mountain yellow-legged frog	FE/ - /CSC	CA	Highly aquatic. Inhabits high-elevation streams that are typically steep with rocky canyons, usually above 122 m (4,000 ft). Found in the upper reaches and tributaries of the San Jacinto River: South Fork, Middle Fork, and North Fork San Jacinto River, Poppet Creek, Bautista Creek, and Potrero Creek (RCIP 2003).	The study area is not in the elevation range. Suitable habitat does not occur in the study area, so focused surveys were not conducted. This species was not detected during amphibian surveys in the study area. However, CNDDB occurrences have been documented in the special-status species search area (CDFG 2006b).	A	No
Birds						
Buteo swainsoni Swainson's hawk	-/ ST/-	Covered	Found in open desert habitat, sparse shrub habitat, grasslands, agricultural fields, or croplands containing isolated or scattered, large trees or small groves. Within the MSHCP area, it would be expected in the agricultural areas with rural and low-density	Suitable nesting habitat does exist in the study area, but the study area is not in the current nesting range for this species. This species was observed outside the study area during nesting raptor surveys.	Nesting – P Wintering – P	No

Table 3.3-19 Potential Threatened and/or Endangered Wildlife in the Project Study Area

Scientific Name/ Common Name	Federal/State/ CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/Absent	Species Observed in the Study Area
			residential land use and would be present for short periods of time during its migration from wintering to breeding areas (RCIP 2003).			
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FC/ SE /-	RRVP	Requires extensive riparian woodlands with dense vegetation and a well-developed understory for nesting. Restricted to river bottoms and other mesic habitats where humidity is high and where the dense understory abuts slow-moving watercourses, backwaters or seeps. In the western Riverside County area, it is only known from Prado Basin and the adjacent, Riverside County reach of the Santa Ana River (RCIP 2003).	Suitable nesting habitat is not located in the study area. This species was not observed during riparian bird surveys.	A	No
Empidonax traillii extimus Southwestern willow flycatcher	FE/-/-	RRVP	Restricted to riparian woodlands along streams and rivers with mature, dense stands of willows, cottonwoods, or smaller spring-fed or boggy areas with willows or alders, often with a dense understory. Sparsely located throughout the region and plan area.	Suitable nesting and foraging habitat includes several areas of willow woodlands and dense riparian vegetation in the study area. A migrant was observed during focused surveys.	P	Yes
Falco peregrinus anatum Peregrine falcon (nesting)	Delisted/SE/FP	Covered	Found in a variety of habitats such as tundras, marshes, savannahs, wetlands, forests, and other coastal habitats, but is scarce throughout its range. Typically nests high in cliffs and rocky outcrops, but is also known to nest in man-made structures in urban areas. Wintering and transient individuals are known in Prado Basin, Santa Ana River basin, San Jacinto Wildlife Area, Lake Perris, Lake Skinner, and Hemet Lake, all of which would concentrate waterfowl or shorebirds and constitute foraging areas (RCIP 2003).	The study area does not have nesting habitat, and this species was not observed.	Nesting – A Wintering – P	No

Table 3.3-19 Potential Threatened and/or Endangered Wildlife in the Project Study Area

Scientific Name/ Common Name	Federal/State/ CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/Absent	Species Observed in the Study Area
Haliaeetus leucocephalus Bald eagle (nesting and wintering)	Delisted/SE/-	Covered	Found along sea coasts, rivers, swamps, and large lakes. Locally, also found near large, deep inland bodies of water. Occurrences in western Riverside County include Santa Ana River/Prado Basin, Lake Elsinore, Vail Lake, Lake Hemet, Lake Mathews, Lake Perris, and Lake Skinner (RCIP 2003).	Generally a migrant and wintering species in western Riverside county. Suitable breeding and foraging habitat is present near Diamond Valley Reservoir, just south of the study area.	A	No
Polioptila californica californica Coastal California gnatcatcher	FT/-/CSC	Covered	Associated with coastal sage scrub vegetation on mesas, hillsides, and in washes. Often forages in chaparral, grassland, and riparian habitats located adjacent to sage scrub. Occurrences throughout western Riverside County, with key population areas in the city of Lake Elsinore, the Temecula area, and the southern portion of Lake Skinner west to Winchester Road (RCIP 2003).	Suitable nesting and foraging habitat in Riversidian sage scrub is present in the study area. Known occurrences in the special-status species search area (CDFG 2006c). Although this species is known to nest in the area, only individuals were documented in the study area.	P	Yes
Vireo bellii pusillus Least Bell's vireo (nesting)	FE/SE/-	RRVP	Moist thickets and dense riparian areas, primarily dominated by willow and mule fat. Requires a stratified canopy in the vicinity of a water source. Occurs throughout western Riverside County, with key population areas in Prado Basin and contiguous reaches of the Santa Ana River, Chino Creek, Temescal Wash, San Timoteo Creek, Alberhill Creek, Tucalota Creek, Murrieta and Temecula Creeks, Wilson Creek, March Air Force Base, in the vicinity of De Luz, Santa Margarita River, and Potrero Creek (RCIP 2003).	Suitable nesting and foraging habitat includes several areas of willow woodlands and dense riparian vegetation in the study area. A lone male was observed outside the study area during focused surveys.	P	No

Table 3.3-19 Potential Threatened and/or Endangered Wildlife in the Project Study Area

Scientific Name/ Common Name	Federal/State/ CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/Absent	Species Observed in the Study Area
Mammals						
Dipodomys merriami parvus San Bernardino kangaroo rat	FE/-/CSC	CA	Prefers open habitats where it can excavate shallow burrows in sandy and loamy sand substrates.	Marginally suitable alluvial fan sage scrub vegetation is located in the northern portion of the study area along the San Jacinto River, and there are known occurrences within the area (Verne 2007). However, this species was not captured during small mammal trapping.	P	No
Dipodomys stephensi Stephens' kangaroo rat	FE/ST/-	Covered	Occurs primarily in annual and perennial grassland habitats with firm soil, but may also occur in coastal scrub or sagebrush habitat with sparse canopy cover, or in disturbed areas (CDFG 2005).	Suitable open habitat is present in the study area, and this species has been documented in many locations in the special-status species search area (CDFG 2006c). Remnant populations were captured outside the study area during small mammal trapping, but none were observed in the study area.	P	No

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

Note: The following USGS 7.5-minute quadrangles were queried, and they include the PIA and an 8-km (5-mile) buffer adjacent to the PIA: Bachelor Mountain, Beaumont, El Casco, Hemet, Lakeview, Murrieta, Perris, Romoland, San Jacinto, and Winchester.

[a]Status Codes:

Federal Status

FE – Federally listed as endangered

FT – Federally listed as threatened

FC – Federal candidate species

Delisted – Delisted species are monitored for 5 years

State Status

SE – State listed as endangered

ST – State listed as threatened

California Department of Fish and Game

CSC – California Species of Concern

FP – Fully protected

N/A – not applicable

Table 3.3-19 Potential Threatened and/or Endangered Wildlife in the Project Study Area

Scientific Name/ Common Name	Federal/State/ CDFG Status Codes[a]	MSHCP Status and Special Conditions[b]	Habitat Requirements	Comments	Habitat Present/Absent	Species Observed in the Study Area

Other Designations:

[b]Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) Definitions (RCIP 2003).

Special Conditions of MSHCP Covered Species:

CA – Surveys may be required for these species within locations shown on survey maps as described in Section 6.3.2 of the MSHCP. This includes the list of additional survey needs and procedures species and the Criteria Area Species (see MSHCP pages 6-63 to 6-65) and the MSHCP Errata Letter, dated August 9, 2004.

CO – These Covered Species will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met. Species-specific conservation objectives for these species are presented in Section 9.0 of the MSHCP. Refer to Table 9-3 of the MSHCP for specific conservation objectives that must be met for these species prior to including them on the list of Covered Species Adequately Conserved.

Covered – Species addressed in the MSHCP and included in the 10(a)(1)(B) permit. Also includes species that will be considered to be Covered Species Adequately Conserved when conservation requirements identified in species-specific conservation objectives have been met.

NE – Surveys may be required for these species within Narrow Endemic Plant Species survey areas as described in Section 6.1.3 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

PS – Planning Species – Subsets of Covered Species that are identified to provide guidance for Reserve Assembly in Cores and Linkages and/or Area Plans per Volume I, Section 3, of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

RRVP – These species should be protected as they are associated with riparian/riverine areas and vernal pools as described in Section 6.1.2 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004.

Western Riverside County Multiple Species Habitat Conservation Plan Survey Requirements

The Riverside fairy shrimp, vernal pool fairy shrimp, and Santa Rosa plateau fairy shrimp are Covered Species in the MSHCP. Although no survey area has been designated for these species, Section 6.0 of the MSHCP requires mapping of any vernal pools, stock ponds, ephemeral pools, or other water features to identify potential habitat areas. If potential habitat is identified, focused surveys for these species are required.

Areas of vernal pools, playas, open water, and wetlands within and adjacent to the study area that could provide suitable habitat for these listed vernal pool branchiopods are identified in the MSHCP map of wetland resources (Figure 2-3, MSHCP [RCIP 2003]). This map and Project-specific vegetation mapping were used to determine suitable branchiopod habitat in the study area. In addition, the study area was monitored during each wet season to identify suitable ponded water habitat. Suitable pools were measured in the field by mapping the perimeters with a Trimble GPS unit.

United States Fish and Wildlife Service Survey Requirements

The vernal pool wet season and dry season branchiopod surveys complied with the USFWS Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods (USFWS 1996).

Wet Season Survey Methodology

Between 2000 and 2007, wet season surveys were conducted by permitted biologists in suitable ponded areas in the Project study area. Suitable areas were monitored for ponding during each winter rainy season (October through April), and surveys began within 2 weeks after inundation was observed. A pool was considered inundated if it held 3 centimeters (cm) (1.2 inches) of standing water 24 hours after a rain. The pools were visited once every 2 weeks while they were inundated or until 120 days of inundation had occurred.

Samples were collected using a 1-millimeter (mm) (0.04-inch) dip net. Specimens were identified to species using a 14x-to-90x stereo zoom microscope and dichotomous key from *Fairy Shrimps of California's Puddles, Pools, and Playas* (Eriksen 1999).

Dry Season Survey Methodology

Dry season surveys were conducted in the Project study area by permitted biologists during September and October 2006 in accordance with USFWS guidelines (USFWS 1996). Ten soil samples were collected from the top 1 to 3 cm (0.4 to 1.2 inches) in the bottom of each pool. The soil samples were approximately 100 milliliters (mL) (6.10 cubic inches) each, for a total soil volume of 1,000 mL (61.0 cubic inches) from each pool. If the pool had a diameter of less than 3 m (9.8 ft), the total soil volume collected did not exceed 500 mL (30.5 cubic inches), and the soil samples were approximately 50 mL (3.05 cubic inches) each.

Soil samples were examined in the laboratory to identify branchiopod cysts to the lowest identifiable taxon. Cysts from the genus *Branchinecta* could not be identified to the species (only to genus) due to the similarity in the surface morphology of cysts. Within the genus *Branchinecta*, two species, *Branchinecta lynchi* and *Branchinecta*

lindahli, are known to occur in this region. Because the results of this dry season study required the determination to species for the *Branchinecta* genus, the cysts were hydrated and reared for identification.

Adult shrimp were reared from the recovered cysts following USEPA protocol (USEPA 1985, Rogers 2006). Reared adult shrimp were examined under a stereo dissection microscope and identified to species based upon comparisons with specimens in collections, the original species descriptions, and professional experience.

Quino Checkerspot Butterfly

The Quino checkerspot butterfly (QCB) (*Euphydryas editha quino*) is federally listed as an endangered species and is a Covered Species Adequately Conserved in the MSHCP. Because it has been adequately conserved, focused protocol-level QCB surveys are not required for projects in the MSHCP Conservation Area, so a qualitative discussion is not provided in this section. However, because of the estimated amount and extent of take covered under the Take Permit for the Project, the potentially suitable habitat that would be lost must be quantified. The potentially suitable QCB habitat in the study area is provided in Table 3.3-1 (page 3-443), and the suitable habitat that would be permanently impacted by each Build alternative is provided in Table 3.3-3 (page 3-471). Potentially suitable QCB habitat in the PIA was based on the following vegetation communities: alkali grassland, alkali playa, annual grassland, annual grassland/Riversidian sage scrub, Riversidian sage scrub, ruderal, ruderal alkali flats, and vernal pool.

The QCB is narrowly distributed in suitable habitat at relatively few locations in the MSHCP Conservation Area (RCIP 2003). Observations of QCB clusters have been categorized into 22 occurrence complexes. Large or strategically located occurrence complexes are considered core populations. The MSHCP identifies seven core population areas. Conservation of QCB will be achieved through an adaptive management program limited to the designated Core Areas. Core Area reserve managers are responsible for implementing the species-specific conservation goals set forth in the MSHCP.

Stephens' Kangaroo Rat

The Stephens' kangaroo rat (*Dipodomys stephensi*), which is federally listed as endangered and state listed as a threatened species, is considered adequately conserved under the MSHCP. Therefore, no Stephens' kangaroo rat (SKR) protocol surveys are required for projects in the MSHCP Conservation Area, but suitable habitat should be documented. The amount of potentially suitable SKR habitat in the study area is provided in Table 3.3-1 (page 3-443) and the amount of suitable habitat permanently and temporarily that would be impacted by the Build alternatives is provided in Table 3.3-3 (page 3-471).

The long-term Stephens' kangaroo rat habitat conservation plan (HCP) includes mitigation for impacts and provides take authorization for Stephens' kangaroo rat within its boundaries. In accordance with Section 10 of the Endangered Species Act, which authorizes incidental take under an approved HCP, the implementation agreement and Section 10 Permit associated with the MSHCP will provide take authorization for Stephens' kangaroo rat outside the boundaries of the Stephens' kangaroo rat HCP, but inside the MSHCP area boundaries. The core reserves established by the Stephens' kangaroo rat HCP will be managed as part of the MSHCP Conservation Area consistent with the Stephens' kangaroo rat HCP (RCIP 2003).

Stephens' kangaroo rat is relatively widespread throughout the MSHCP area, but the main blocks of occupied habitat are concentrated in several core areas that must be conserved. Stephens' kangaroo rat also requires species-specific monitoring and management to ensure its long-term viability in the MSHCP area, including tracking population densities and maintaining sparse, open grassland habitats.

Although not a target species for focused surveys, small isolated remnant populations of Stephens' kangaroo rat were expected to be present in the Project area. Eight captures of four individuals were made in two small areas of grassland and sparse sage scrub outside the study area. One individual was captured north of Domenigoni Parkway and west of Winchester Road, about 30 m (98 ft) northeast of the study area for Build Alternatives 1a and 2a. The other seven captures (repeated captures of three individuals) occurred west of the existing SR 79 alignment, south of Gilman Springs Road and north of the San Jacinto wash. This was about 1 km (0.6 mile) north of the Project study area. The largest population of Stephens' kangaroo rat in the region is on the Potrero Unit of the CDFG San Jacinto Wildlife Area, about 1.2 km (0.7 mi) northeast of the Project, where about 809.4 ha (2,000 ac) of Stephens' kangaroo rat habitat have been documented.

San Bernardino Kangaroo Rat

The San Bernardino kangaroo rat is federally listed as endangered, is a California Species of Concern (CSC), and is a Covered Species under the MSHCP, for which focused surveys are required. See Section 3.3.4.2 (page 3-588) for the study methodology used for San Bernardino Kangaroo Rat trapping.

Coastal California Gnatcatcher

The coastal California gnatcatcher (*Polioptila californica californica*) is federally listed as a threatened species and is a Covered Species Adequately Conserved in the MSHCP. Because it has been adequately conserved, focused protocol-level coastal California gnatcatcher surveys are not required for projects in the MSHCP Conservation Area. Projects are required to disclose and calculate the area of critical habitat impacted for the species and to disclose this in the Consistency Analysis to attain a Consistency Determination from the RCA for the Project to confirm that it is a Covered Activity. The potentially suitable coastal California gnatcatcher habitat in the study area is in Table 3.3-1 (page 3-443), and the suitable habitat that could be permanently impacted is in Table 3.3-3 (page 3-471). Potentially suitable coastal California gnatcatcher habitat in the PIA was based on the following vegetation communities: annual grassland/Riversidian sage scrub and Riversidian sage scrub. Coastal California gnatcatchers were incidentally observed during field surveys.

Per the MSHCP, this species will be managed at the habitat level with site-specific requirements in Core Areas and Linkages. Core Area reserve managers are responsible for implementing the species-specific conservation goals set forth in the MSHCP.

Least Bell's Vireo, Southwestern Willow Flycatcher, and Western Yellow-Billed Cuckoo

Least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) are all MSHCP Covered Species, for which focused surveys are required. These species are included in MSHCP Section 6.1.2 (RCIP 2003). Because of this, habitat assessments and focused surveys for these species were conducted in the study area during 2005.

Least Bell's Vireo

A habitat assessment for least Bell's vireo took place on March 17 and 18, 2005. Focused surveys were subsequently conducted in areas with potentially suitable riparian habitat. The least Bell's vireo survey guidelines established by USFWS (2001) require eight surveys in each survey area between April 10 and July 31. These surveys are to be conducted at least 10 days apart to determine the presence or absence of nesting least Bell's vireos. Surveys were conducted between April 12 and July 25, 2005. A summary of surveys by date, time, and survey site is in the Final Riparian Bird Survey Report of December 2007.

The eight focused surveys were conducted by biologists who were experienced with the songs, whisper songs, calls, scolds, and plumage characteristics of adult and juvenile vireos. Surveys took place between 5:30 a.m. and 11:00 a.m. during suitable weather conditions. No more than 50 ha (123.5 ac) of suitable riparian habitat were surveyed per day. The biologists walked all suitable riparian habitats and positioned themselves in the best locations to listen and look for vireos. If a least Bell's vireo was detected, it was observed until territory information or a positive location could be obtained. All vireo detection, including number of individuals, sex, age, and leg bands, was recorded on standardized data sheets. In addition to the least Bell's vireo, any detections of the parasitic brown-headed cowbird (*Molothrus ater*) or other bird species were also recorded.

Southwestern Willow Flycatcher

A habitat assessment for southwestern willow flycatcher took place on March 17 and 18, 2005. Focused surveys were subsequently conducted in areas with potentially suitable riparian habitat. The southwestern willow flycatcher survey protocol, established by Sogge (1997) and modified by the USFWS, consists of five surveys in each survey site between May 15 and July 17 (USFWS 2000). The five surveys are to be conducted in three survey periods, one between May 15 and May 31, one between June 1 and June 21, and three between June 22 and July 17. The three surveys needed in the third survey period are to be at least 5 days apart.

Surveys for southwestern willow flycatchers took place in the study area between May 16 and July 6, 2005. Four of the surveys were conducted under federal endangered species permit TE-092622-0. One was under federal permit TE-787376-9. Surveys began between 5:30 a.m. and 6:00 a.m., lasted 4 to 4.5 hours, and ended no later than 10:00 a.m. Surveys only took place in appropriate weather; mornings with rain or excessive wind were avoided.

Tape playbacks were used during the surveys, as outlined in Sogge (1997). Tape playbacks are a reliable method of determining southwestern willow flycatcher presence or absence and breeding status (territorial residents versus migrants). This survey technique involved playing tape-recorded southwestern willow flycatcher songs at 30 m (98.4 ft) intervals along the survey routes to elicit a response from individuals, if present. A southwestern willow flycatcher survey tape, distributed by the Arizona Game and Fish Department, was played at natural volume and included a mixture of "fitz bew" songs and "whit" calls.

A period of 1 or 2 minutes was taken at the beginning of each day's survey route to listen for southwestern willow flycatchers and to acclimate the surveyor to background noise and the sounds of other birds singing and calling in the area. After the initial listening period, the taped southwestern willow flycatcher song was played for 15 to 30 seconds, followed by a 1- or 2-minute listening period. If no southwestern willow flycatchers were detected,

the surveyors walked 30 m (98.4 ft) to the next survey station and repeated this process. A 10- to 20-second listening period took place at each survey station before playing the tape.

Several *Empidonax* flycatchers look very similar and may pass through the San Jacinto Valley during migration. Therefore, positive identification of a southwestern willow flycatcher can only be made by hearing the "fitz-bew" song. Once a southwestern willow flycatcher was detected, the tape was no longer played or was played again only very briefly to avoid harassing the birds or attracting the attention of potential predators and brood parasites. Any southwestern willow flycatchers that were heard were visually monitored for a few minutes to determine the exact location and territory information. After viewing the legs of the willow flycatchers to ascertain banding information, surveyors continued on to the next calling station, 30 m (98.4 ft) away. All detections were mapped and recorded on standardized data sheets. Negative survey data were recorded in the same manner. These data sheets were filled out daily and submitted to CDFG and USFWS as part of the 90-day report, as required by the federal endangered species permits. Other information recorded on the data sheets included vegetation characteristics of the study area, dominant tree species and canopy height, presence of cowbirds, evidence of cattle grazing, and presence of surface water.

Western Yellow-Billed Cuckoo

Although surveys were conducted for western yellow-billed cuckoo concurrently with the southwestern willow flycatcher and least Bell's vireo surveys, the habitat in the study area is poor quality and is essentially unsuitable for the western yellow-billed cuckoo. Because the western yellow-billed cuckoo was not detected and is not expected to be present in the study area, this species is not discussed or evaluated further.

Additional Information

In addition, the USFWS Critical Habitat Portal website was used to identify proposed and final published critical habitat for threatened and endangered species that may be present in the study area (USFWS 2011). The USFWS and the National Oceanic and Atmospheric Administration (NOAA) are responsible for administering all facets of protecting federally listed threatened and endangered species, including critical habitat. The NOAA's definition of critical habitat (shown below) would also apply to areas regulated by the USFWS:

> *The Endangered Species Act (ESA) requires the federal government to designate "critical habitat" for any species it lists under the ESA. Critical habitat is defined as: (1) specific areas within the geographical area occupied by the species at the time of listing, if they contain physical or biological features essential to conservation, and those features may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation* (NOAA 2011).

The information from the Critical Habitat Portal was used to prepare figures and assess potential impacts to areas designated as critical habitat.

Overview of Critical Habitat, Plant Species, and Animal Species within the Study Area

Critical Habitat

One critical habitat designation is present in the study area, spreading navarretia (*Navarretia fossalis*). Final revised critical habitat for spreading navarretia was issued on November 8, 2010 (75 FR 19575, pp 19575 – 19590). This critical habitat, a part of USFWS Unit 6: Riverside Management Area, Subunit 6B. Salt Creek Seasonally Flooded Alkali Plain, is present in the study area, as shown in Figure 3.3-50. Primary constituent elements (PCEs) used to determine critical habitat, as defined in the Federal Register listing, include: 1) ephemeral wetlands such as vernal pools and seasonally flooded alkali vernal plains, 2) intermixed wetland and upland habitats that act as the local watershed, and 3) clay soils that support ponding during winter and spring, which create an impermeable surface layer. Critical habitat for spreading navarretia in the Project study area contains these PCEs, particularly Additional Indirect Impact Study Area 1 near the Stowe Road Vernal Pool Complex. The amount of critical habitat that could be impacted by the Project is shown in Table 3.3-3 (page 3-471).

No other critical habitat designations are present in the study area or expected to be affected by any of the Build alternatives or design options. However, final revised critical habitat for the coastal California gnatcatcher is within the scale of Figure 3.3-50 and is therefore shown in the figure. This final revised critical habitat is outside the study area, so it is not discussed further in this section.

Plant Species

Seven federally or state-listed threatened or endangered plants could be present in the study area (Table 3.3-18 [page 3-636]), and four federally and/or state-listed plant species were identified during the rare plant surveys (Table 3.3-1 [page 3-443] and Table 3.3-3 [page 3-471]). These are San Jacinto Valley crownscale, spreading navarretia, California Orcutt grass, and thread-leaved brodiaea. All are federally listed as threatened or endangered, and California Orcutt grass and thread-leaved brodiaea are also state listed as endangered. All four of these plants are included in the MSHCP. Federal, state, CNPS, and MSHCP conservation status codes for each species are provided in Table 3.3-18 (page 3-636).

San Jacinto Valley crownscale was found in the PIA and the indirect impact area, while spreading navarretia, California Orcutt grass, and thread-leaved brodiaea were found only in the indirect impact area. As outlined below, these four listed plants were observed in the study area for Roadway Segment I and the extensive alkali grassland, playa, and vernal pool habitats located within Additional Indirect Impact Study Areas 1 and 2.

Long-term conservation value (LTCV) populations are Criteria Area and Narrow Endemic plants in Criteria Area Cells or required survey areas that contribute toward MSHCP Covered Species conservation objectives and reserve assembly. Table 3.3-20 (page 3-653) presents assessments of LTCV for the four listed plant species discussed in this section. The LTCV populations are all in Additional Indirect Impact Study Area 1.

Animal Species

The only listed animal species observed in the study area is vernal pool fairy shrimp (*Branchinecta lynchi*), which are federally listed as threatened. Vernal pool fairy shrimp were observed in one pool in Additional Indirect

Impact Study Area 1 during the 2004 to 2005 wet season survey (Figure 3.3-43). The USFWS Listed Species Verification and Notification is in Appendix G of the Final Vernal Pool Branchiopod Survey Report of December 2007.

No other animal species that are federally or state listed as threatened or endangered were observed in the study area of the Project; however, suitable habitat for the following listed species was identified.[14]

- Stephens' kangaroo rat (FE, ST)
- San Bernardino kangaroo rat (marginal habitat) (FE)
- Quino checkerspot butterfly (FE)
- Coastal California gnatcatcher (FT)
- Southwestern willow flycatcher (FE)
- Least Bell's vireo (FE, SE)

The Stephens' Kangaroo Rat (SKR), Quino checkerspot butterfly (QCB), and coastal California gnatcatcher are all considered Covered Species Adequately Conserved per the MSHCP. This means the conservation objectives for these species have been achieved, and these species are provided Take Authorization through the NCCP permit and through the Section 10(a) permit issued in conjunction with the MSHCP Implementing Agreement (RCIP 2003). The MSHCP defines Covered Species Adequately Conserved as follows:

> *The initial 118 Covered Species and any of the remaining 28 Covered Species where the species objectives, set forth in Section 9.2 of the MSHCP, Volume 1 and Table 9-3, are met, and which are provided Take Authorization through the NCCP Permit and for animals through the Section 10(a) Permit issued in conjunction with the IA.*

Although focused surveys are not required for these species per the MSHCP, because of the estimated amount and extent of take covered under the Take Permit for the Project, the amount of potentially suitable habitat that could be lost must be quantified. The amount of potentially suitable habitat for SKR, QCB, and coastal California gnatcatcher in the study area is provided in Table 3.3-1 (page 3-443), and the suitable habitat that could be permanently or temporarily impacted is in Table 3.3-3 (page 3-471).

[14]FE – federally endangered
FT – federally threatened
SE – state endangered
ST – state threatened

Table 3.3-20 Assessment of Long-Term Conservation Value Threatened and Endangered Species Populations in the Study Area

Scientific Name	Common Name	Criteria Area Cell(s)	Build Alternative	Location of Population by Project Element	Population(s) Present in the PIA	Population(s) Present in the 30.5-m (100-ft) Indirect Impact Area	Population(s) Present in Additional Indirect Impact Study Area 1	Population(s) Present in Additional Indirect Impact Study Area 2	Do Populations Have Long-Term Conservation Value?	Rationale[a]
Atriplex coronata var. *notatior*	San Jacinto Valley crownscale	3683, 3684, 3791, 3887, 3891, 4007	Build Alternatives 2a and 2b (including Design Option 2b1)	Additional Indirect Impact Study Area 1	No	No	Yes	No	Yes	A total of 224 San Jacinto Valley crownscale populations (with a little more than 58,000 plants) occur in Additional Indirect Impact Study Area 1. These populations are part of the Upper Salt Creek core population, which may now contain half, or possibly more, of the known individuals of San Jacinto Valley crownscale. Because these populations are important to the continued existence of this species, these populations have very high LTCV. Adverse impacts to the populations within this area (including the supporting vernal pool hydrology) could result in the loss of populations, degradation of the vernal pool habitat, could affect the long-term sustainability of these localities, and could possibly make it more difficult to attain the MSHCP species conservation goals and objectives.
Brodiaea filifolia	thread-leaved brodiaea	4007	Build Alternatives 2a and 2b (including Design Option 2b1)	Additional Indirect Impact Study Area 1	No	No	Yes	No	Yes	Nine populations of thread-leaved brodiaea with 231 plants were observed within Additional Indirect Impact Study Area 1. All of these populations occurred in the alkali grasslands and wetland habitat north of the San Jacinto Branch Line and east of California Avenue and are the only known locality to occur in the study area. These populations have LTCV because these populations are the eastern known locality of this species, they are one of only six localities known from the Perris Basin region, and the habitat quality is high compared to other areas. Adverse impacts to these populations or to the supporting hydrology could result in the loss of this locality, a decrease in population size, or degradation of the habitat, could adversely affect the long-term sustainability of these localities, and could make it more difficult to attain the MSHCP species conservation goals and objectives.
Navarretia fossalis	spreading navarretia	3791, 3887, 3891	Build Alternatives 2a and 2b (including Design Option 2b1)	Additional Indirect Impact Study Area 1	No	No	Yes	No	Yes	Thirty-two populations of spreading navarretia with 30,326 plants were identified between the San Jacinto Branch Line to just north of Stetson Avenue. The largest single concentration of plants (about 80 percent of all the plants observed in the study area) was identified at the Stowe Road Vernal Pool Complex. These populations have high to very high LTCV, depending on site-specific habitat variables. Adverse impacts to these populations or to the supporting hydrology could result in the loss of this locality, a decrease in population size, or degradation of the habitat, could adversely affect the long-term sustainability of these localities, and could make it more difficult to attain the MSHCP species conservation goals and objectives.
Orcuttia californica	California Orcutt grass	3887	Build Alternatives 2a and 2b (including Design Option 2b1)	Additional Indirect Impact Study Area 1	No	No	Yes	No	Yes	Two populations of California Orcutt grass with 4,266 plants were identified within the Stowe Road Vernal Pool Complex, north of Stowe Road within Additional Indirect Impact Study Area 1. The populations at the Stowe Road Vernal Pool Complex are considered one of three core population complexes in Riverside County. Although this area has been disturbed, the Stowe Road Vernal Pool Complex has very high LTCV due to: (1) the endangered status of the species, (2) fairly high population size, (3) geographic distribution of this locality, and (4) relatively high habitat quality. Adverse impacts to these populations or to the supporting hydrology could result in the loss of this locality, a decrease in population size, or degradation of the habitat, could adversely affect the long-term sustainability of these localities, and could make it more difficult to attain the MSHCP species conservation goals and objectives.

Source: Natural Environment Study, April 2010; NES Technical Report Addendum Memorandum, August 2010

[a]Information about the MSHCP Planning Species and Biological Issues and Considerations included for Subunits 2 and 4, along with the Planning Species for Noncontiguous Habitat Blocks 6 and 7 and Existing Constrained Linkage B, and the overall goals for each of the Covered species as noted in Appendix E of the MSHCP (Species Survey Requirements, Plants), and the habitat goals noted for each Criteria Area Cell in Table 3.3-2 of this document (page 3-464).

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San Bernardino kangaroo rat was not observed in the study area. Marginally suitable habitat for this species was found in the alluvial fan scrub habitat east of the existing SR 79 alignment, north of the San Jacinto River and south of Gilman Springs Road, but suitable habitat was not found in the study area. Although this species was observed about 580 m (1,900 ft) west of the study area along the San Jacinto River in 2005 (P. Vergne, pers. com), no San Bernardino kangaroo rat sign was evident in the study area, and no San Bernardino kangaroo rats were captured in any of the trap-lines set during the focused surveys. Because San Bernardino kangaroo rat was not detected in the study area, this species is not discussed further. However, see the brief discussion at the beginning of this section (page 3-648).

The amount of riparian habitat in the study area that is suitable for southwestern willow flycatchers is summarized in Table 3.3-1 (page 3-443). One migrant willow flycatcher was detected (by both observation and vocalization) in the study area during the first protocol survey, about 135 m (442 ft) east of the PIA of Roadway Segment M. The individual was not with a mate, and no nesting behavior was observed (Figure 3.3-45). Because the willow flycatcher was a migrant and did not nest, the surveyor concluded that this was not the federally endangered southwestern sub-species. Therefore, impacts to the southwestern willow flycatcher are not expected.

A solitary male least Bell's vireo was detected (by both observation and vocalization) 95 m (317 ft) outside the study area near Utility Relocation Area 2. This location is shown in Figure 3.3-46. The solitary male was heard vocalizing and was observed foraging along the San Jacinto River in a dense area of mule fat scrub surrounded by cottonwood willow riparian woodland. This was the only detection. No nesting least Bell's vireos were found. Because it was not detected in the study area, impacts to least Bell's vireo are not expected.

Federal/California Endangered Species Act Consultation Summary

As discussed in Section 2.2 (page 2-1 [Volume 1]) and in more detail in Section 5.2 (page 5-2), NEPA/404 Integration Process coordination with state and federal agencies has been ongoing throughout project development.

The NEPA/404 Integration Process has provided an effective means of conducting preconsultation per Section 7 of the Endangered Species Act with USFWS. In addition, RCTC and the Department integrated state agencies into the discussion and coordination of the NEPA/404 activities. These agencies included the RWQCB and CDFG. As such, preconsultation for the California Endangered Species Act (CESA) has also taken place with CDFG.

Formal Section 7 consultation will be initiated by the Department once a Preferred Alternative is identified. A USFWS species list dated November 14, 2012, is attached at the end of Chapter 5. Section 7 consultation will be conducted based on the MSHCP. The MSHCP is an HCP pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act of 1973, as well as a Natural Community Conservation Planning program under the NCCP Act of 1991. The Section 10 Permit associated with the MSHCP allows the participating jurisdictions to "take" plant and wildlife species identified in the Plan Area. The USFWS and CDFG have authority to regulate the take of Threatened, Endangered, and Rare Species. Under the MSHCP, the wildlife agencies will grant "Take Authorization" for otherwise lawful actions, such as public and private development, that may incidentally take or harm individual species or their habitat outside the MSHCP Conservation Area in exchange for the assembly and management of a coordinated MSHCP Conservation Area (RCIP 2003). More information about the MSHCP is in Section 3.3.1.3 (page 3-459).

Listed Plant and Animal Species in the Study Area of the Project Alternatives

This section provides information on listed plants and animals and critical habitat in the study area of the Project. Permanent and temporary impacts are provided in Section 3.3.5.3 (page 3-662).

All Build Alternatives and Design Options

MSHCP Covered Species and/or Planning Species

San Jacinto Valley Crownscale

The same 13 San Jacinto Valley crownscale populations (with 6,749 plants) are present in the study areas of all Build alternatives and design options (Tables 3.3-5 [page 3-533] and 3.3-6 [page 3-537]). Twelve populations with 6,727 plants were found in the study area for Roadway Segment I, north of Devonshire Avenue, and one small population (22 plants) was found west of Warren Road in Additional Indirect Impact Study Area 2, west of the Stoney Mountain Preserve (Figure 3.3-23). Roadway Segment I is a component of all Build alternatives and design options. These populations are not in an MSHCP Criteria Area Cell and do not have LTCV (Table 3.3-5 [page 3-533]).

The study areas for Build Alternatives 2a and 2b also include Additional Indirect Impact Study Area 1 and, therefore, contain other listed plant species as described in their respective sections.

No Build Alternative

No impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

Build Alternative 1a

MSHCP Covered Species and/or Planning Species

Animal Species

Vernal Pool Branchiopods

No listed vernal pool branchiopods were observed in the study area for Build Alternative 1a, but 27 pools were identified as potential habitat. The pools include tire ruts and roadside drainages, man-made depressions, depressions in active agricultural fields, and vernal pools. All 27 pools received two surveys, either two wet season surveys or both a wet and a dry season survey. The only vernal pool branchiopod species observed in the study area for Build Alternative 1a was the nonlisted versatile fairy shrimp. The nonlisted versatile fairy shrimp was observed in 16 pools. No vernal pool branchiopods were observed in the other 11 pools.

Least Bell's Vireo

Least Bell's vireo was not observed in the study area for Build Alternative 1a, but 10.99 ha (27.16 ac) of suitable habitat were identified.

Southwestern Willow Flycatcher

Southwestern willow flycatchers were not observed in the study area for Build Alternative 1a, but 10.99 ha (27.16 ac) of suitable habitat were identified.

Stephens' Kangaroo Rat

About 235.1 ha (581.0 ac) of suitable Stephens' kangaroo rat habitat are present in Build Alternative 1a.

Quino Checkerspot Butterfly

About 554.1 ha (1,369.3 ac) of suitable Quino checkerspot butterfly habitat are present in the study area for Build Alternative 1a.

Coastal California Gnatcatcher

About 135.3 ha (334.3 ac) of suitable coastal California gnatcatcher habitat are present in the study area for Build Alternative 1a.

Critical Habitat

The study area for Build Alternative 1a contains 1.9 ha (4.8 ac) of spreading navarretia critical habitat.

Build Alternative 1b and Design Option 1b1

The study area for Build Alternative 1b did not change when Design Option 1b1 was added in 2009, so species counts and habitat determinations are the same for both.

MSHCP Covered Species and/or Planning Species

Animal Species

Vernal Pool Branchiopods

The results of the vernal pool branchiopod focused surveys in Build Alternative 1b were the same as Build Alternative 1a, except that the nonlisted versatile fairy shrimp was observed in 15 pools. No vernal pool branchiopods were observed in the other 12 pools.

Least Bell's Vireo

Least Bell's vireo were not observed in the study area for Build Alternative 1b, but 16.93 ha (41.84 ac) of suitable habitat were identified.

Southwestern Willow Flycatcher

A migrant willow flycatcher was detected 135 m (442 ft) east of the PIA for Build Alternative 1b (Roadway Segment M). However, no mate was seen, and no nesting behavior was observed, so this individual was determined to be a migrant. About 16.93 ha (41.84 ac) of potential habitat were identified.

Stephens' Kangaroo Rat

About 232.3 ha (573.9 ac) of suitable Stephens' kangaroo rat habitat are present in the study area for Build Alternative 1b.

Quino Checkerspot Butterfly

About 584.4 ha (1,444.1 ac) of suitable Quino checkerspot butterfly habitat are present in the study area for Build Alternative 1b.

Coastal California Gnatcatcher

About 127.9 ha (316.1 ac) of suitable coastal California gnatcatcher habitat are present in the study area for Build Alternative 1b.

Critical Habitat

The study area for Build Alternative 1b contains 1.9 ha (4.8 ac) of spreading navarretia critical habitat.

Build Alternative 2a

MSHCP Covered Species and/or Planning Species

Plant Species

A total of 280 populations of listed plants were observed in the study area for Build Alternative 2a—San Jacinto Valley crownscale (237 populations), spreading navarretia (32 populations), California Orcutt grass (2 populations), and thread-leaved brodiaea (9 populations). Thirteen San Jacinto Valley crownscale populations were found in the study area of Roadway Segment I (see page 3-656), one population of San Jacinto Valley crownscale was identified in Additional Indirect Impact Study Area 2 at the Stoney Mountain Preserve, and all remaining populations of listed plants were observed in Additional Indirect Impact Study Area 1 (Tables 3.3-5 [page 3-533] and 3.3-6 [page 3-537]).

San Jacinto Valley Crownscale

A total of 237 populations of San Jacinto Valley crownscale were found scattered throughout the alkali grasslands, alkali playa, and wetland habitats between the San Jacinto Branch Line and SR 74/Florida Avenue, west of the San Diego Canal. As presented in Tables 3.3-5 (page 3-533) and 3.3-6 (page 3-537), the San Jacinto Valley crownscale in this area is considered part of the Upper Salt Creek core population, one of two population cores for this species. Because of declines in the populations near the San Jacinto River, the Upper Salt Creek area may now contain half, or possibly more, of the known individuals of San Jacinto Valley crownscale. Because these populations are important to the continued existence of this species, those in Additional Indirect Impact Study Area 1 have very high LTCV.

Thread-Leaved Brodiaea

Nine small populations of thread-leaved brodiaea (231 plants) were found in Additional Indirect Impact Study Area 1 (Figure 3.3-35). All of these populations were in the alkali grassland and wetland habitat north of the San Jacinto Branch Line and east of California Avenue. These nine populations are the only ones known in the study area, and they are the easternmost locality known for this species. Only six occurrences are known from the Perris Basin (Table 3.3-6 [page 3-537]). The habitat quality where they were found is relatively high, and these populations have LTCV (Tables 3.3-5 [page 3-533] and 3.3-6 [page 3-537]).

Spreading Navarretia

Thirty-two populations of spreading navarretia (30,326 plants) were identified in Additional Indirect Impact Study Area 1 (Figure 3.3-38). Several populations of spreading navarretia were observed east of California Avenue, between the San Jacinto Branch Line and just north of Stetson Avenue. The populations in the study area are part of the Upper Salt Creek population complex, which supports one of the largest known concentrations of individual plants. The total number of spreading navarretia plants in the Upper Salt Creek complex greatly surpasses the San Jacinto River complex, the other Riverside County population complex (Table 3.3-6 [page 3-537]). The populations in the study area have very high LTCV (Table 3.3-5 [page 3-533]).

California Orcutt Grass

Two populations of California Orcutt grass with 4,266 plants were identified in the Stowe Road Vernal Pool Complex, north of Stowe Road in Additional Indirect Impact Study Area 1 (Figure 3.3-39). California Orcutt grass is an MSHCP Narrow Endemic species that is limited to vernal pool habitats, and it is extremely rare. The populations at the Stowe Road Vernal Pool Complex are one of three core population complexes in Riverside County, and they have very high LTCV (Tables 3.3-5 [page 3-533] and 3.3-6 [page 3-537]). Although this area has recently been disturbed, the Stowe Road Vernal Pool Complex has very high conservation value because of (1) the endangered status of the species, (2) fairly high population size, (3) geographic distribution of the populations, and (4) relatively high habitat quality (Table 3.3-6 [page 3-537]).

Animal Species

Vernal Pool Branchiopods

The study area for Build Alternative 2a contains Criteria Area Cell 3887. Conservation in this Cell will contribute to the assembly of Proposed Noncontiguous Block 7, where vernal pool fairy shrimp is a Planning Species.

Although no listed vernal pool branchiopods were found in the PIA of Build Alternative 2a, this Build alternative could affect the hydrology of a 0.72-ha (1.79-ac) vernal pool complex in Additional Indirect Impact Study Area 1. That complex contains vernal pool fairy shrimp (*Branchinecta lynchi*), a species that is federally listed as threatened.

Forty-four pools were identified as potential habitat for vernal pool branchiopods in the study area for Build Alternative 2a. The pools include tire ruts and roadside drainages, man-made depressions, depressions in active agricultural fields, vernal pools, and vernal pool complexes. All 44 pools were surveyed. Forty of the pools were

surveyed twice, either two wet season surveys or both a wet and a dry season survey. The remaining four pools received only one full survey.

The four vernal pools that received one full survey included one in a cattle-grazed field that received one wet season survey, one in a cattle-grazed field that received a partial wet season survey and a full dry season survey, one in a cattle-grazed field that received one dry season survey, and an excavated depression that received one dry season survey. The vernal pool and depression that each received one dry season survey were both identified as potential vernal pool branchiopod habitat in the dry season because they contained cracked soils, but inundation or ponding was never observed. Therefore, only a dry season survey could be completed. Only the nonlisted versatile fairy shrimp was identified at both of these locations based on branchiopods cultivated in the laboratory.

Vernal pool fairy shrimp (*Branchinecta lynchi*), which are federally listed as threatened, were identified in the vernal pool complex in the grassland just northwest of the intersection of Stowe Road and California Avenue. The nonlisted versatile fairy shrimp was found in 33 of the pools in the study area for Build Alternative 2a, including the same vernal pool complex as the federally listed vernal pool fairy shrimp and the four pools that received only one full survey. No vernal pool branchiopods were found in the other 11 pools.

Least Bell's Vireo

Survey results and the suitable habitat determination for the Build Alternative 2a study area are the same as Build Alternative 1a.

Southwestern Willow Flycatcher

Survey results and the suitable habitat determination for the Build Alternative 2a study area are the same as Build Alternative 1a.

Stephens' Kangaroo Rat

About 231.8 ha (572.9 ac) of suitable Stephens' kangaroo rat habitat are present in the Build Alternative 2a study area.

Quino Checkerspot Butterfly

About 524.0 ha (1,294.8 ac) of suitable Quino checkerspot butterfly habitat are present in the Build Alternative 2a study area.

Coastal California Gnatcatcher

About 132.5 ha (327.5 ac) of suitable coastal California gnatcatcher habitat are present in the Build Alternative 2a study area.

Critical Habitat

The study area for Build Alternative 2a contains 135.1 ha (333.7 ac) of spreading navarretia critical habitat.

Build Alternative 2b and Design Option 2b1

The study area for Build Alternative 2b did not change when Design Option 2b1 was added in 2009, so species counts and habitat determinations are the same for both.

MSHCP Covered Species and/or Planning Species

Plant Species

Similar to Build Alternative 2a, 280 populations of listed plants were found in the study area for Build Alternative 2b. The affected environment and number of populations of San Jacinto Valley crownscale, thread-leaved brodiaea, spreading navarretia, and California Orcutt grass in the Build Alternative 2b study area are the same as Build Alternative 2a (page 3-658).

Animal Species

Vernal Pool Branchiopods

The affected environment for vernal pool branchiopods in the study area for Build Alternative 2b is essentially the same as Build Alternative 2a (page 3-658) except that the nonlisted versatile fairy shrimp was observed in 32 of the pools in the study area for Build Alternative 2b, versus 33 in Build Alternative 2a. No vernal pool branchiopods were observed in the other 12 pools.

Least Bell's Vireo

Least Bell's vireo was not observed in the study area for Build Alternative 2b, but 16.93 ha (41.84 ac) of suitable habitat is present.

Southwestern Willow Flycatcher

The same migrant willow flycatcher discussed in Build Alternative 1b (page 3-657) was found in the study area for Build Alternative 2b. Roadway Segment M is common to both Build alternatives. Additionally, 16.93 ha (41.84 ac) of suitable habitat is present.

Stephens' Kangaroo Rat

About 227.7 ha (562.6 ac) of suitable Stephens' kangaroo rat habitat are present in the Build Alternative 2b study area.

Quino Checkerspot Butterfly

About 566.4 ha (1,399.7 ac) of suitable Quino checkerspot butterfly habitat are present in the Build Alternative 2b study area.

Coastal California Gnatcatcher

About 125.2 ha (309.4 ac) of suitable coastal California gnatcatcher habitat are present in the Build Alternative 2b study area.

Critical Habitat

The study area of Build Alternative 2b contains 135.1 ha (333.7 ac) of spreading navarretia critical habitat.

3.3.5.3 Environmental Consequences

Permanent Impacts

MSHCP and Section 7 of the Endangered Species Act

Permanent impacts to threatened and endangered species will be handled through a joint MSHCP Consistency Determination/Biological Opinion for the proposed Project. The USFWS will review the Project impacts and proposed avoidance, minimization, and mitigation measures to verify that the Project meets the criteria in the MSHCP. The following excerpt was taken from Section 14.9 of the Implementing Agreement for the MSHCP and explains Section 7 consultations in relation to the MSHCP:

> ***14.9 Section 7 Consultations.*** *The USFWS will evaluate the direct, indirect, and cumulative effects of the Covered Activities in its internal FESA biological opinion issued in connection with the MSHCP and issuance of the Section 10(a) Permit. As a result, and to the maximum extent allowable, in any consultation under Section 7 of FESA subsequent to the Effective Date involving the Permittee(s) or entity with Third Party Take Authorization with regard to Covered Species Adequately Conserved and Covered Activities, the USFWS shall ensure that the FESA biological opinion issued in connection with the proposed project that is the subject of the consultation is consistent with the internal FESA biological opinion. Such project must be consistent with the terms and conditions of the MSHCP and this Agreement. Any reasonable and prudent measures included under the terms and conditions of a FESA biological opinion issued subsequent to the Effective Date with regard to the Covered Species Adequately Conserved and Covered Activities shall, to the maximum extent appropriate, be consistent with the implementation measures of the MSHCP and this Agreement. The USFWS shall not impose measures in excess of those that have been or will be required by the Permittee(s) or entity with Third Party Take Authorization pursuant to the MSHCP and this Agreement. The USFWS shall process subsequent FESA consultations for Covered Activities in accordance with the process and time periods set forth in 50 Code of Federal Regulations, section 402.14. The Parties agree that this section does not create an independent cause of action.*

Plant Species

Three threatened or endangered plant species could be impacted by construction of the proposed Project—San Jacinto Valley crownscale (federally listed as endangered), spreading navarretia (federally listed as threatened), and California Orcutt grass (federally listed as endangered and state listed as endangered). All three of these federally listed and/or state-listed plants are included in the MSHCP. The only species that would be directly impacted by construction would be the San Jacinto Valley crownscale. All other populations would be outside the PIA in Additional Indirect Impact Study Area 1. Although one population of San Jacinto Valley crownscale was observed in Additional Indirect Impact Area 2, indirect impacts would not occur to this population because Additional Indirect Impact Study Area 2 and the Stoney Mountain Preserve are located upgradient from the PIA

and work areas. Site drainage is from the south to the north; therefore, construction activities immediately to the north are not expected to affect the local hydrology for this population.

Although nine populations of the federally listed as threatened and state listed as endangered thread-leaved brodiaea were also observed in Additional Indirect Impact Study Area 1, the hydrology in the area where these populations were found had already been altered by the construction of roads and drainage ditches. The proposed Project would not change these existing conditions. As a result, a Section 7 determination of may affect, not likely to adversely affect is made for thread-leaved brodiaea. This species is not discussed further in this section.

Potential impacts in Additional Indirect Impact Study Area 1 would be limited to the unaltered area of the watershed north of Stowe Road and west of California Avenue, where San Jacinto Valley crownscale, spreading navarretia and California Orcutt grass were observed (Figures 3.3-23, 3.3-38, and 3.3-39).

Surveys were conducted for Munz's onion (federally listed as endangered and state listed as threatened) and slender-horned spineflower (federally and state listed as endangered), but neither of these species was found. A Section 7 determination of no effect is made for these two species, so they are not discussed further in this section.

The impact analysis below assumes that all threatened and endangered plant species present in the PIA, unique design features, and indirect impact areas would be permanently impacted because of construction or operation of the proposed Project and that temporary impacts would not occur. Permanent direct impacts would include the direct removal of habitat in the PIA and unique design features. Permanent indirect impacts would include potential degradation to habitat and alteration of hydrology in the 30.5-m (100-ft) indirect impact area and in Additional Indirect Impact Study Areas 1 and 2.

Animal Species

One threatened or endangered animal species was identified in the Project study area. Vernal pool fairy shrimp, federally listed as threatened, were identified in Additional Indirect Impact Study Area 1 in the Stowe Road Vernal Pool Complex. Permanent indirect impacts to this species are expected from the construction of Build Alternatives 2a or 2b or Design Option 2b1 (Roadway Segments D, F, and H).

No other threatened or endangered animal species were identified in the Project study area. However, suitable habitat throughout the study area was identified for the following listed species:

- San Bernardino kangaroo rat (marginal habitat) (FE)
- Stephens' kangaroo rat (FE, ST)
- Quino checkerspot butterfly (FE)
- Coastal California gnatcatcher (FT)
- Least Bell's vireo (SE, FE)
- Southwestern willow flycatcher (FE, SE)

Surveys were performed for the San Bernardino kangaroo rat in marginally suitable habitat in the study area, but none were found. A Section 7 determination of no effect is made for the San Bernardino kangaroo rat. This species is not discussed further in this section.

Surveys were not conducted for Stephens' kangaroo rat, quino checkerspot butterfly, or coastal California gnatcatcher because they are considered adequately conserved in the MSHCP and surveys are not required by the wildlife agencies. However, the impacts analysis for the Project assumes that these three species are present in the study area, so the suitable habitats for these species in the direct and indirect impact areas are quantified as permanent impacts. Section 7 determinations for these species are presented below for each Build alternative.

Although quantified suitable habitat in the PIA and indirect impact area are presented in this section for least Bell's vireo and southwestern willow flycatcher, these species were not detected during protocol surveys, and take is not expected. Section 7 determinations for these species are presented below for each Build alternative.

As stated for plants, the permanent impact analysis assumes that all threatened and endangered animal species present in the PIA, unique design features, and indirect impact areas would be permanently impacted by construction or operation of the proposed Project. Permanent direct impacts would include the direct removal of habitat in the PIA and unique design features. Permanent indirect impacts would include increased noise, light, dust, potential degradation to habitat, habitat fragmentation, increased mortality from collisions with vehicles, reduced prey and foraging availability and abundance, and alteration of the hydrology in the indirect impact area and Additional Indirect Impact Study Area 1.

Critical Habitat

Final revised critical habitat for spreading navarretia (*Navarretia fossalis*) was issued by the USFWS on November 8, 2010. The boundary of the critical habitat encompasses portions of the Project. This impact analysis assumes that all critical habitat present in the PIA, unique design features, and indirect impact area would be permanently impacted because of construction or operation of the proposed Project. Permanent direct impacts would include the direct removal of habitat. Permanent indirect impacts would include potential degradation to habitat in the 30.5-m (100-ft) indirect impact area. Temporary impacts to critical habitat could occur in the indirect impact area and could include increased dust from construction activities and an increase in invasive plant species. However, temporarily affected areas are accounted for in the permanent impact analysis because the areas that would be temporarily impacted are the same as the areas that would be permanently, indirectly impacted.

Permanent direct and indirect impacts to threatened and endangered plant and animal species and critical habitat from each Build alternative and design option are presented in the following sections.

No Build Alternative

No Project-related impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

All Build Alternatives and Design Options

Plants

Four federally listed as endangered San Jacinto Valley crownscale populations (589 plants) would be permanently and directly impacted, and eleven populations (6,138 plants) would be permanently and indirectly impacted by all

of the Build alternatives and design options. Three of the four directly impacted populations span the PIA and indirect impact area. All of these populations are located in the PIA and indirect impact area for Roadway Segment I. These impacts, therefore, would occur regardless of which Build alternative is identified as the Preferred Alternative. These populations do not have LTCV and would not contribute to the overall objectives and goals of creating the MSHCP Conservation Area. Impacts to this species have been evaluated as part of the MSHCP, and the Project would comply with the criteria in the MSHCP for this species. Therefore, no mitigation for permanent direct or indirect impacts to these populations is proposed.

Animals

All of the threatened and/or endangered animals in this section are MSHCP Covered Species. All of the Build alternatives and design options would comply with the criteria in the MSHCP for each of the Covered Species (as described in Section 6.1.2 of the MSHCP and the MSHCP Errata Letter, dated August 9, 2004), which include the minimization measures in Section 3.3.5.4 (page 3-673).

Build Alternative 1a

Plants

Build Alternative 1a would impact the federally listed as endangered San Jacinto Valley crownscale, for which an anticipated Section 7 determination of may affect, likely to adversely affect is made. Impacts are presented above in All Build Alternatives and Design Options.

Animal Species

Vernal Pool Branchiopods

No listed vernal pool branchiopods were observed in the PIA or indirect impact areas of Build Alternative 1a. Therefore, a Section 7 determination of no effect is made for the federally listed as threatened vernal pool branchiopod for Build Alternative 1a.

Southwestern Willow Flycatcher

No southwestern willow flycatchers were observed in the direct or indirect impact areas of Build Alternative 1a, but 10.99 ha (27.16 ac) of suitable habitat could be impacted. Because southwestern willow flycatchers were not observed during protocol surveys, no take is anticipated for this species. Therefore, a Section 7 determination of may affect, but not likely to adversely affect is made for the southwestern willow flycatcher in Build Alternative 1a.

Least Bell's Vireo

Least Bell's vireo was not observed in the direct or indirect impact areas of Build Alternative 1a, but 10.99 ha (27.16 ac) of suitable habitat could be affected. Because least Bell's vireo was not observed during protocol surveys, no take is anticipated for this species. Therefore, a Section 7 determination of may affect, but not likely to adversely affect is made for least Bell's vireo in Build Alternative 1a.

Stephens' Kangaroo Rat

About 101.3 ha (250.4 ac) of suitable Stephens' kangaroo rat habitat would be directly impacted by Build Alternative 1a, and about 133.8 ha (330.6 ac) could be indirectly impacted. Stephens' kangaroo rat is an MSHCP Covered Species Adequately Conserved. A Section 7 determination of may affect, likely to adversely affect is made for Stephens' kangaroo rat in Build Alternative 1a.

Quino Checkerspot Butterfly

About 169.7 ha (419.5 ac) of suitable Quino checkerspot butterfly habitat would be directly impacted by Build Alternative 1a, and about 79.33 ha (196.02 ac) could be indirectly impacted. Quino checkerspot butterfly is an MSHCP Covered Species Adequately Conserved. A Section 7 determination of may affect, likely to adversely affect is made for the Quino checkerspot butterfly in Build Alternative 1a.

Coastal California Gnatcatcher

About 58.5 ha (144.7 ac) of suitable coastal California gnatcatcher habitat would be directly impacted by Build Alternative 1a, and about 11.29 ha (27.90 ac) could be indirectly impacted. The coastal California gnatcatcher is an MSHCP Covered Species Adequately Conserved. A Section 7 determination of may affect, likely to adversely affect is made for the coastal California gnatcatcher in Build Alternative 1a.

Critical Habitat

Build Alternative 1a would directly impact 0.9 ha (2.3 ac) of spreading navarretia critical habitat in Subunit 6B. Salt Creek Seasonally Flooded Alkali Plain. Indirect impacts would equal 1.0 ha (2.4 ac). As described in Section 3.3.5.2 (page 3-635), the spreading navarretia critical habitat located within the impact area of Build Alternative 1a does contain primary constituent elements as defined in the Federal Register. However, the portion of critical habitat in Build Alternative 1a is unoccupied. Based on the absence of spreading navarretia, the functions and values of this portion of critical habitat is determined to be low; therefore, Build Alternative 1a would not adversely modify spreading navarretia critical habitat.

Build Alternative 1b

Plants

Impacts to the federally listed as endangered San Jacinto Valley crownscale from Build Alternative 1b would be the same as Build Alternative 1a (page 3-665). The Section 7 determination of may affect, likely to adversely affect is also the same.

Animal Species

Vernal Pool Branchiopods

Impacts and Section 7 determination for Build Alternative 1b would be the same as Build Alternative 1a (page 3-665).

Southwestern Willow Flycatcher

A migrant willow flycatcher was observed 135 m (442 ft) east of the PIA of Build Alternative 1b, but it was not with a mate. No nesting behavior was observed, so this individual was determined to be a migrant.

Suitable habitat totaling 16.93 ha (41.84 ac) could be impacted by Build Alternative 1b. Because southwestern willow flycatchers were not observed in the study area during protocol surveys, no take is expected for this species. Therefore, a Section 7 determination of may affect, but not likely to adversely affect is made for the southwestern willow flycatcher in Build Alternative 1b.

Least Bell's Vireo

Least Bell's vireo was not observed in the study area for Build Alternative 1b. However, 16.93 ha (41.84 ac) of suitable habitat are located in the indirect impact area of Build Alternative 1b. Because least Bell's vireo was not observed during protocol surveys, no take is anticipated for this species. Therefore, a Section 7 determination of may affect, but not likely to adversely affect is made for the least Bell's vireo in Build Alternative 1b.

Stephens' Kangaroo Rat

About 100.0 ha (247.1 ac) of suitable Stephens' kangaroo rat habitat would be directly impacted by Build Alternative 1b, and about 132.3 ha (326.8 ac) could be indirectly impacted. Stephens' kangaroo rat is an MSHCP Covered Species Adequately Conserved. A Section 7 determination of may affect, likely to adversely affect is made for Stephens' kangaroo rat in Build Alternative 1b.

Quino Checkerspot Butterfly

About 175.1 ha (432.7 ac) of suitable Quino checkerspot butterfly habitat would be directly impacted by Build Alternative 1b, and about 85.08 ha (210.25 ac) could be indirectly impacted. Quino checkerspot butterfly is an MSHCP Covered Species Adequately Conserved. A Section 7 determination of may affect, likely to adversely affect is made for the Quino checkerspot butterfly in Build Alternative 1b.

Coastal California Gnatcatcher

About 56.2 ha (138.9 ac) of suitable coastal California gnatcatcher habitat would be directly impacted by Build Alternative 1b, and about 11.58 ha (28.62 ac) could be indirectly impacted. The coastal California gnatcatcher is an MSHCP Covered Species Adequately Conserved. A Section 7 determination of may affect, likely to adversely affect is made for the coastal California gnatcatcher in Build Alternative 1b.

Critical Habitat

Impacts to and the Section 7 determination for spreading navarretia critical habitat in Build Alternative 1b would be the same as Build Alternative 1a (page 3-665).

Design Option 1b1

Design Option 1b1 would directly impact slightly more Quino checkerspot butterfly habitat than Build Alternative 1b, 175.3 ha (433.2 ac) versus 175.1 ha (432.7 ac), respectively. Indirect impacts would be almost the

same, about 85.13 ha (210.37 ac) for the design option versus 85.08 ha (210.25 ac) for the Build alternative. A Section 7 determination of may affect, likely to adversely affect is made for the Quino checkerspot butterfly for Design Option 1b1.

Design Option 1b1 would cause no other changes in impacts to or Section 7 determinations for threatened and endangered species or critical habitat than those presented for Build Alternative 1b.

Build Alternative 2a

Plants

Three threatened and endangered plant species could be impacted by Build Alternative 2a. These three species are San Jacinto Valley crownscale (federally listed as endangered), spreading navarretia (federally listed as threatened), and California Orcutt grass (federally listed as endangered and state listed as endangered). The only species that would be directly impacted would be the San Jacinto Valley crownscale. The other two listed plant species were found outside the PIA in Additional Indirect Impact Study Area 1.

San Jacinto Valley Crownscale

Build Alternative 2a would permanently impact the San Jacinto Valley crownscale. A Section 7 determination of may affect, likely to adversely affect is made for this species because direct take of the San Jacinto Valley crownscale would occur. In addition to the impacts described for all Build alternatives (page 3-664), permanent indirect impacts to 21 San Jacinto Valley crownscale populations (410 plants) located in the alkali grassland, vernal pool, and alkali playa habitats in Additional Indirect Impact Study Area 1 could be indirectly impacted by Build Alternative 2a. In the context of the MSHCP, these populations have LTCV.

Spreading Navarretia

Fifteen populations of spreading navarretia (28,533 plants) could be indirectly impacted by Build Alternative 2a. The largest concentration of plants was found in Additional Indirect Impact Study Area 1, at the Stowe Road Vernal Pool Complex, north of Stowe Road. In the context of the MSHCP, all of these populations have very high LTCV. A Section 7 determination of may affect, likely to adversely affect is made for spreading navarretia in Build Alternative 2a. However, with the implementation of measures BIO-28 (page 3-517), BIO-33 (page 3-518), and BIO-42 (page 3-631), impacts would be minimized.

California Orcutt Grass

Indirect impacts to two populations of California Orcutt grass (4,366 plants) identified in Additional Indirect Impact Study Area 1 in the Stowe Road Vernal Pool Complex, north of Stowe Road, could occur because of Build Alternative 2a. In the context of the MSHCP, both of these populations have very high LTCV. A Section 7 determination of may affect, likely to adversely affect is made for California Orcutt grass in Build Alternative 2a. However, with the implementation of measures BIO-28 (page 3-517), BIO-33 (page 3-518), and BIO-42 (page 3-631), impacts would be minimized.

90 Percent Avoidance Threshold

With the implementation of BIO-28 (page 3-517), BIO-33 (page 3-518), and BIO-42 (page 3-631), permanent indirect impacts to the San Jacinto Valley crownscale, spreading navarretia, and California Orcutt grass in Additional Indirect Impact Area 1 can be minimized to the extent that the 90 percent LTCV population avoidance threshold specified in the MSHCP can be attained. An MSHCP consistency analysis would be conducted with the wildlife agencies to document consistency with the 90 percent avoidance requirement.

Animal Species

Vernal Pool Branchiopods

Build Alternative 2a may affect, and is likely to adversely affect the federally threatened vernal pool fairy shrimp (*Branchinecta lynchi)* through indirect impacts to hydrology. Although no listed vernal pool branchiopods were observed in the PIA of Build Alternative 2a, this Build alternative could affect the hydrology of a vernal pool complex totaling 0.72 ha (1.79 ac) in Additional Indirect Impact Study Area 1, in the grassland just northwest of the intersection of Stowe Road and California Avenue. This impact would occur in the southeastern portion of Criteria Area Cell 3887; however, Build Alternative 2a will not preclude the goals of this Criteria Area Cell.

Southwestern Willow Flycatcher

Impacts to and the Section 7 determination for the southwestern willow flycatcher in Build Alternative 2a would be the same as Build Alternative 1a (page 3-665).

Least Bell's Vireo

Impacts to and the Section 7 determination for least Bell's vireo in Build Alternative 2a would be the same as Build Alternative 1a (page 3-665).

Stephens' Kangaroo Rat

About 87.5 ha (216.1 ac) of suitable Stephens' kangaroo rat habitat would be directly impacted by Build Alternative 2a, and about 144.4 ha (356.8 ac) would be indirectly impacted. Stephens' kangaroo rat is an MSHCP Covered Species Adequately Conserved. A Section 7 determination of may affect, likely to adversely affect is made for Stephens' kangaroo rat in Build Alternative 2a.

Quino Checkerspot Butterfly

About 150.2 ha (371.0 ac) of suitable Quino checkerspot butterfly habitat would be directly impacted by Build Alternative 2a, and about 235.39 ha (581.67 ac) could be indirectly impacted. Quino checkerspot butterfly is an MSHCP Covered Species Adequately Conserved. A Section 7 determination of may affect, likely to adversely affect is made for the Quino checkerspot butterfly in Build Alternative 2a.

Coastal California Gnatcatcher

About 46.1 ha (114.0 ac) of suitable coastal California gnatcatcher habitat would be directly impacted by Build Alternative 2a, and about 40.74 ac (100.68 ha) could be indirectly impacted. The coastal California gnatcatcher is

an MSHCP Covered Species Adequately Conserved. A Section 7 determination of may affect, likely to adversely affect is made for the coastal California gnatcatcher in Build Alternative 2a.

Critical Habitat

Build Alternative 2a would directly impact 1.0 ha (2.4 ac) of spreading navarretia critical habitat Subunit 6B. Salt Creek Seasonally Flooded Alkali Plain. Indirect impacts could be as much as 134.1 ha (331.2 ac). As described in Section 3.3.5.2 (page 3-635), the spreading navarretia critical habitat located in the PIA of Build Alternative 2a does contain primary constituent elements as defined in the Federal Register. The critical habitat in Additional Indirect Impact Area 1 is occupied (see Figure 3.3-38) and, therefore, is considered to have high value. However, these indirect impacts to the spreading navarretia populations would be mitigated by measure BIO-34, which would maintain hydrology in the critical habitat area. Consequently, Build Alternative 2a is not likely to adversely modify or destroy this spreading navarretia critical habitat through indirect impacts to existing hydrology.

Build Alternative 2b

Plant Species

Impacts to and the Section 7 determinations for threatened and endangered plant species in Build Alternative 2b would be the same as Build Alternative 2a (page 3-668).

Animal Species

Vernal Pool Branchiopods

Impacts to and Section 7 determination for the federally threatened vernal pool fairy shrimp would be the same for Build Alternative 2b as Build Alternative 2a (page 3-668).

Southwestern Willow Flycatcher

Impacts to and the Section 7 determination for the southwestern willow flycatcher in Build Alternative 2b would be the same as Build Alternative 1b (page 3-666).

Least Bell's Vireo

Impacts to and the Section 7 determination for the least Bell's vireo in Build Alternative 2b would be the same as Build Alternative 1b (page 3-666).

Stephens' Kangaroo Rat

About 86.0 ha (212.5 ac) of suitable Stephens' kangaroo rat habitat would be directly impacted by Build Alternative 2b, and about 141.7 ha (350.1 ac) could be indirectly impacted. Stephens' kangaroo rat is an MSHCP Covered Species Adequately Conserved. A Section 7 determination of may affect, likely to adversely affect is made for Stephens' kangaroo rat in Build Alternative 2b.

Quino Checkerspot Butterfly

About 162.7 ha (401.9 ac) of suitable Quino checkerspot butterfly habitat would be directly impacted by Build Alternative 2b, and about 239.94 ha (592.91 ac) could be indirectly impacted. Quino checkerspot butterfly is an MSHCP Covered Species Adequately Conserved. A Section 7 determination of may affect, likely to adversely affect is made for the Quino checkerspot butterfly in Build Alternative 2b.

Coastal California Gnatcatcher

About 43.8 ha (108.3 ac) of suitable coastal California gnatcatcher habitat would be directly impacted by Build Alternative 2b, and about 41.04 ha (101.41 ac) could be indirectly impacted. The coastal California gnatcatcher is an MSHCP Covered Species Adequately Conserved. A Section 7 determination of may affect, likely to adversely affect is made for the coastal California gnatcatcher in Build Alternative 2b.

Critical Habitat

Impacts to spreading navarretia critical habitat from Build Alternative 2b would be the same as Build Alternative 2a (page 3-668).

Design Option 2b1

Design Option 2b1 would directly impact slightly more Quino checkerspot butterfly habitat than Build Alternative 2b, 162.9 ha (402.4 ac) versus 162.7 ha (401.9 ac), respectively. Indirect impacts would be almost the same, about 239.99 ha (593.03 ac) for the design option versus 239.94 ha (592.91 ac) for the Build alternative. A Section 7 determination of may affect, likely to adversely affect is made for the Quino checkerspot butterfly for Design Option 2b1.

Design Option 2b1 would cause no other changes in impacts to or Section 7 determinations for threatened and endangered species or critical habitat than those presented for Build Alternative 2b.

Temporary Impacts

The Project would not have any temporary construction easement areas that would result in temporary removal of threatened and endangered species habitat. However, suitable habitat for Stephens' kangaroo rat, quino checkerspot butterfly, and the coastal California gnatcatcher is present in the indirect impact area. As stated in Permanent Impacts (page 3-662), these three species are Covered Species Adequately Conserved in the MSHCP, and surveys are not required by the wildlife agencies. For determinations per Section 7 of the Endangered Species Act, these species are assumed to be present in areas containing suitable habitat.

Temporary impacts to these three species could include construction noise, lights, dust, or vibration. Increased mortality and injury from being struck by construction vehicles could also occur. In addition, increased trash and discarded food from construction personnel could attract predators of the Stephens' kangaroo rat.

The analysis presented in this section overlaps with the permanent indirect impact analysis for these three species because the same individuals or pairs located in the indirect impact area may not only be impacted during construction, but could also be impacted after construction when the new roadway is in full operation.

This section presents temporary impacts to threatened and endangered animal species in the Project alternatives. All impacts to critical habitat are considered permanent and, therefore, are not presented in this section.

No Build Alternative

No impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

Build Alternative 1a

MSHCP Covered Species and/or Planning Species

Stephens' Kangaroo Rat

Build Alternative 1a could temporarily impact 133.8 ha (330.6 ac) of Stephens' kangaroo rat habitat.

Quino Checkerspot Butterfly

Build Alternative 1a could temporarily impact 79.33 ha (196.02 ac) of Quino checkerspot butterfly habitat.

Coastal California Gnatcatcher

Build Alternative 1a could temporarily impact 11.29 ha (27.90 ac) of coastal California gnatcatcher habitat.

Build Alternative 1b

MSHCP Covered Species and/or Planning Species

Stephens' Kangaroo Rat

Build Alternative 1b could temporarily impact 132.3 ha (326.8 ac) of Stephens' kangaroo rat habitat.

Quino Checkerspot Butterfly

Build Alternative 1b could temporarily impact 85.08 ha (210.25 ac) of Quino checkerspot butterfly habitat.

Coastal California Gnatcatcher

Build Alternative 1b could temporarily impact 11.58 ha (28.62 ac) of coastal California gnatcatcher habitat.

Design Option 1b1

Design option 1b1 would cause one minor change in temporary impacts to quino checkerspot butterfly habitat compared to Build Alternative 1b. Design option 1b1 would temporarily impact 85.13 ha (210.37 ac) of quino checkerspot butterfly habitat, instead of 85.08 ha (210.25 ac) under Build Alternative 1b. No other changes in temporary impacts to threatened and endangered species from Build Alternative 1b would occur from Design Option 1b1.

Build Alternative 2a

MSHCP Covered Species and/or Planning Species

Stephens' Kangaroo Rat

Build Alternative 2a could temporarily impact 144.4 ha (356.8 ac) of Stephens' kangaroo rat habitat.

Quino Checkerspot Butterfly

Build Alternative 2a could temporarily impact 235.39 ha (581.69 ac) of Quino checkerspot butterfly habitat.

Coastal California Gnatcatcher

Build Alternative 2a could temporarily impact 40.74 ha (100.68 ac) of coastal California gnatcatcher habitat.

Build Alternative 2b

MSHCP Covered Species and/or Planning Species

Stephens' Kangaroo Rat

Build Alternative 2b could temporarily impact 141.7 ha (350.1 ac) of Stephens' kangaroo rat habitat.

Quino Checkerspot Butterfly

Build Alternative 2b could temporarily impact 239.94 ha (592.91 ac) of Quino checkerspot butterfly habitat.

Coastal California Gnatcatcher

Build Alternative 2b could temporarily impact 41.04 ha (101.41 ac) of coastal California gnatcatcher habitat.

Design Option 2b1

Design option 2b1 could cause one minor change in temporary impacts to Quino checkerspot butterfly habitat compared to Build Alternative 2b. Design Option 2b1 could temporarily impact 239.99 ha (593.03 ac) of Quino checkerspot butterfly habitat, instead of 239.94 ha (592.91 ac) with Build Alternative 2b. No other changes in temporary impacts to threatened and endangered species from Build Alternative 2b would occur from Design Option 2b1.

3.3.5.4 Avoidance, Minimization, and/or Mitigation Measures

Avoidance Measures

BIO-28 BIO-28, which is described in Section 3.3.2.4 (page 3-516), would protect the federally listed vernal pool branchiopods in Additional Indirect Impact Study Area 1 in the Stowe Road Vernal Pool Complex. An ESA fence will be installed for Build Alternatives 2a and 2b and Design Option 2b1 along the edge of the PIA for Roadway Segments D and H.

Minimization Measures

BIO-49 **Conducting Clearance of Riparian Habitat Outside Riparian Bird Active Breeding Season (Generally March 1 through June 30).** Clearing of riparian habitat should be conducted outside the active breeding season (generally March 1 through June 30). For each year of construction, if vegetation removal occurs in riparian habitats during the nonbreeding season for riparian birds, then preconstruction surveys are not required. However, if vegetation removal must occur in riparian habitats during the breeding season for least Bell's vireos or southwestern willow flycatchers during any construction year, then preconstruction surveys will be required to comply with the MSHCP. If least Bell's vireos or southwestern willow flycatchers are detected, the appropriate resource manager will be contacted to determine if vegetation removal activities can proceed under specific conditions.

Mitigation Measures

Stephens' Kangaroo Rat

The Stephens' kangaroo rat is an MSHCP Covered Species Adequately Conserved. As such, according to Section 14.2 of the MSCHP Implementing Agreement:

> *The USFWS has found, following opportunity for public comment, that: 1) the taking of Covered Species Adequately Conserved within the MSHCP Plan Area in accordance with the MSHCP as implemented will be incidental to the carrying out of otherwise lawful activities; 2) the MSHCP as implemented will, to the maximum extent practicable, minimize and mitigate the impacts of such incidental taking; 3) the funding sources identified and provided for herein will ensure that adequate funding for the MSHCP will be provided; 4) the requested taking of Covered Species Adequately Conserved will not appreciably reduce the likelihood of survival and recovery of such species in the wild; and 5) the MSHCP, as implemented, will satisfy and fulfill all measures agreed upon by the parties for the purposes of the MSHCP (including procedures determined by the USFWS to be necessary to address Unforeseen Circumstances).*

Additionally, according to Section 14.9, Section 7 Consultations, of the MSHCP Implementing Agreement:

> *The USFWS will evaluate the direct, indirect, and cumulative effects of the Covered Activities in its internal FESA biological opinion issued in connection with the MSHCP and issuance of the Section 10(a) Permit. As a result, and to the maximum extent allowable, in any consultation under Section 7 of FESA subsequent to the Effective Date involving the Permittee(s) or entity with Third Party Take Authorization with regard to Covered Species Adequately Conserved and Covered Activities, the USFWS shall ensure that the FESA biological opinion issued in connection with the proposed project that is the subject of the consultation is consistent with the internal FESA biological opinion. Such project must be consistent with the terms and conditions of the MSHCP and this Agreement. Any reasonable and prudent measures included under the terms and conditions of a FESA biological opinion issued subsequent to the Effective Date with regard to the Covered Species Adequately Conserved and Covered Activities shall, to the maximum extent appropriate, be consistent with the implementation measures of the MSHCP and this Agreement. The USFWS shall not impose measures in excess of those that have been or will be required*

by the Permittee(s) or entity with Third Party Take Authorization pursuant to the MSHCP and this Agreement. The USFWS shall process subsequent FESA consultations for Covered Activities in accordance with the process and time periods set forth in 50 Code of Federal Regulations, section 402.14. The Parties agree that this section does not create an independent cause of action.

Therefore, no mitigation is proposed for impacts to the Stephens' kangaroo rat.

Vernal Pool Fairy Shrimp

BIO-28, 33 BIO-28 and BIO-33a-c, which were presented in Section 3.3.2.4 (page 3-516), are mitigation measures for vernal pool fairy shrimp that will provide consistency with the species conservation objectives identified in the MSHCP, Volume II-B, Species Accounts, Vernal Pool Fairy Shrimp.

3.3.6 Invasive Species

3.3.6.1 Regulatory Setting

On February 3, 1999, President 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, currently maintained by the California Invasive Species Council to define the invasive plants that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

3.3.6.2 Affected Environment

The following information about invasive species was taken from the analysis in the NES of April 2010.

The California Invasive Plant Council (Cal-IPC) 2006 Invasive Plant Inventory (Inventory), with 2007 updates (Cal-IPC 2007), has been developed using information obtained from a variety of sources. The Inventory highlights non-native plants that are serious problems in wildland areas. The Inventory categorizes plants as highly invasive, moderately invasive, or limited invasive based on the species' negative ecological impact in California. Plants categorized as "High" have severe ecological impacts. Plants categorized as "Moderate" have substantial and apparent, but not severe, ecological impacts. Plants categorized as "Limited" are invasive, but their ecological impacts are minor on a statewide level. Some of these plants may have a more significant impact on local ecosystems.

The California Department of Food and Agriculture (CDFA) maintains a separate list of invasive plants (CDFA 2005). Plants on the CDFA list are often weeds that may have economic importance to the state or a particular region and may be subject to state-sponsored eradication efforts. Finally, the MSHCP contains a list of species (Table 6-2 of the MSHCP [RCIP 2003]) that should not be planted adjacent to MSHCP reserve areas.

Invasive plant species are defined as species of plants included on lists prepared by the CDFA and invasive plants identified by the Cal-IPC. Cal-IPC focuses on plant species that impact natural areas, sometimes called "wildland weeds" (Cal-IPC 2007). The state laws implemented by the CDFA are found in the CDFA Code, which defines a "noxious weed" to be any species of plant that is, or is liable to be, troublesome, aggressive, intrusive, detrimental, or destructive (to agriculture, silviculture, or important native species), and difficult to control or eradicate, or which the director, by regulation, designates to be a noxious weed.

Information about invasive plant species is tracked by these agencies because invasive plants can significantly degrade wildlife and plant habitats. According to the Cal-IPC, nationally, invasive species are the second greatest threat to endangered species, after habitat destruction (Cal-IPC 2007).

Study Methods

Invasive Plant Species Survey Methods

Presence-absence surveys for invasive plant species were conducted as part of floristic-level plant surveys of the study area. However, specific locations of invasive plants were not obtained. Therefore, the specific locations of invasive plant species are not available for each Project feature or Build alternative. Two sources were consulted to determine the invasiveness of observed plant species, the Cal-IPC Invasive Plant Inventory (Cal-IPC 2006, 2007, and 2008) and the CDFA Noxious Weed Information Project (CDFA 2008).

Cal-IPC describes invasive plant species as plants that evolved in a different location and adversely affect (crowd out or displace) native vegetation (Cal-IPC 2008). Some invasive plants can result in large-scale changes in ecosystem processes such as hydrology, fire regimes, and soil chemistry (Cal-IPC 2008).

The CDFA maintains a list of "noxious weeds" that are subject to regulation or quarantine by county agricultural departments (CDFA 2008). These weeds are typically agricultural pests that may have economic importance to the state or a particular region and may be subject to state-sponsored eradication efforts, although many also have impacts on natural areas (Cal-IPC 2008, CDFA 2008).

The MSHCP (RCIP 2003) was also consulted to identify invasive plant species documented or believed to be present in the study area that could threaten the long-term sustainability of Covered Species in the MSHCP Conservation Area.

Invasive Animal Species Survey Methods

The presence of invasive animal species was documented as part of focused wildlife surveys in the study area. However, the locations of invasive animal species were not mapped during the focused surveys, so the specific locations of invasive animal species are not available for each Project feature or Build alternative.

Invasive Plant Species within the RPARSA

Floristic studies previously conducted in western Riverside County estimated that 30 percent of the flora is non-native (Roberts 2004). It is unknown how many of the non-native species known to be in western Riverside County are considered invasive, but numerous non-native plants are known to be present in the Project region. A

list of invasive plant species identified during the surveys, along with their Cal-IPC and CDFA invasiveness ranks, is provided in Table 3.3-21.

Table 3.3-21 Invasive Plant Species Observed during the 2005 and 2006 Rare Plant Surveys of the Study Area

Scientific Name	Common Name	MSHCP[a]	Cal-IPC[b]	CDFA[c]
Acacia longifolia	wild golden wattle	Yes	Nominated	None
Alianthus altissima	tree of heaven	Yes	Moderate	None
Aptenia cordifolia	baby sun rose	Yes	Nominated	None
Anthemis cotula	dog mayweed	No	Evaluation	None
Arundo donax	giant reed	Yes	High	None
Atriplex glauca	glaucus-leaved saltbush	Yes	None	None
Atriplex semibaccata	Australian saltbush	Yes	Moderate	None
Avena barbata	slender wild oat	No	Moderate	None
Avena fatua	wild oat	No	Moderate	None
Bassia hyssopifolia	five-hook bassia	No	Limited	None
Brassica nigra	black mustard	No	Moderate	None
Brassica tournefortii	Sahara mustard	No	High	None
Bromus diandrus	rip-gut brome	No	Moderate	None
Bromus hordeaceus	soft chess	No	Limited	None
Bromus madritensis ssp. *rubens*	red brome	No	High	None
Bromus tectorum	cheat grass	No	High	None
Cardaria draba	hoary cress	No	Moderate	B
Chorispora tenella	Chorispora	No	Evaluation	B
Cirsium vulgare	bull thistle	No	Moderate	None
Convolvulus arvensis	field bindweed	No	Evaluation	C
Cortaderia jubata	pampas grass	Yes	High	None
*Crypsis schoenoides**	swamp timothy	No	No	No
Cynodon dactylon	Bermuda grass	Yes	Moderate	C
Cyperus difformis	rice flat sedge	Yes	None	None
Cyperus eragrostis	tall umbrella sedge	Yes	None	None
Cyperus esculentus	yellow umbrella sedge	Yes	None	B
Cyperus niger	brown umbrella sedge	Yes	None	None
Cyperus odoratus	fragrant umbrella sedge	Yes	None	None
Cyperus rotundus	purple nut grass	Yes	None	B
Dimorphotheca sinuate	blue-eyed cape marigold	Yes	Evaluation	None
Drosanthemum floribundum	rosea ice plant	Yes	None	None
Erodium botrys	long-beaked filaree	No	Evaluation	None
Erodium brachycarpum	short-fruited filaree	No	Evaluation	None
Erodium cicutarium	red-stemmed filaree	No	Limited	None
Erodium moschatum	white-stemmed filaree	No	Evaluation	None
Eucalyptus camaldulensis	red river gum	Yes	Limited	None
Eucalyptus globulus	blue gum	Yes	Moderate	None
Eucalyptus polyanthemos	silver dollar gum	Yes	None	None
Eucalyptus rhodantha	dollar gum	Yes	None	None

Table 3.3-21 Invasive Plant Species Observed during the 2005 and 2006 Rare Plant Surveys of the Study Area

Scientific Name	Common Name	MSHCP[a]	Cal-IPC[b]	CDFA[c]
Festuca arundinacea	fescue	Yes	Moderate	None
Festuca rubra	red fescue	Yes	None	None
Foeniculum vulgare	fennel	Yes	High	None
Fraxinus uhdei	shamel ash	Yes	Evaluation	None
Hirschfeldia incana [Brassica geniculata]	summer mustard	No	Moderate	None
Hordeum marinum ssp. *gussoneanum*	Mediterranean barley	No	Moderate	None
Hordeum murinum ssp. *leporinum*	foxtail barley	No	Moderate	None
Hypochaeris glabra	smooth cat's ear	No	Limited	None
Kochia scoparia	summer cypress	No	Moderate	None
Lactuca serriola	prickly lettuce	No	Evaluation	None
Lantana camara	lantana	Yes	None	None
Lepidium latifolium	broad-leaved peppergrass	No	High	B
Lobularia maritima	sweet alyssum	No	Limited	None
Lolium perenne	perennial ryegrass	Yes	None	None
Lythrum hyssopifolia	grass poly	No	Limited	None
Malvella leprosa [*Sida leprosa* var. *hederacea*]	alkali mallow	No	None	C
Marrubium vulgare	horehound	No	Limited	None
Medicago polymorpha	bur clover	No	Limited	None
Malephora crocea	croceum iceplant	Yes	Evaluation	None
Melilotus indicus	sour clover	No	Nominated	None
Mesembryanthemum nodiflorum	small-flowered ice plant	Yes	Nominated	None
Nerium oleander	oleander	No	Evaluation	None
Nicotiana glauca	tree tobacco	No	Moderate	None
Olea europea	olive	No	Limited	None
Opuntia ficus-indica	Indian fig	Yes	None	None
Parkinsonia aculeatea	Mexican palo verde	Yes	Evaluation	None
Picris echioides	bristly ox-tongue	No	Limited	None
Piptatherum miliaceum	smilo grass	No	Limited	None
Plumbago auriculata	cape plumbago	Yes	None	None
Plantago lanceolata	rib grass	No	Limited	None
Polygonum arenastrum	common knotweed	Yes	None	None
Polygonum argyrocoleon	Persian knotweed	Yes	None	None
Polygonum lapathifolium	willow smartweed	Yes	None	None
Polypogon monspeliensis	rabbit's foot grass	No	Limited	None
Populus nigra	Lombardy poplar	Yes	None	None
Pyracantha coccinea	firethorn	No	Limited	None
Raphanus sativus	wild radish	No	Limited	None
Ricinus communis	castor bean	Yes	Limited	None
Robinia pseudoacacia	black locust	Yes	Limited	None
Rumex crispus	curly dock	No	Limited	None

Table 3.3-21 Invasive Plant Species Observed during the 2005 and 2006 Rare Plant Surveys of the Study Area

Scientific Name	Common Name	MSHCP[a]	Cal-IPC[b]	CDFA[c]
Salsola tragus	Russian thistle	No	Limited	C
Schinus molle	Peruvian pepper tree	Yes	Limited	None
Schinus terebinthifolius	Brazilian pepper tree	Yes	Limited	None
Schismus barbatus	Mediterranean schismus	No	Limited	None
Sinapis arvensis [Brassica kaber]	charlock	No	Limited	None
Solanum elaeagnifolium	silver-leaf horse nettle	No	Evaluation	B
Sonchus asper	prickly sow thistle	No	Evaluation	None
Tamarix aphylla	athel	Yes	Limited	None
Tamarix ramosissima	Mediterranean tamarisk	Yes	High	None
Tribulus terrestris	puncture vine	No	None	C
Trifolium hirtum	rose clover	No	Moderate	None
Vinca major	blue periwinkle	Yes	Moderate	None
Vulpia myuros	rattail fescue or zorro fescue	No	Moderate	None
Washingtonia robusta	Mexican fan palm	No	Moderate (Alert)	None

Sources: California Invasive Plant Council (Cal-IPC). California Invasive Plant Inventory. California Invasive Plant Council: Berkeley, CA. California Invasive Plant Inventory (2006), 2007 Updates, and Online Inventory at *http://www.cal-ipc.org/ip/inventory/index.php#inventory*.

California Department of Food and Agriculture (CDFA) Encycloweedia: *Notes on Identification, Biology, and Management of Plants Defined as Noxious Weeds by California Law.* Available online at *http://www.cdfa.ca.gov/phpps/ipc/encycloweedia/encycloweedia_hp.htm*.

Note: *Swamp timothy (*Crypsis schoenoides*) is a non-native, mat-forming grass species that can be invasive in vernal pools, where it can displace special-status plants. It is not included in either the Cal-IPC Inventory or CDFA list of noxious weeds.

[a]Included in MSHCP Table 6-2, Plants That Should Be Avoided Adjacent To The MSHCP Conservation Area (RCIP 2003).

[b]Cal-IPC Rankings:

High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate – These species have substantial and apparent – but generally not severe – ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited – These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Evaluation – Evaluation List Species

Nominated – Species Nominated but not yet reviewed

Alert – The alert designation within the Invasive Plant Inventory refers to plants with High or Moderate ratings that have the potential to increase their ranges in California.

[c]CDFA Ranks:

"A" – An organism of known economic importance subject to state (or commissioner when acting as a state agent) enforced action involving: eradication, quarantine, containment, rejection, or other holding action.

"B" – An organism of known economic importance subject to: eradication, containment, control or other holding action at the discretion of the individual county agricultural commissioner; or an organism of known economic importance subject to state endorsed holding action and eradication only when found in a nursery.

"C" – An organism subject to no state enforced action outside of nurseries except to retard spread. At the discretion of the commissioner: or an organism subject to no state enforced action except to provide for pest cleanliness in nurseries.

The MSHCP states that habitat alteration and native species displacement by invasive plants are serious threats to many covered plant and animal species. Specifically, the MSHCP identified several species that were considered

invasive and that should be avoided in landscaping adjacent to MSHCP Conservation Areas (Table 6-2, Plants That Should Be Avoided Adjacent to the MSHCP Conservation Area, of the MSHCP) (RCIP 2003). Invasive species included in Table 6-2 of the MSHCP that were observed in the study area during the 2005 and 2006 surveys are also identified in Table 3.3-21 (page 3-677). A general overview of the most important weeds observed in the study area is presented in the following sections.

A total of 93 invasive plants were identified in the study area during the 2005 and 2006 botanical surveys (Table 3.3-21 [page 3-677]). No CDFA "A" ranked (eradication or quarantine) species were observed during the surveys. Six CDFA "B" ranked species and five "C" ranked species were noted. These B and C species are not of immediate concern to CDFA.

Eight Cal-IPC "High" ranked, 25 "Limited" ranked, and 20 "Moderate" ranked species were identified in the study area (Table 3.3-21 [page 3-677]). Eighteen species in Table 3.3-21 have either been nominated for inclusion in the Cal-IPC inventory or are being evaluated. Twenty-one plants listed in Table 3.3-21 are not included in the Cal-IPC inventory. Forty-two plant species identified in the study area are included in MSHCP Table 6-2, Plants That Should Be Avoided Adjacent to the MSHCP Conservation Area. Some of these plants may have a more significant impact on local ecosystems. One non-native species, swamp timothy (*Crypsis schoenoides*), that was not included in either the Cal-IPC inventory or the CDFA list of noxious weeds, was also included in Table 3.3-21.

Only one of the Cal-IPC "High" ranked invasive plants presented in Table 3.3-21 (page 3-677), broad-leaved peppergrass (*Lepidium latifolium*), is widespread in the study area. Broad-leaved peppergrass is a very aggressive habitat invader, particularly in disturbed areas, and it was abundant in the northern part of the study area, north of Cottonwood Avenue. A second Cal-IPC "High" ranked invasive plant is Sahara mustard (*Brassica tournefortii*), which was identified in the West Hemet Hills. Sahara mustard was much more abundant in 2005 than in 2006 because of the heavy rains that occurred in 2005. Sahara mustard is extremely invasive and is known to spread into sensitive Riversidian sage scrub habitats.

A third "High" ranked plant, Mediterranean tamarisk (*Tamarix ramossisma*), was observed in most of the riparian areas in the study area. Most of the other invasive weeds in the Cal-IPC "High" ranked category in the study area are less abundant and are localized.

Twenty "Moderate" ranked invasive species were encountered in fairly high numbers, including ripgut grass (*Bromus diandrus*), summer mustard (*Hirscheldia incana*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), hare barley (*Hordeum murinum* ssp. *leporinum*), and Italian ryegrass (*Lolium multiflorum*). Mediterranean barley has the most significant ecological impact of all these grasses because Mediterranean barley displaces the native grass species in alkali grasslands habitat. This is of particular concern in the central part of the study area, where high densities of special-status plant species are present.

Three "Moderate" or "Limited" ranked plant species are invasive on a smaller ecological scale in disturbed alkali habitats: five-hook bassia (*Bassia hyssopifolia*), Russian thistle (*Salsola tragus*), and summer cypress (*Kochia scoparia*).

Dog mayweed (*Anthemis cotula*), an "Evaluation" species of increasing concern, was identified in areas with moist soils (including some seasonal wetlands) in the study area. Small-flowered iceplant (*Mesembryanthemum nodiflorum*), a species nominated but not yet reviewed for the Cal-IPC inventory, was abundant in some alkali playa habitat areas, especially south of Esplanade Avenue.

Swamp timothy (*Crypsis schoenoides*) is a non-native, mat-forming grass species that can be invasive in vernal pools where it can displace special-status plants. It is not included in either the Cal-IPC inventory or CDFA list of noxious weeds.

Invasive Animal Species within the TWSA

The combination of rural and urban land uses and ongoing site disturbance in the study area support a variety of non-native animal species, including brown-headed cowbirds (*Molothrus ater*), common peafowl (*Pavo cristatus*), European starlings (*Sturnus vulgaris*), house sparrows (*Passer domesticus*), rock doves (*Columba livia*), and house mice (*Mus musculus*). Of the non-native wildlife species that were observed, only brown-headed cowbirds and European starlings are considered to be invasive. A list of the invasive animal species that were documented in the study area is included in Appendix H of the NES.

The urban areas support large populations of European starlings, house sparrows, rock doves, and house mice. Common peafowl are also present at some ranches and rural residences. Bullfrogs (*Rana catesbeiana*), an invasive amphibian predator, were expected to be present in the stock ponds and other natural and man-made water features throughout the study area, but they were not observed during amphibian surveys.

The rural agricultural areas, dairies, and horse stables support abundant brown-headed cowbird and rock dove populations. Brown-headed cowbirds are brood parasites that do not raise their own young. Instead, the females lay eggs in the nests of host bird species. This negatively impacts the nest success of the host birds because the host birds either abandon their nests or raise the cowbird chicks at the expense of their own chicks. Large flocks of approximately 15 to 25 brown-headed cowbirds (including males, females, and juveniles) were observed foraging and displaying in several survey sites in the northern portion of the study area. Brown-headed cowbirds were also observed in all of the southwestern willow flycatcher survey sites. Brown-headed cowbirds are known to have a detrimental impact on southwestern willow flycatcher and least Bell's vireo nesting success. Although brown-headed cowbird eggs were not observed during these surveys, the presence of juvenile cowbirds indicates that nest parasitism had occurred.

3.3.6.3 Environmental Consequences

The following sections describe how potential permanent (direct and indirect) and temporary impacts could promote the spread of invasive species. Because specific location information on invasive plant and animal species is not available, a qualitative discussion is presented. The potential impacts due to invasive species associated with the Project would be similar regardless of the Build alternative or design option that is identified as the Preferred Alternative. Therefore, the discussion below is presented for the collective Project, as opposed to a specific Build alternative or design option.

No Build Alternative

The impacts from invasive plant species with the No Build Alternative would be lower levels of encroachment or establishment of invasive plants that could degrade special-status plant or other sensitive habitat or displace special-status plant individuals or populations than would occur with any of the Build alternatives or design options. Because no direct impacts on animal species from invasive species are expected, there would be no difference in impacts between the No Build Alternative and the Build alternatives or design options.

All Build Alternatives and Design Options

Permanent Impacts

Plants

Ninety-three invasive plants were identified in the study area during the 2005 and 2006 botanical surveys. Invasive plant species are recognized as a substantial threat to many special-status plants and their associated or required habitat. For this reason, invasive species detection and evaluation is an important aspect of the MSHCP Biological Monitoring Program (RCIP 2003). Prevention, control, and eradication of invasive plants are key management actions for many Covered Species in MSHCP Conservation Areas.

Potential permanent direct and/or permanent indirect impacts to special-status plants or their habitats include the establishment and/or encroachment of invasive plant species. The encroachment or establishment of invasive plants could result in the degradation of special-status plant or other sensitive habitat or displacement of special-status plant individuals or populations. These impacts, depending on the extent of infestation and magnitude of habitat degradation, could be substantial. Measures during construction will be implemented to monitor and prevent the establishment or encroachment of invasive plant species.

Animal Species

Presence of invasive animal species was documented as part of focused wildlife surveys in the study area. Of the non-native wildlife species that were observed, only brown-headed cowbirds and European starlings are considered invasive. Potential permanent direct and indirect impacts, including habitat loss and operational roadway noise, could be exacerbated due to encroachment by invasive animal species. Because cowbirds are a parasitic species that thrive in human-altered landscapes, it is not expected that the Project would cause a displacement of individuals outside the Project area. Specifically, brown-headed cowbirds are nest parasites known to have a detrimental impact on southwestern willow flycatcher and least Bell's vireo nesting success. However, nesting southwestern willow flycatcher and least Bell's vireo were not observed within the study area. Therefore, no impacts are expected.

Temporary Impacts

Plant Species

Invasive plant species could establish in the construction area and spread into sensitive areas outside the ROW. Best management practices (BMPs) will be implemented during construction to minimize the potential temporary

impacts to offsite natural plant communities. Best management practices would include monitoring during construction by qualified biologists, as described in Section 3.3.6.4 (page 3-683).

Animal Species

Temporary impacts such as habitat fragmentation can encourage the establishment and spread of invasive animal species that degrade habitat quality and availability. Brown-headed cowbirds could have a detrimental impact on southwestern willow flycatcher and least Bell's vireo nesting success. Because cowbirds are a parasitic species that thrive in human-altered landscapes, it is not expected that the Project would cause a displacement of individuals outside the Project area. In addition, nesting southwestern willow flycatcher and least Bell's vireo were not observed in the study area, so no impacts to these species are expected.

3.3.6.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

No Project-related impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

Minimization Measures

All Build Alternatives and Design Options

The following minimization measures are applicable regardless of the Build alternative or design option that is identified as the Preferred Alternative. Therefore, the discussion below is presented for the collective Project, as opposed to a specific Build alternative or design option.

Urban/Wildlands Interface, Siting and Design Criteria, Construction Guidelines and Best Management Practices (Appendix C of the MSHCP)

Although the following MSHCP guidelines and BMPs were presented in the Natural Communities discussion in Section 3.3.1.3 (page 3-459) and Section 3.3.1.4 (page 3-497), the following items are specific to invasive species and are, therefore, presented again.

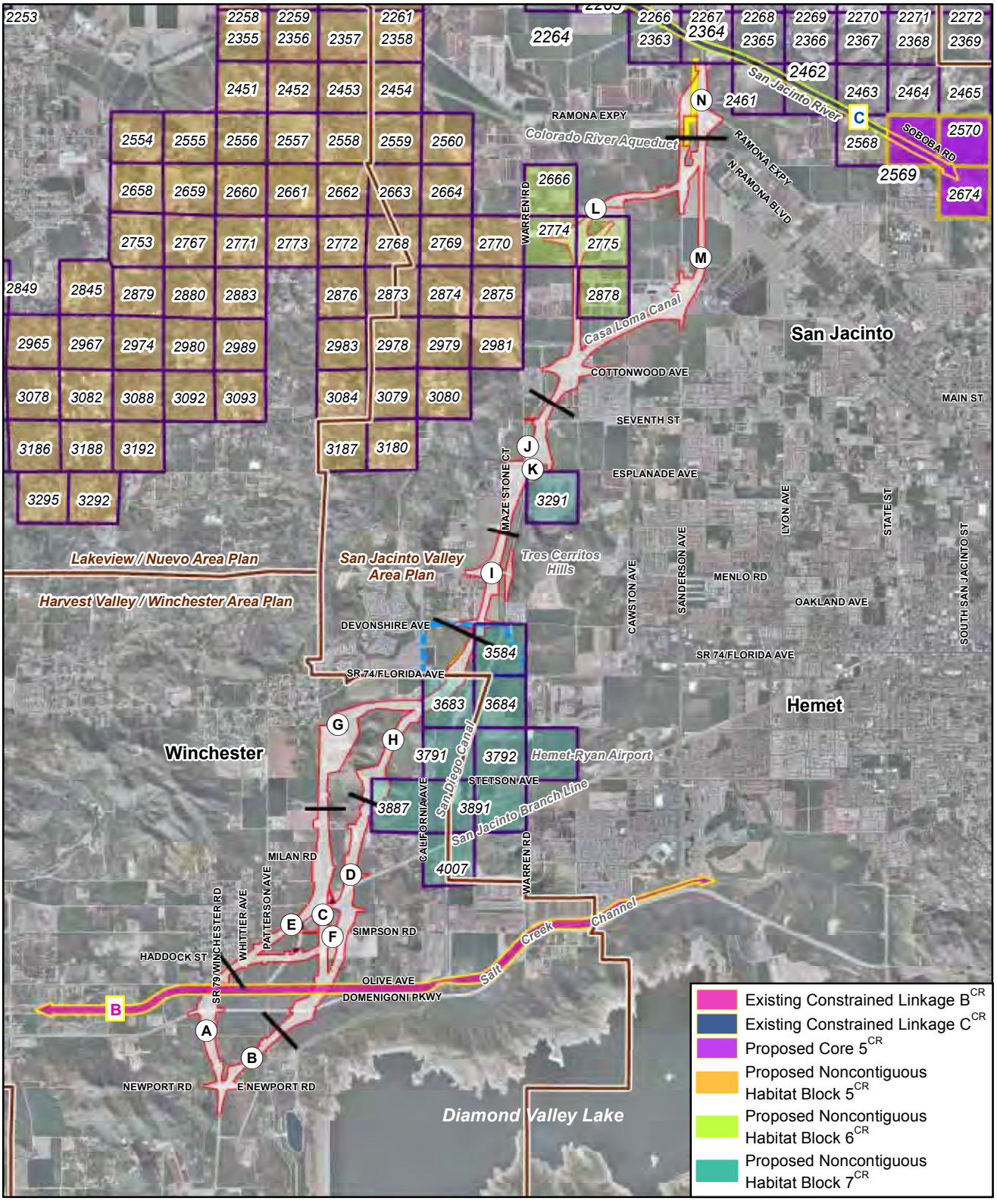
BIO-1 **Landscaping Plans.** Landscaping plans will include native seed for erosion control in areas near the MSHCP Conservation Area.

BIO-2 **Avoid the Use of Invasive and Non-Native Plants.** The landscaping plans will avoid the use of invasive and non-native plants listed in MSHCP Table 6-2, Plants that Should be Avoided Adjacent to the MSHCP Conservation Area, where applicable.

Invasive Plant Species Monitoring and Control

BIO-36 **Avoid the Spread of Invasive Plant Species.** The Project will incorporate specifications in the landscape plans to avoid the spread of invasive plant species.

- **BIO-36a. Cleaning of Equipment**. All construction equipment shall be cleaned, with a broom or other appropriate method, of potential invasive plant seeds before entering sensitive habitat areas.
- **BIO-36b. Monitoring.** Periodic invasive plant species monitoring of the ROW and adjacent sensitive areas will be conducted during construction by contractor-supplied plant biologists who have knowledge about and experience with the local flora and invasive species of the region. Key monitoring objectives are to identify and eradicate any invasive weed infestations that establish or spread within the ROW during construction to prevent them from extending into adjacent sensitive areas. Monitoring will be conducted quarterly, at a minimum, and will focus on the portions of the ROW that are adjacent to Additional Indirect Impact Study Areas 1 and 2, in particular, the Stowe Road Vernal Pool Complex and the Stoney Mountain Preserve. Qualified biologists will demark the location of noxious weeds in the field, on construction and engineering drawings, and with GPS units.
- **BIO-36c. Eradication.** A variety of methods, including mechanical control or herbicides, will be used to eradicate invasive plant species identified during monitoring.



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Connection to Hemet
- Channel Outside the Project Right-of-Way
- Criteria Cells CR
- Area Plan Boundary CR

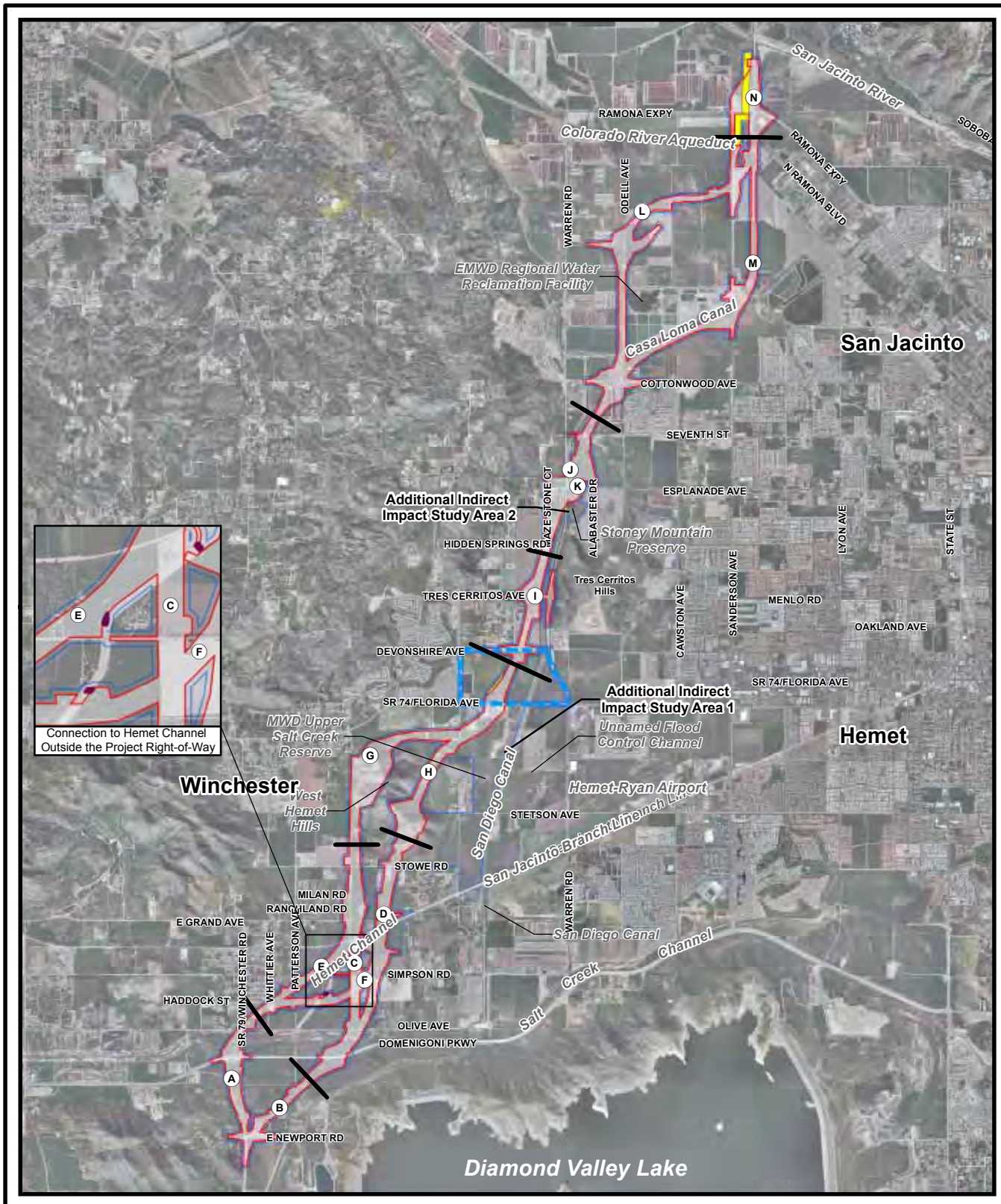
0 7,500 Feet

0 1,500 Meters

1:90,000

Source: CR - County of Riverside

Figure 3.3-1
Multiple Species Habitat Conservation Plan Area Plans, Criteria Cells, and Cores and Linkages
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

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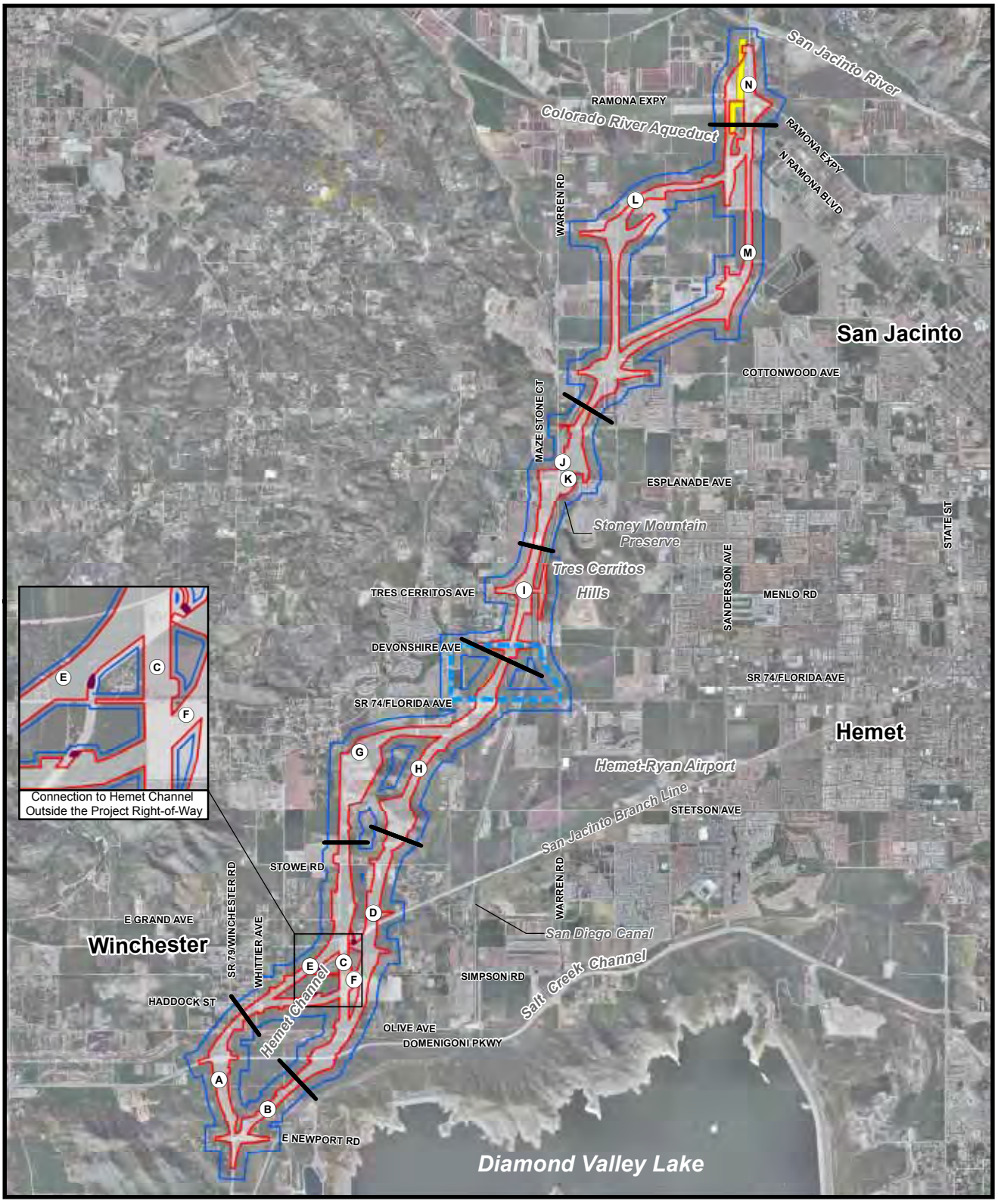
Figure 3.3-2
Rare Plant Aquatic Resource Study Area
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Terrestrial Wildlife Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

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0 1,000 Meters

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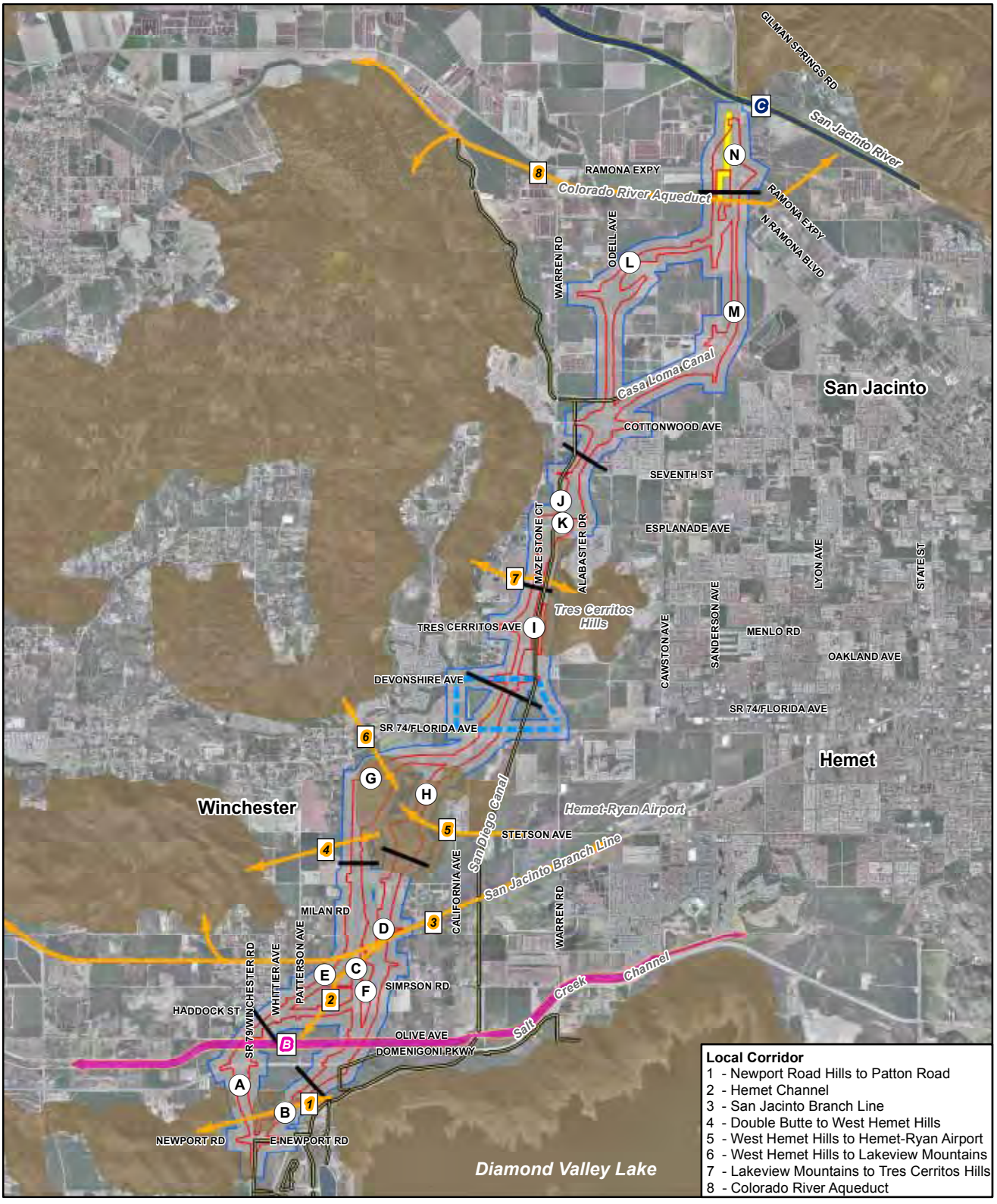
Figure 3.3-3
Terrestrial Wildlife Study Area
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Local Corridor
1 - Newport Road Hills to Patton Road
2 - Hemet Channel
3 - San Jacinto Branch Line
4 - Double Butte to West Hemet Hills
5 - West Hemet Hills to Hemet-Ryan Airport
6 - West Hemet Hills to Lakeview Mountains
7 - Lakeview Mountains to Tres Cerritos Hills
8 - Colorado River Aqueduct

Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Terrestrial Wildlife Study Area
- Utility Relocation Area

Source: CR - County of Riverside

- Connection to Hemet Channel Outside the Project Right-of-Way
- Bridge
- Proposed Culvert
- Barrier to Wildlife Movement

MSHCP Linkage[CR]

- Existing Constrained Linkage B
- Existing Constrained Linkage C
- Local Corridor

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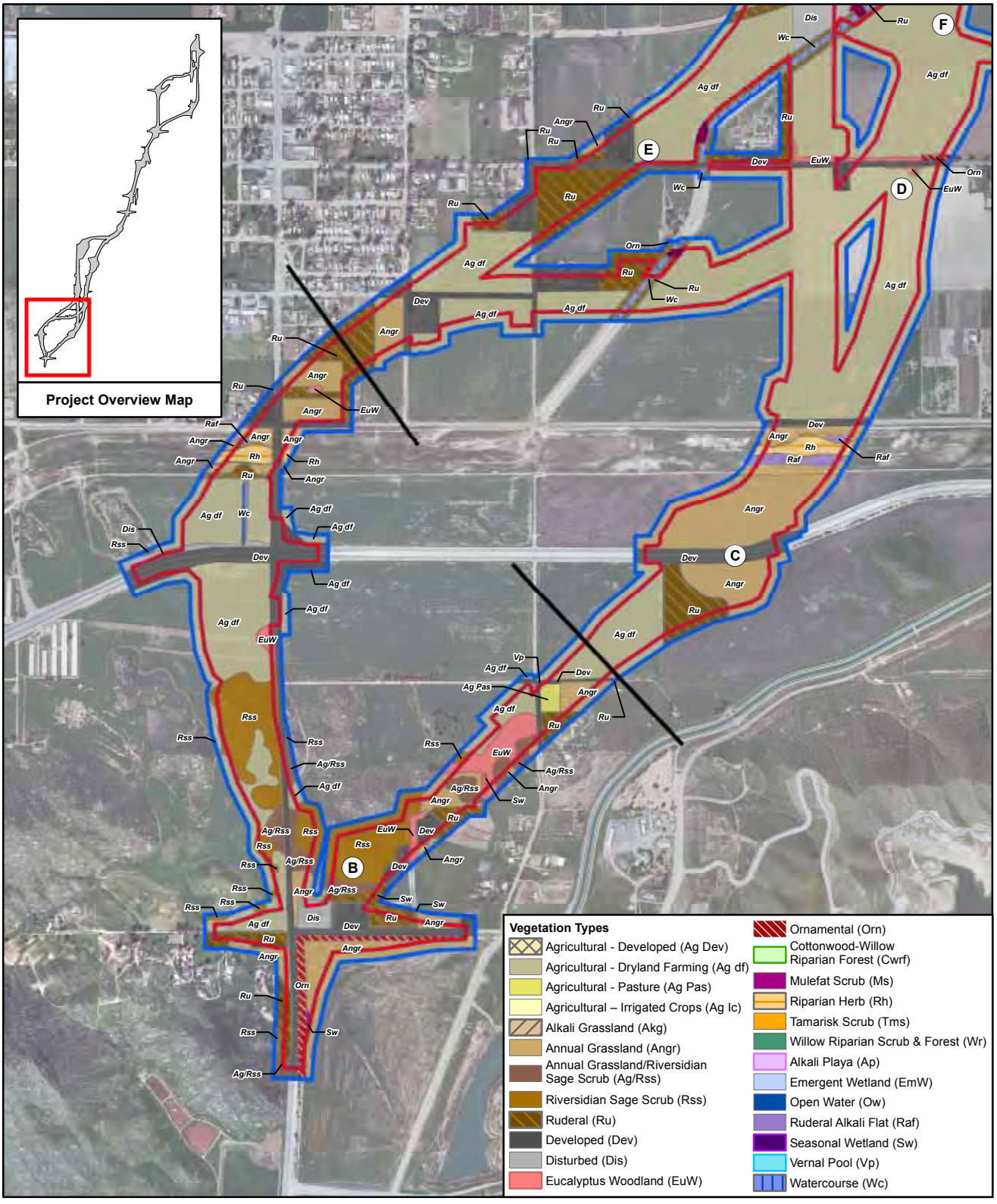
Figure 3.3-4
Existing Wildlife Movement Features and Habitat Regions
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plant and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Note: Vegetation types are representative of field conditions observed during the 2005 and 2006 rare plant surveys.

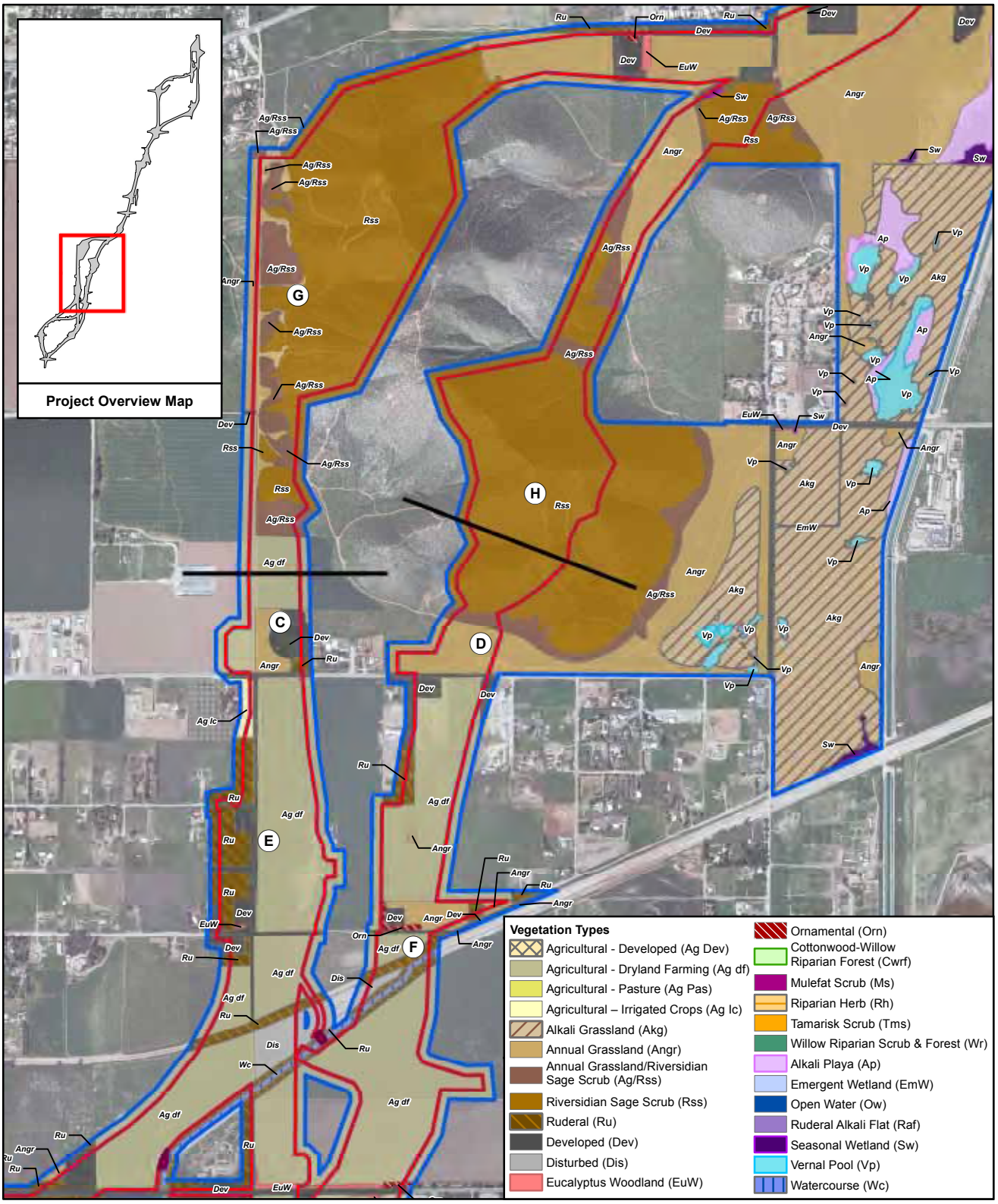
0 1,500 Feet

0 300 Meters

1:18,000

Figure 3.3-5
Location of Vegetation Types

Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plant and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Note: Vegetation types are representative of field conditions observed during the 2005 and 2006 rare plant surveys.

0 1,500 Feet

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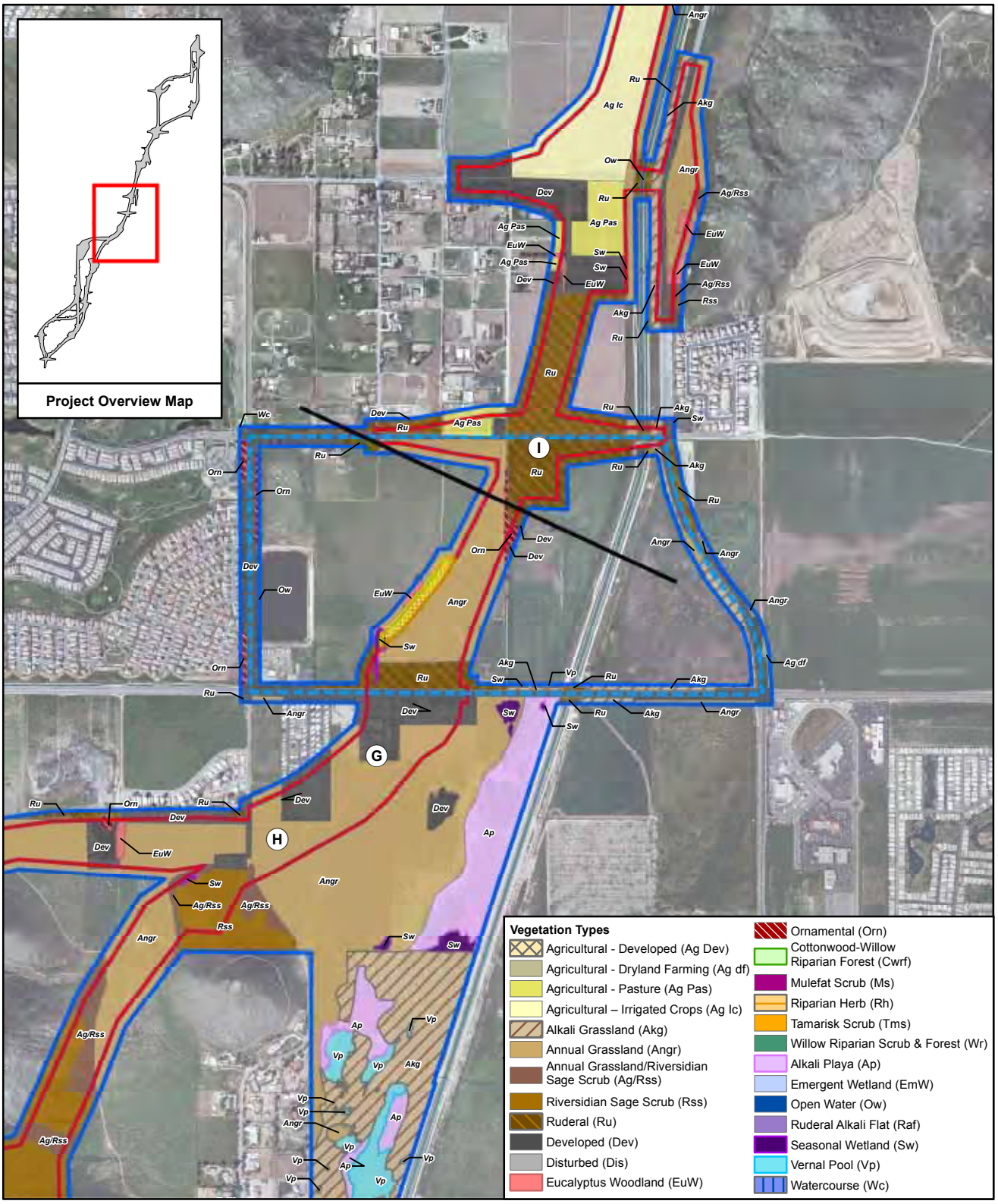
Figure 3.3-6
Location of Vegetation Types

Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plant and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Note: Vegetation types are representative of field conditions observed during the 2005 and 2006 rare plant surveys.

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0 300 Meters

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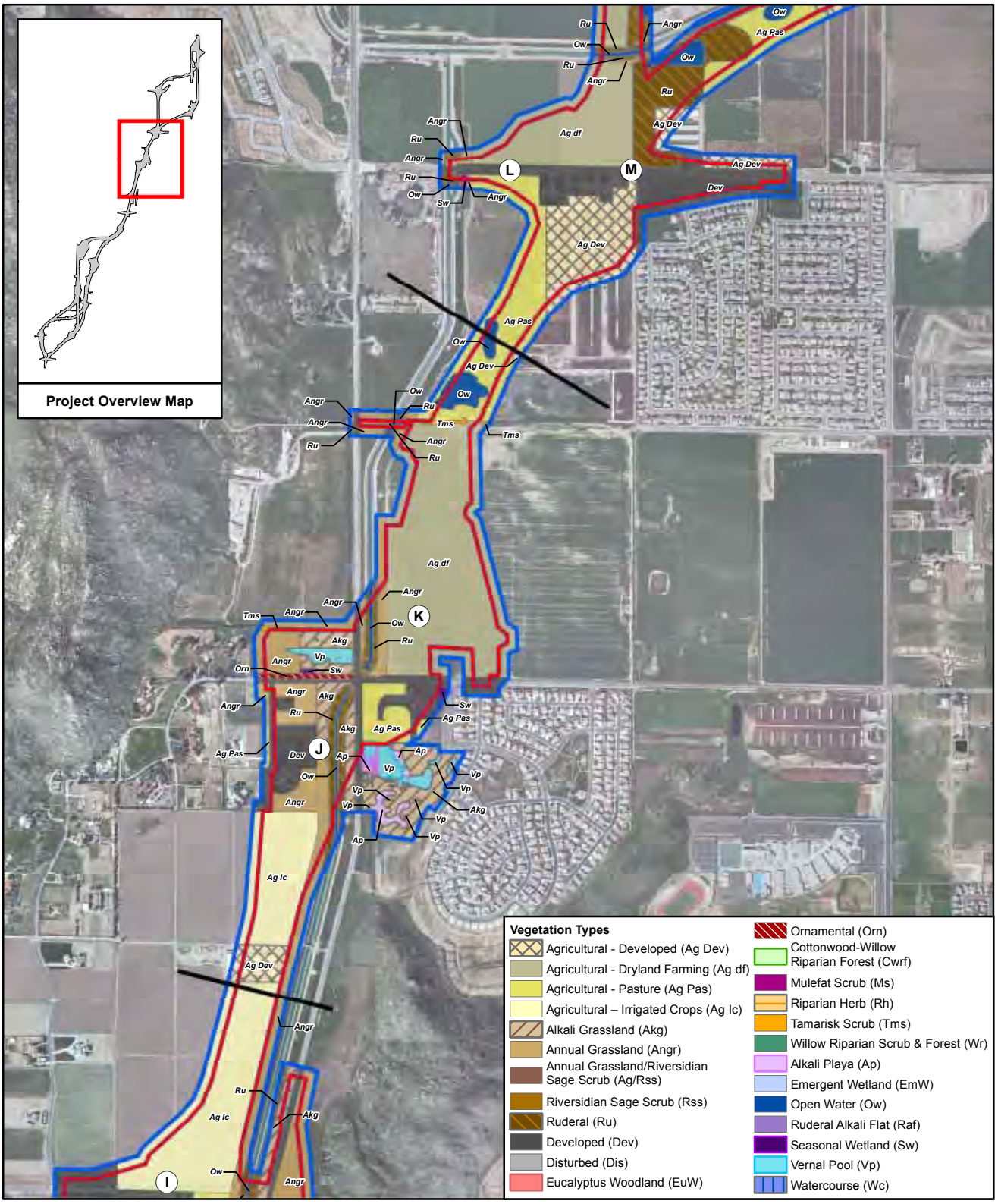
Figure 3.3-7
Location of Vegetation Types
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plant and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

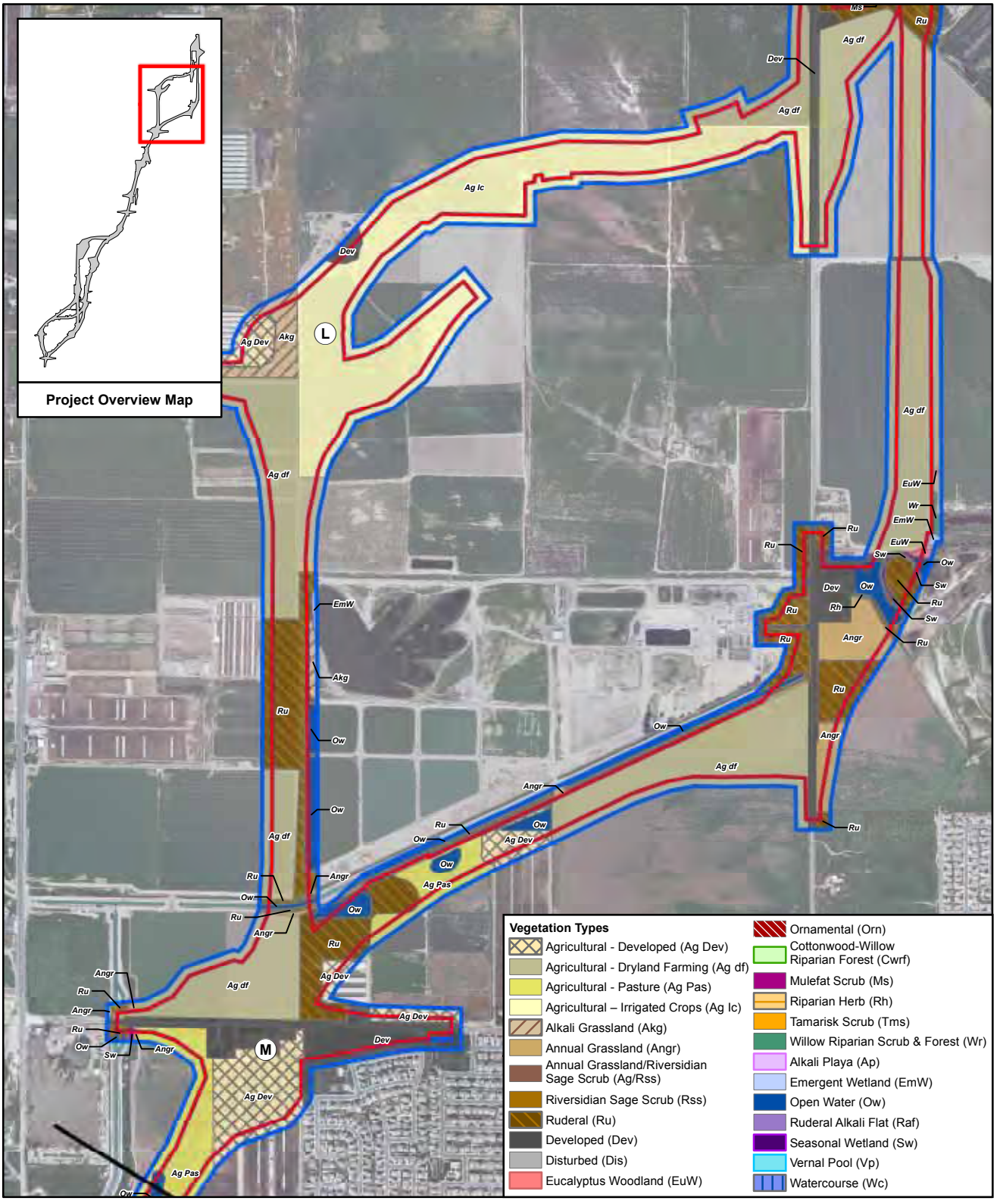
Note: Vegetation types are representative of field conditions observed during the 2005 and 2006 rare plant surveys.

0 1,500 Feet

0 300 Meters

1:18,000

Figure 3.3-8
Location of Vegetation Types
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plant and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

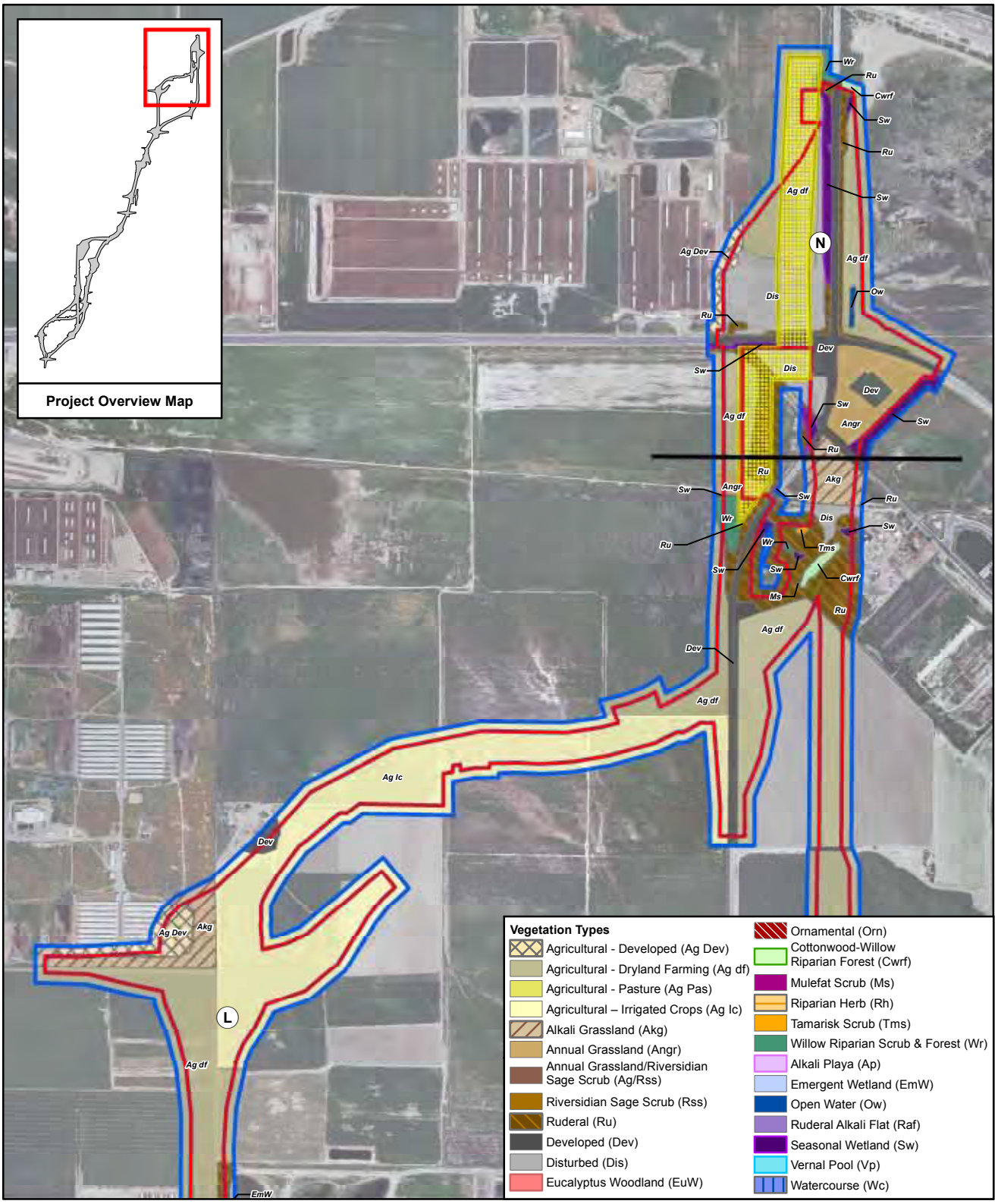
Note: Vegetation types are representative of field conditions observed during the 2005 and 2006 rare plant surveys.

0 1,500 Feet

0 300 Meters

1:18,000

Figure 3.3-9
Location of Vegetation Types
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plant and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

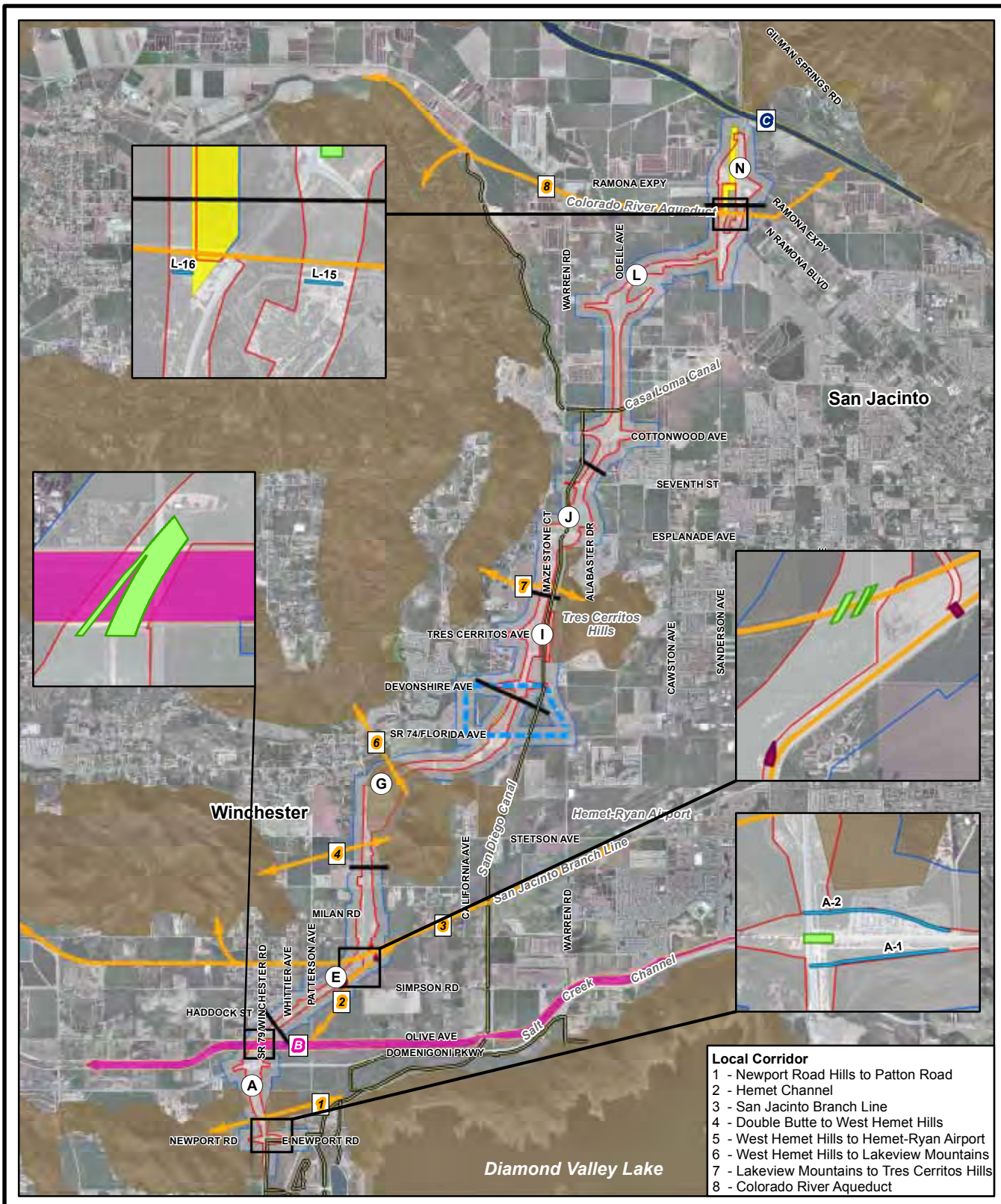
Note: Vegetation types are representative of field conditions observed during the 2005 and 2006 rare plant surveys.

0 1,500 Feet

0 300 Meters

1:18,000

Figure 3.3-10
Location of Vegetation Types
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Terrestrial Wildlife Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Bridge
- Proposed Culvert
- Barrier to Wildlife Movement

MSHCP Linkage[CR]

- Existing Constrained Linkage B
- Existing Constrained Linkage C
- Local Corridor

0 7,500 Feet

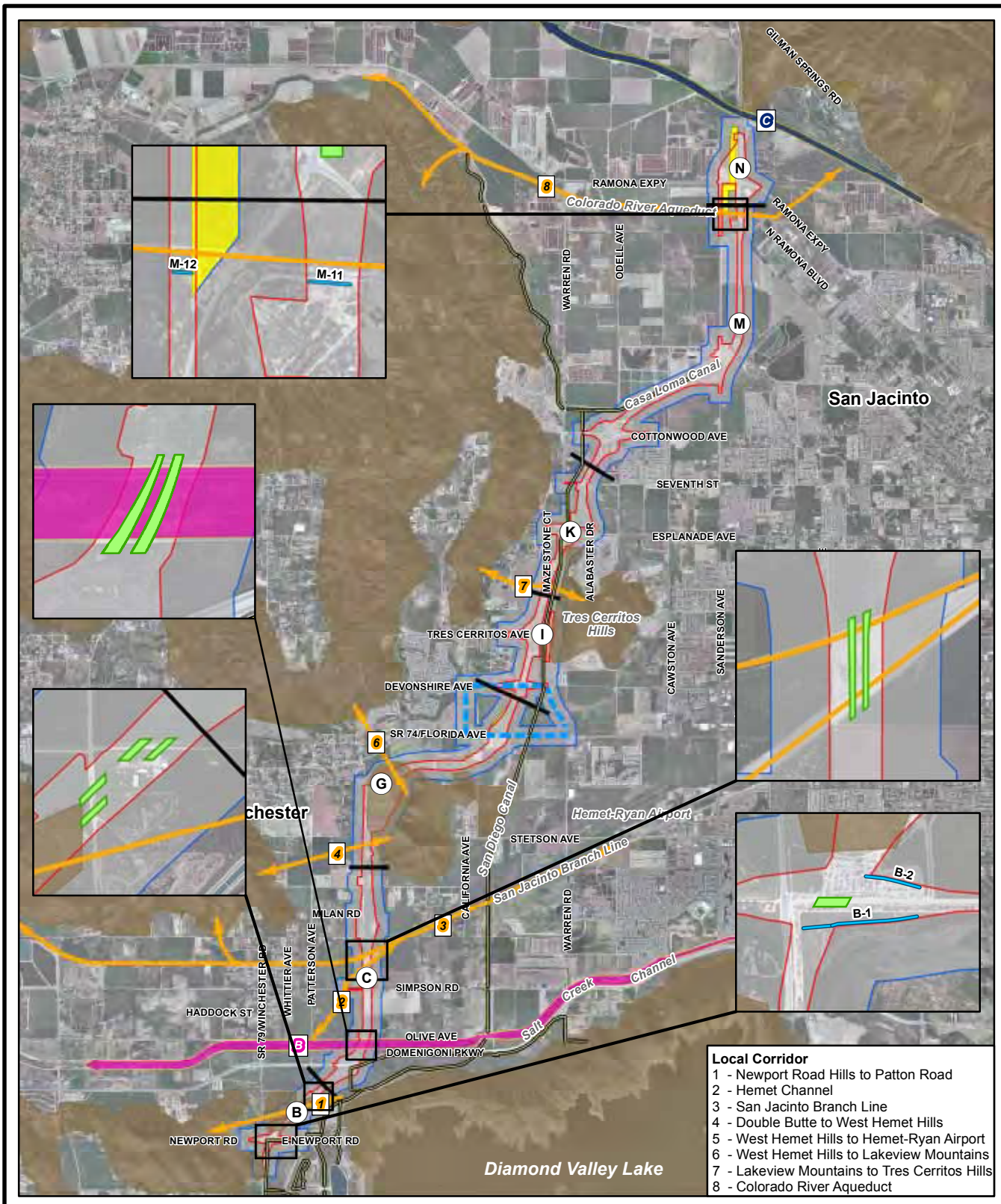
0 1,500 Meters

1:90,000

Source: CR - County of Riverside

Figure 3.3-11
Build Alternative 1a Existing Wildlife Corridor Features with Proposed Bridge and Culvert Locations

Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Terrestrial Wildlife Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Bridge
- Proposed Culvert
- Barrier to Wildlife Movement

MSHCP Linkage[CR]

- Existing Constrained Linkage B
- Existing Constrained Linkage C
- Local Corridor

0 7,500 Feet

0 1,500 Meters

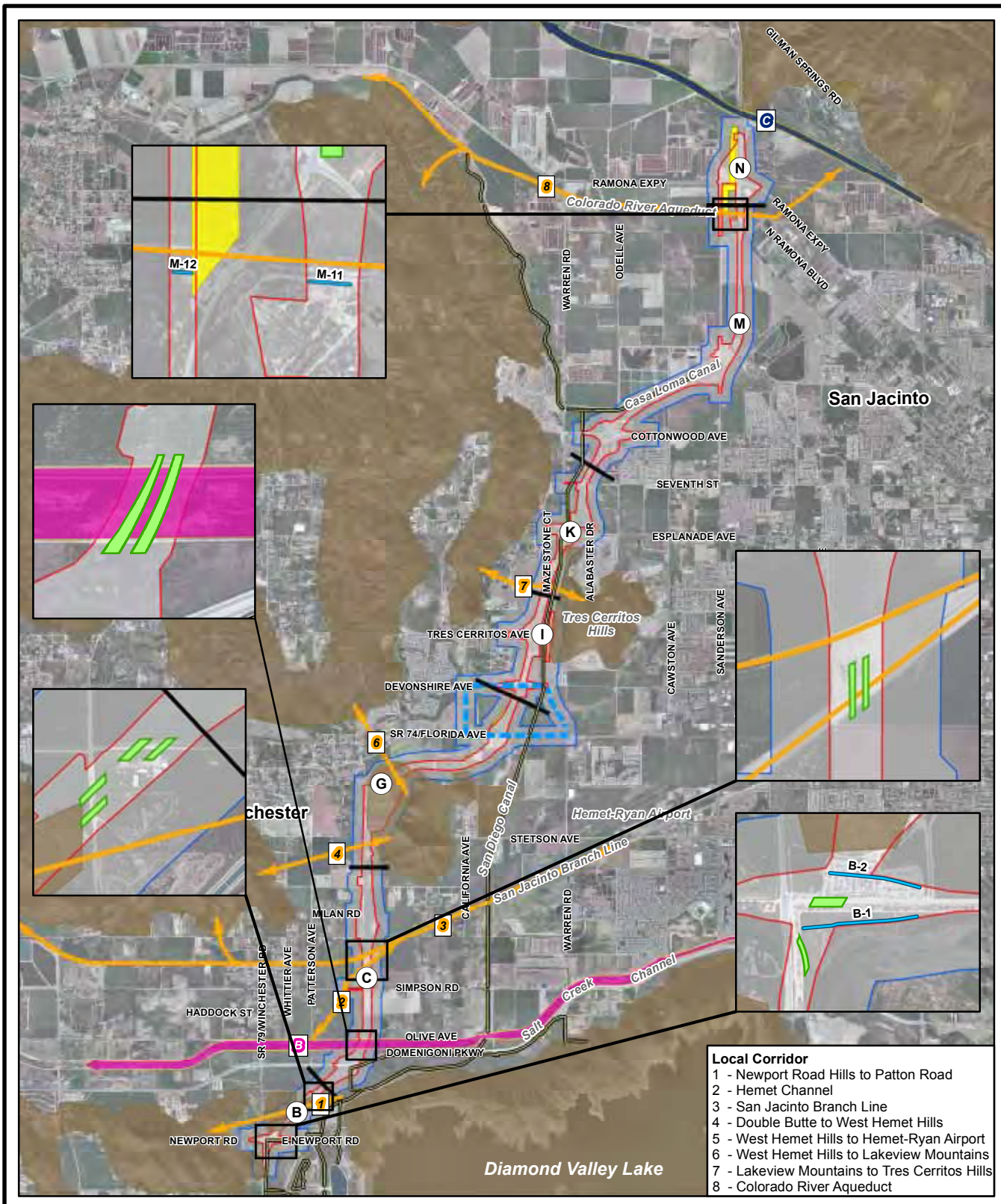
1:90,000

Source: CR - County of Riverside

Figure 3.3-12
Build Alternative 1b Existing Wildlife Corridor Features with Proposed Bridge and Culvert Locations

Draft Environmental Impact Report/ Environmental Impact Statement

State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Terrestrial Wildlife Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Bridge
- Proposed Culvert
- Barrier to Wildlife Movement

MSHCP Linkage[CR]

- Existing Constrained Linkage B
- Existing Constrained Linkage C
- Local Corridor

0 7,500 Feet

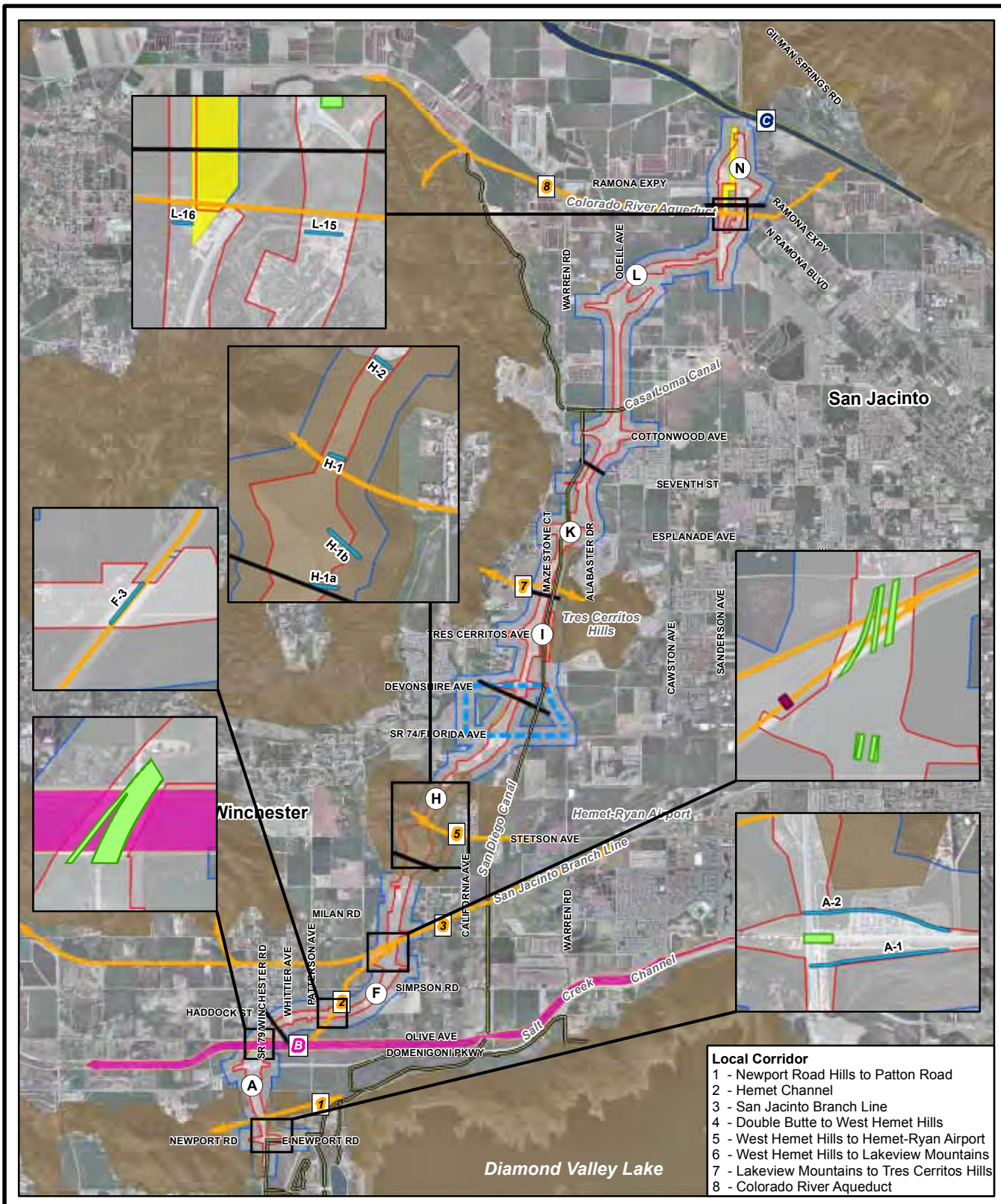
0 1,500 Meters

1:90,000

Source: CR - County of Riverside

Figure 3.3-13
Design Option 1b1
Existing Wildlife Corridor Features with Proposed Bridge and Culvert Locations

Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Terrestrial Wildlife Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Bridge
- Proposed Culvert
- Barrier to Wildlife Movement

MSHCP Linkage^{CR}

- Existing Constrained Linkage B
- Existing Constrained Linkage C
- Local Corridor

0 7,500 Feet

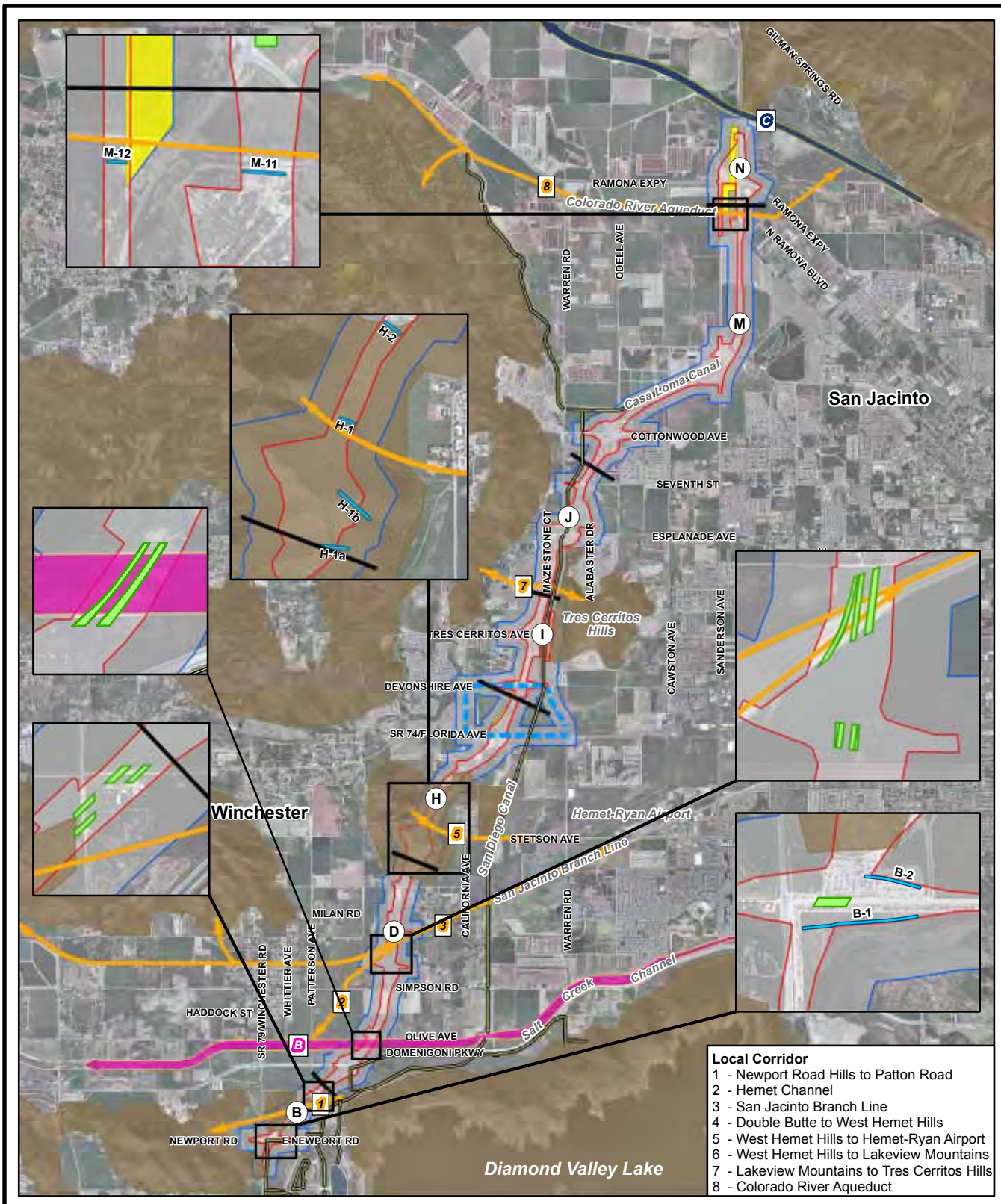
0 1,500 Meters

1:90,000

Source: CR - County of Riverside

Figure 3.3-14
Build Alternative 2a Existing Wildlife Corridor Features with Proposed Bridge and Culvert Locations

Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- ProjectImpact Area
- Terrestrial Wildlife Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Bridge
- Proposed Culvert
- Barrier to Wildlife Movement

MSHCP Linkage^{CR}

- Existing Constrained Linkage B
- Existing Constrained Linkage C
- Local Corridor

0 7,500 Feet

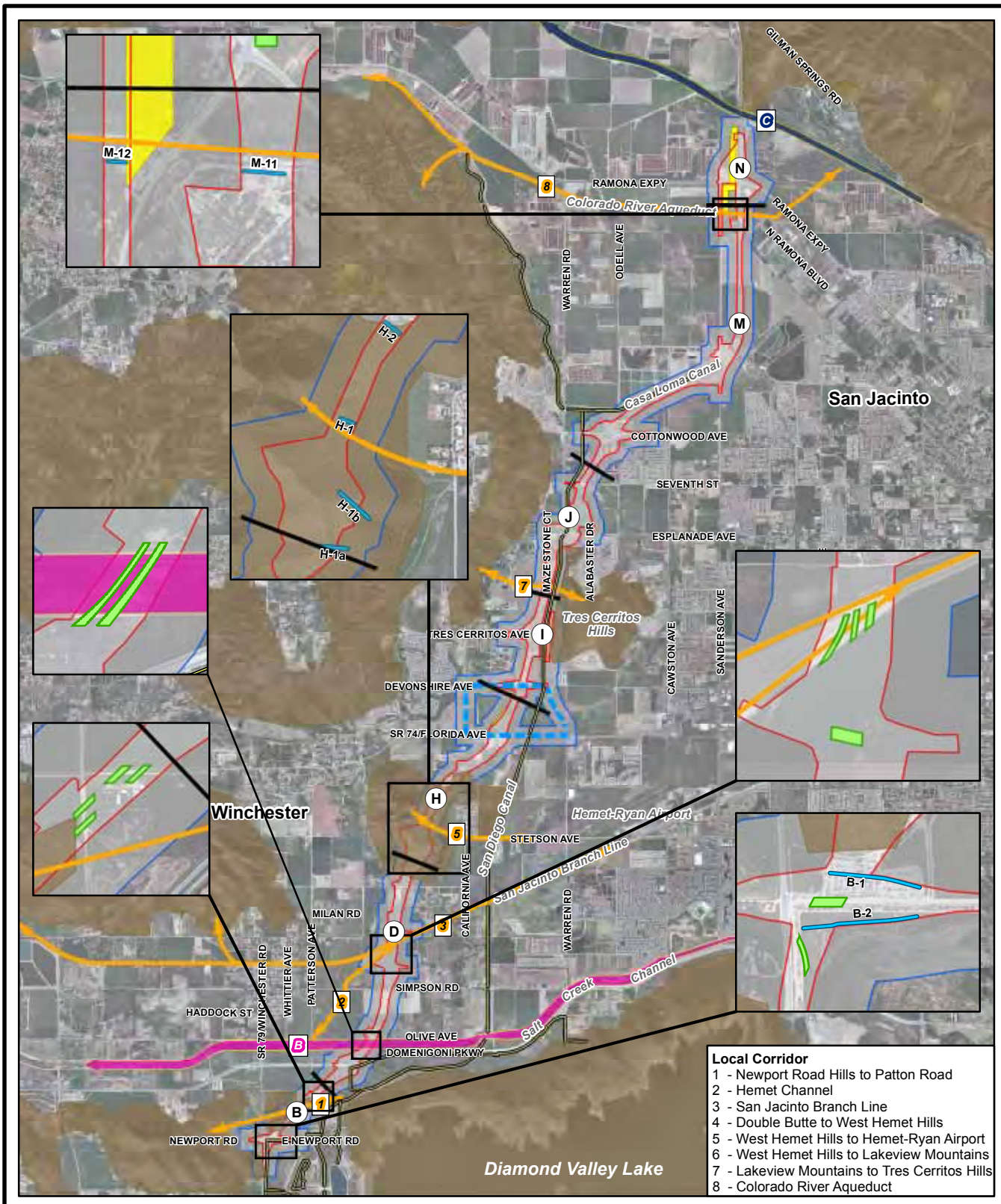
0 1,500 Meters

1:90,000

Source: CR - County of Riverside

Figure 3.3-15
Build Alternative 2b Existing Wildlife Corridor Features with Proposed Bridge and Culvert Locations

Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Terrestrial Wildlife Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Bridge
- Proposed Culvert
- Barrier to Wildlife Movement

MSHCP Linkage[CR]

- Existing Constrained Linkage B
- Existing Constrained Linkage C
- Local Corridor

0 7,500 Feet

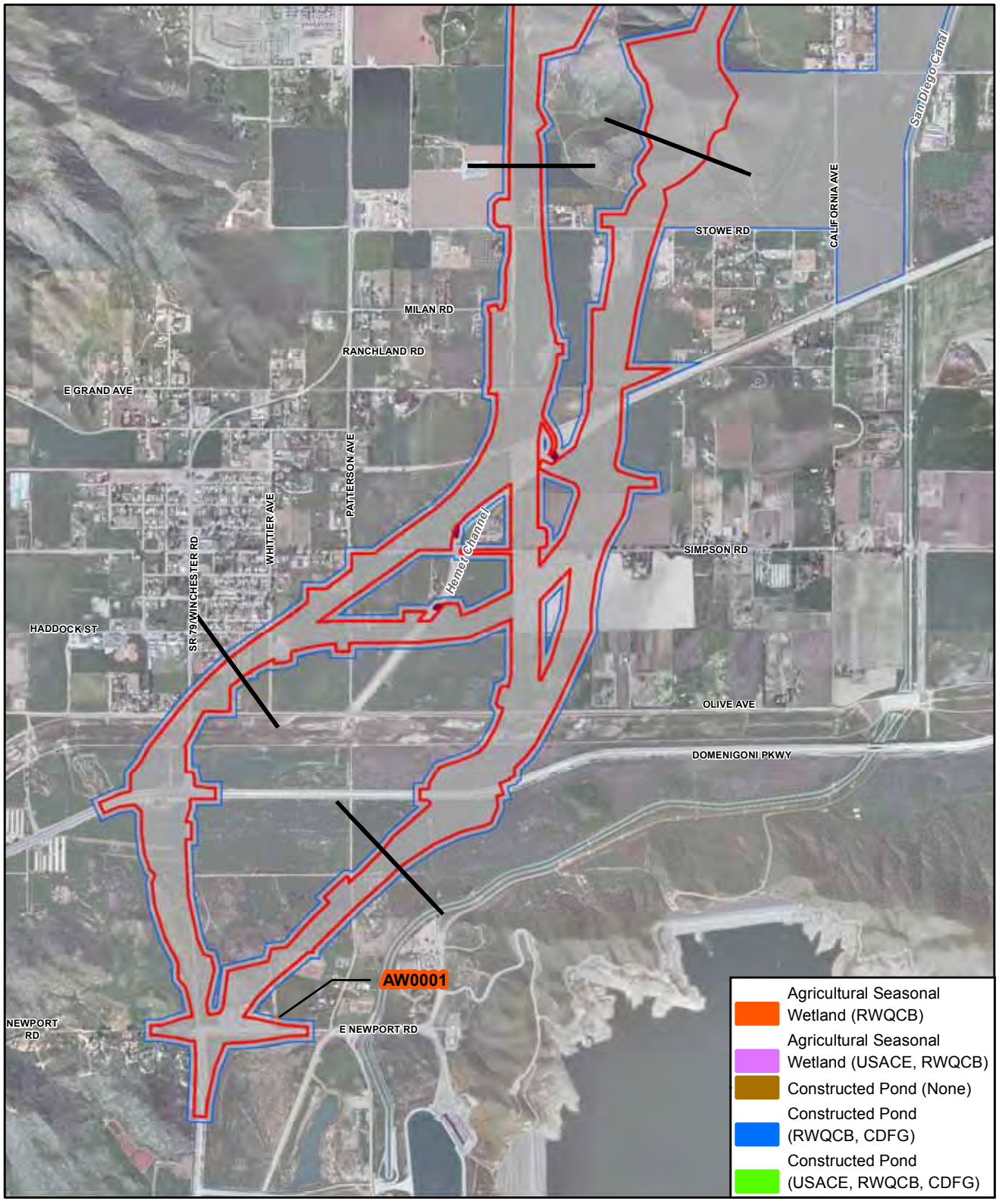
0 1,500 Meters

1:90,000

Source: CR - County of Riverside

Figure 3.3-16
Design Option 2b1 Existing Wildlife Corridor Features with Proposed Bridge and Culvert Locations

Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

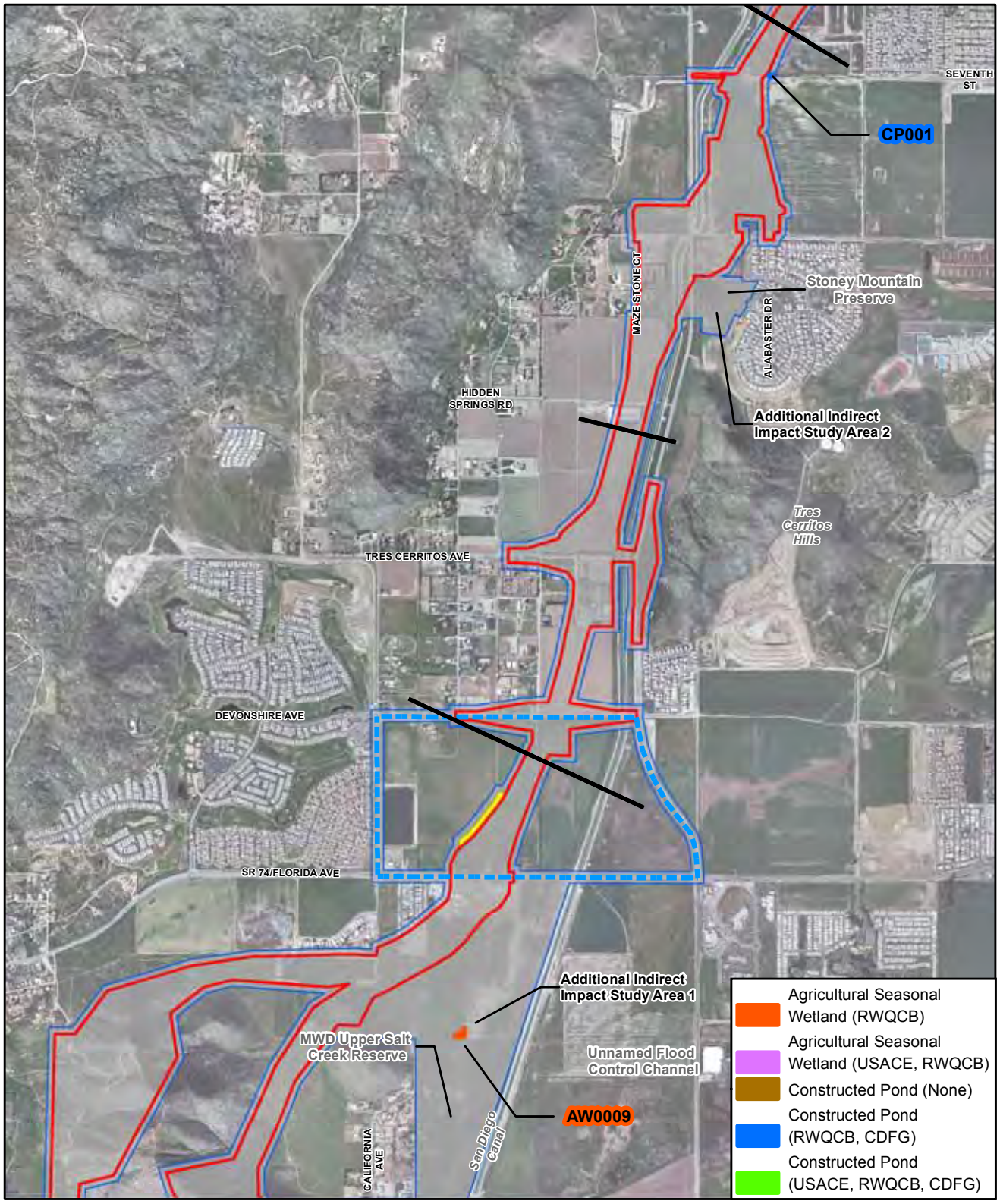
- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 2,400 Feet

0 600 Meters

1:28,800

Figure 3.3-17a
Potential Jurisdictional Wetlands and Waters, Agricultural Wetlands, and Constructed Ponds
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



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LEGEND

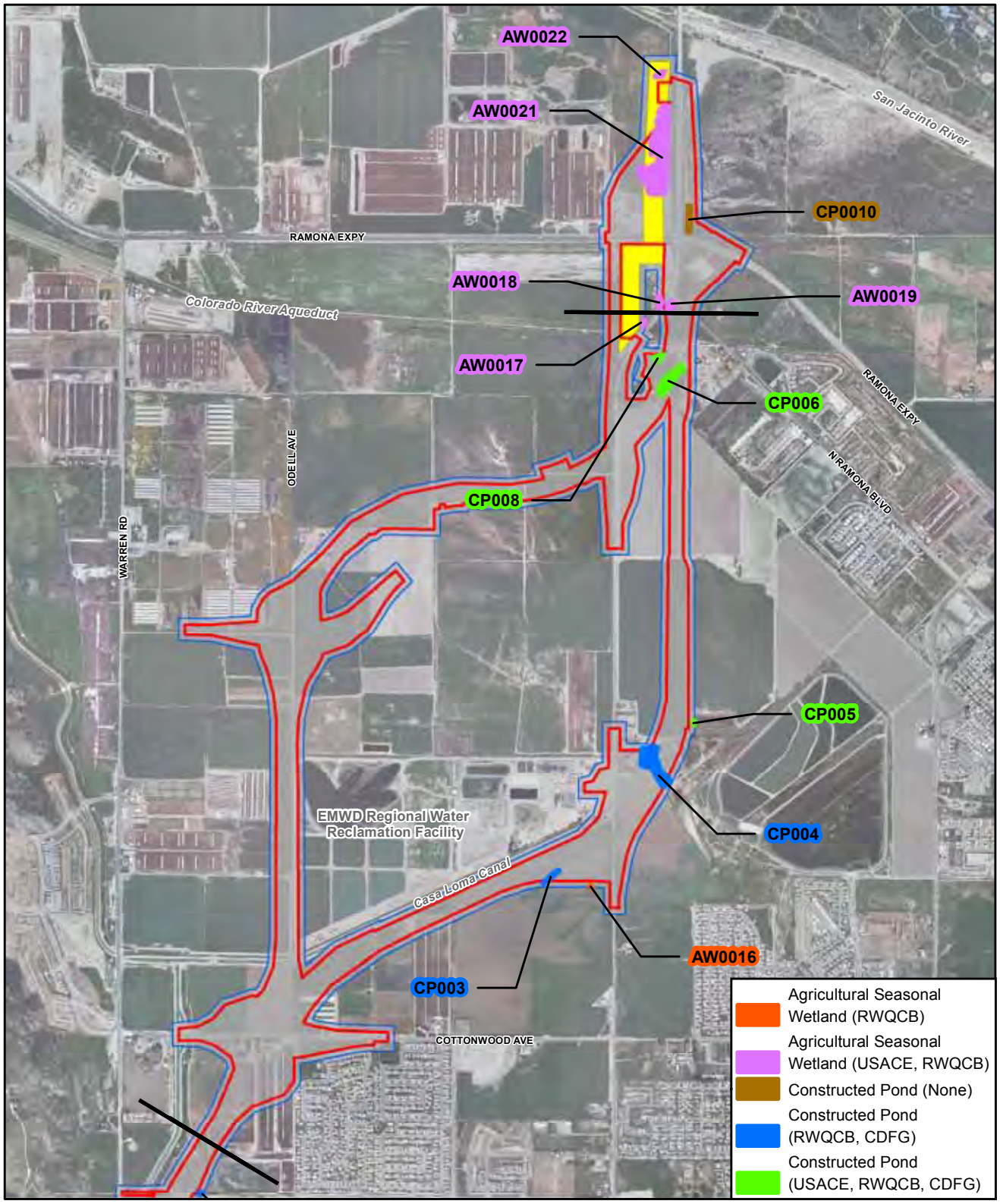
- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 2,400 Feet

0 600 Meters

1:28,800

Figure 3.3-17b
Potential Jurisdictional Wetlands and Waters, Agricultural Wetlands, and Constructed Ponds
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



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\\GALT\PROJ\RCTC\171146\2012\MAPFILES\EIS\NES_WDR_VP_SW_RW_A.MXD NES_WDR_VP_SW_RW_A.PDF 11/15/2012

LEGEND

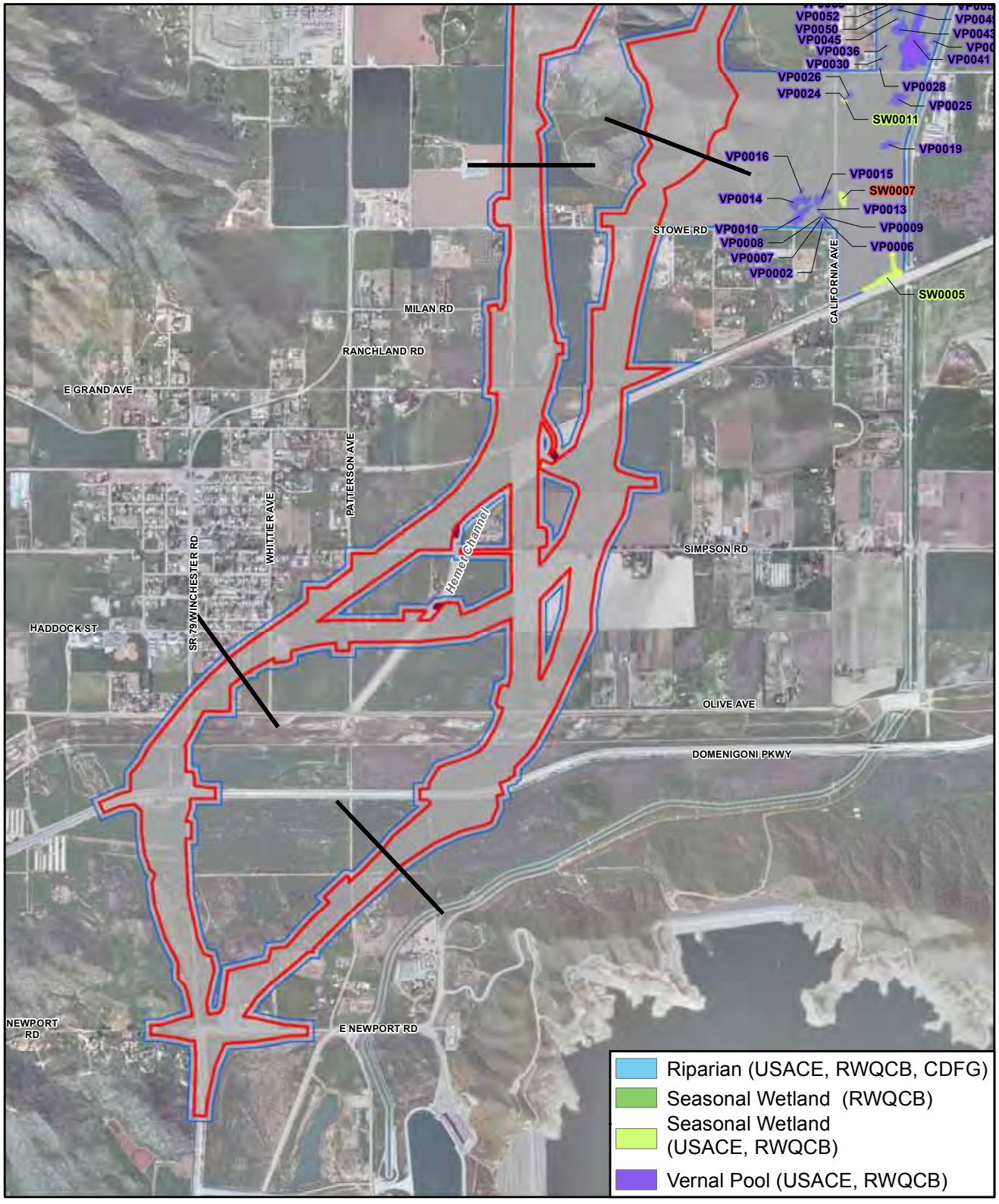
- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 2,400 Feet

0 600 Meters

1:28,800

Figure 3.3-17c
Potential Jurisdictional Wetlands and Waters, Agricultural Wetlands, and Constructed Ponds
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



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LEGEND

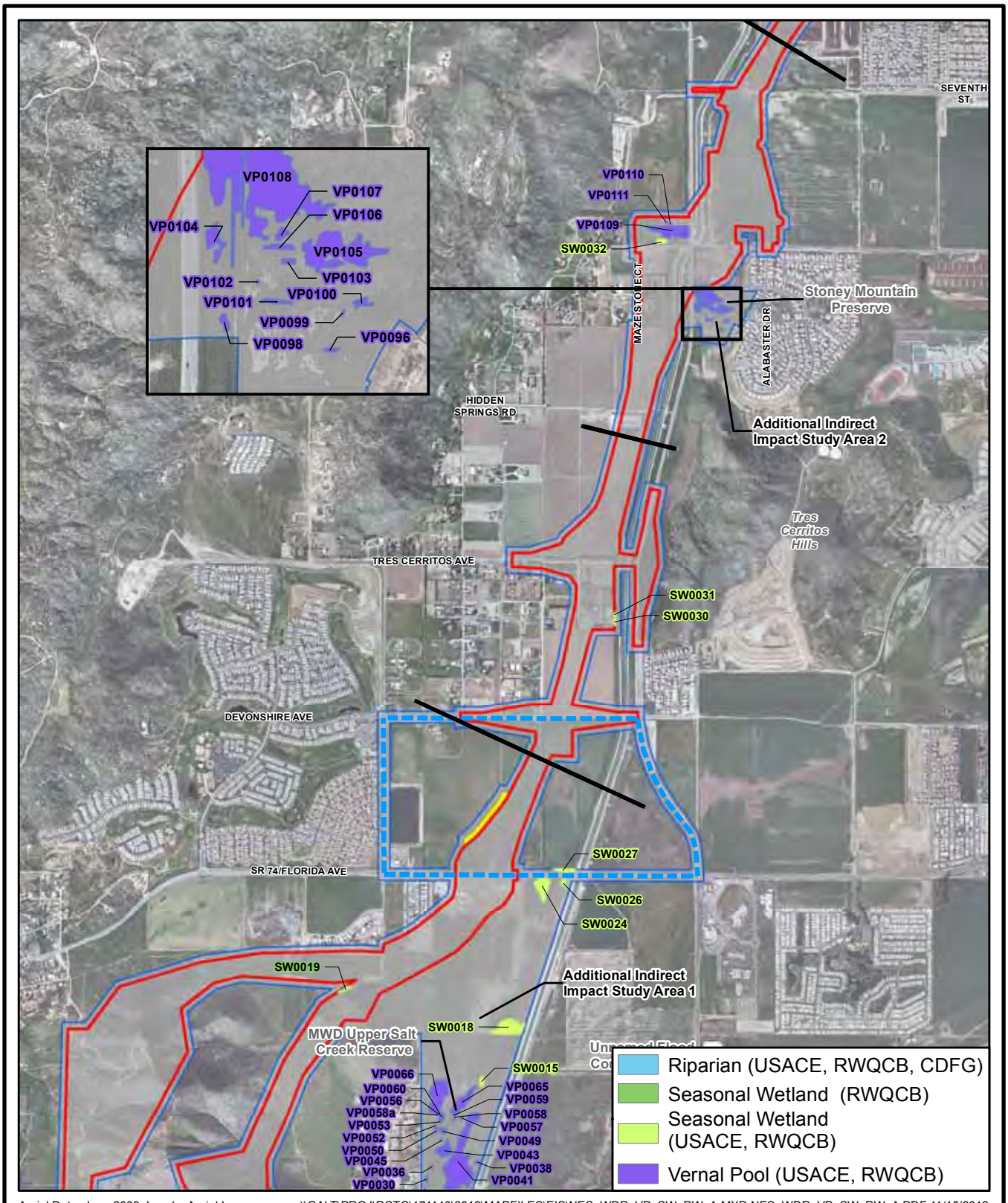
- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 2,400 Feet

0 600 Meters

1:28,800

Figure 3.3-18a
Potential Jurisdictional Wetlands, Vernal Pools, Seasonal Wetlands, and Riparian Wetlands
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



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LEGEND

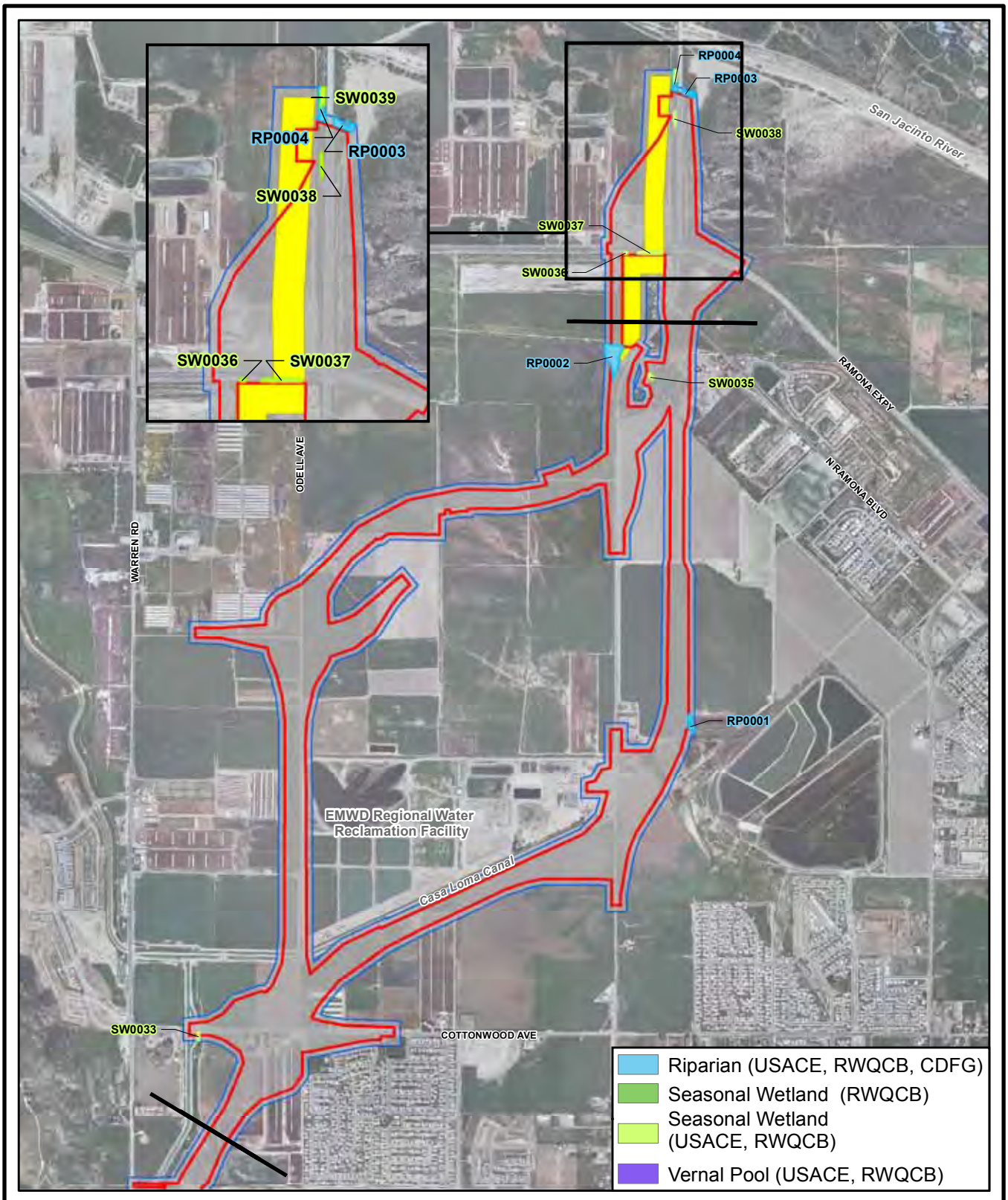
- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 2,400 Feet

0 600 Meters

1:28,800

Figure 3.3-18b
Potential Jurisdictional Wetlands, Vernal Pools, Seasonal Wetlands, and Riparian Wetlands
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



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LEGEND

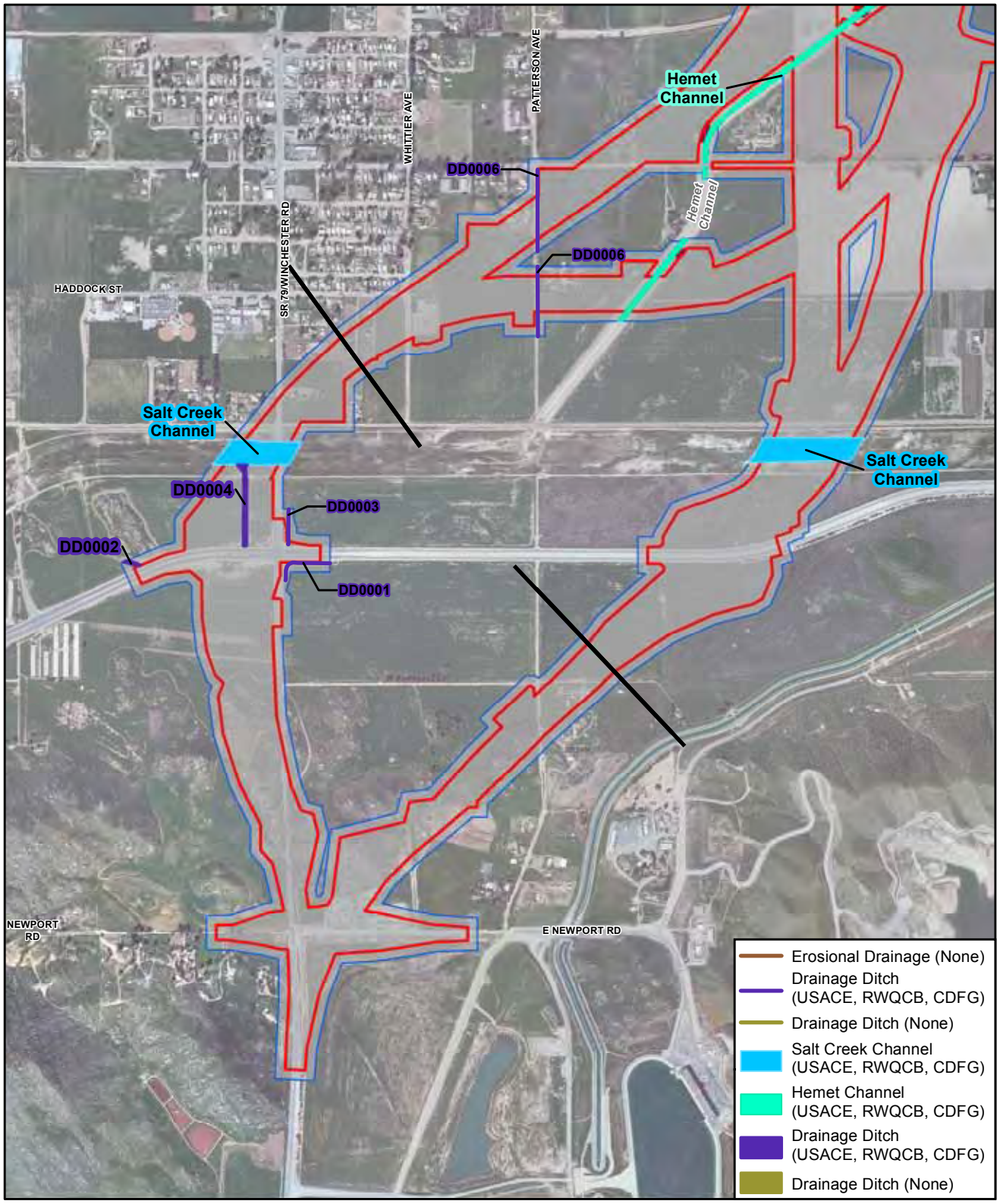
- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 2,400 Feet

0 600 Meters

1:28,800

Figure 3.3-18c
Potential Jurisdictional Wetlands, Vernal Pools, Seasonal Wetlands, and Riparian Wetlands
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



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LEGEND

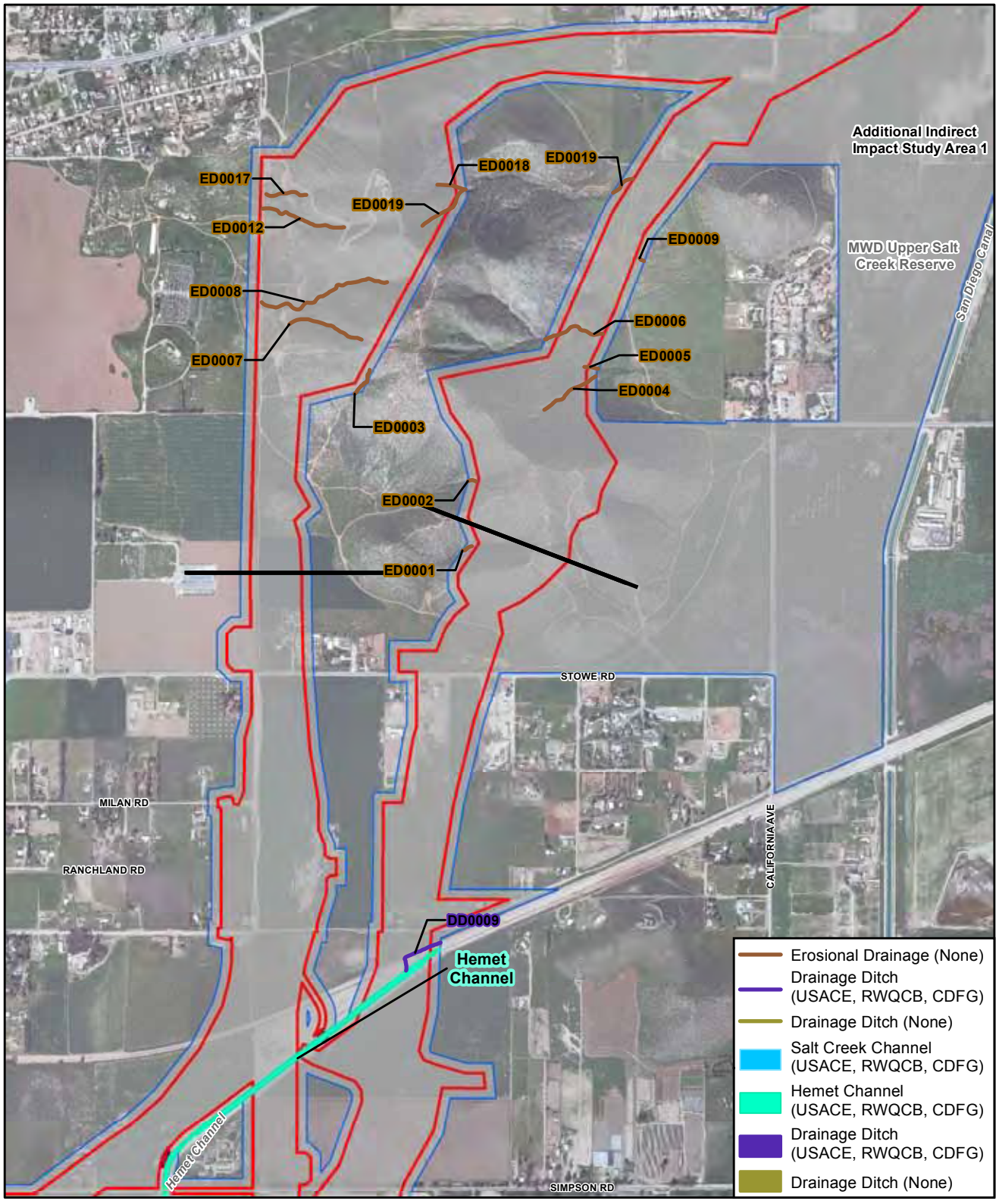
- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 1,500 Feet

0 300 Meters

1:18,000

Figure 3.3-19a
Potential Jurisdictional Wetlands and Waters Channels, Drainage Ditches, and Erosional Drainages
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



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LEGEND

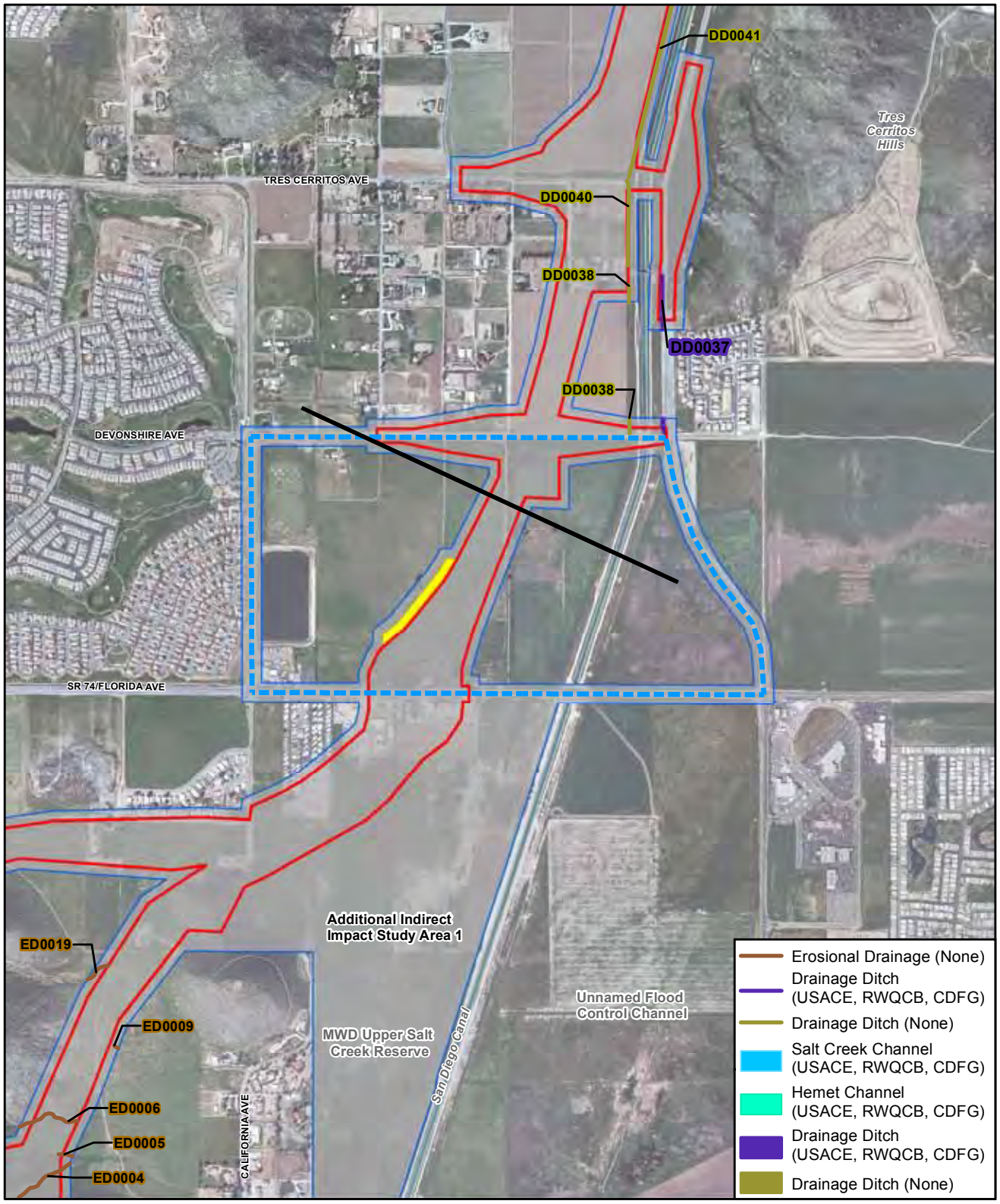
- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 1,500 Feet

0 300 Meters

1:18,000

Figure 3.3-19b
Potential Jurisdictional Wetlands and Waters Channels, Drainage Ditches, and Erosional Drainages
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



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LEGEND

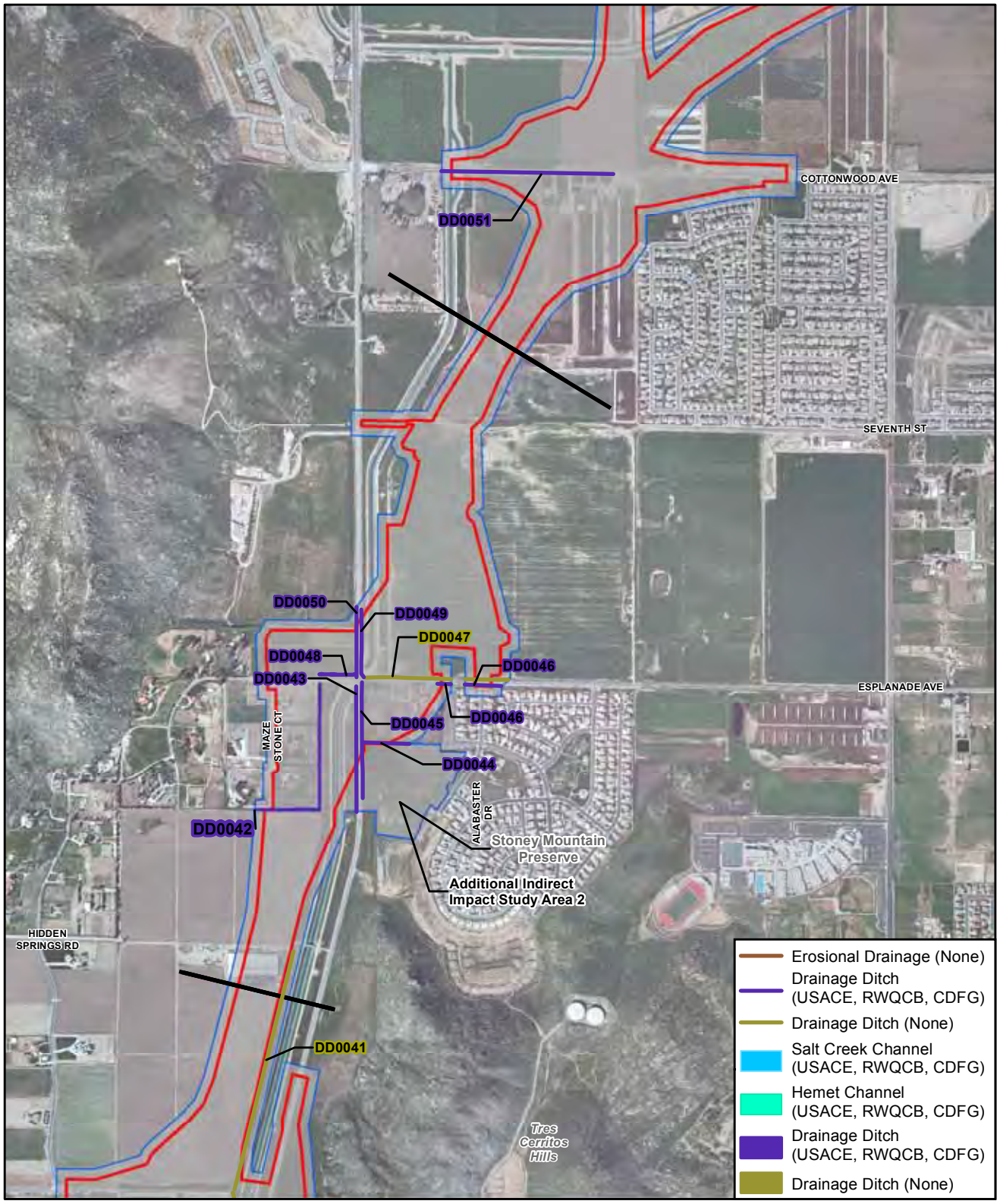
- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 1,500 Feet

0 300 Meters

1:18,000

Figure 3.3-19c
Potential Jurisdictional Wetlands and Waters Channels, Drainage Ditches, and Erosional Drainages
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



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LEGEND

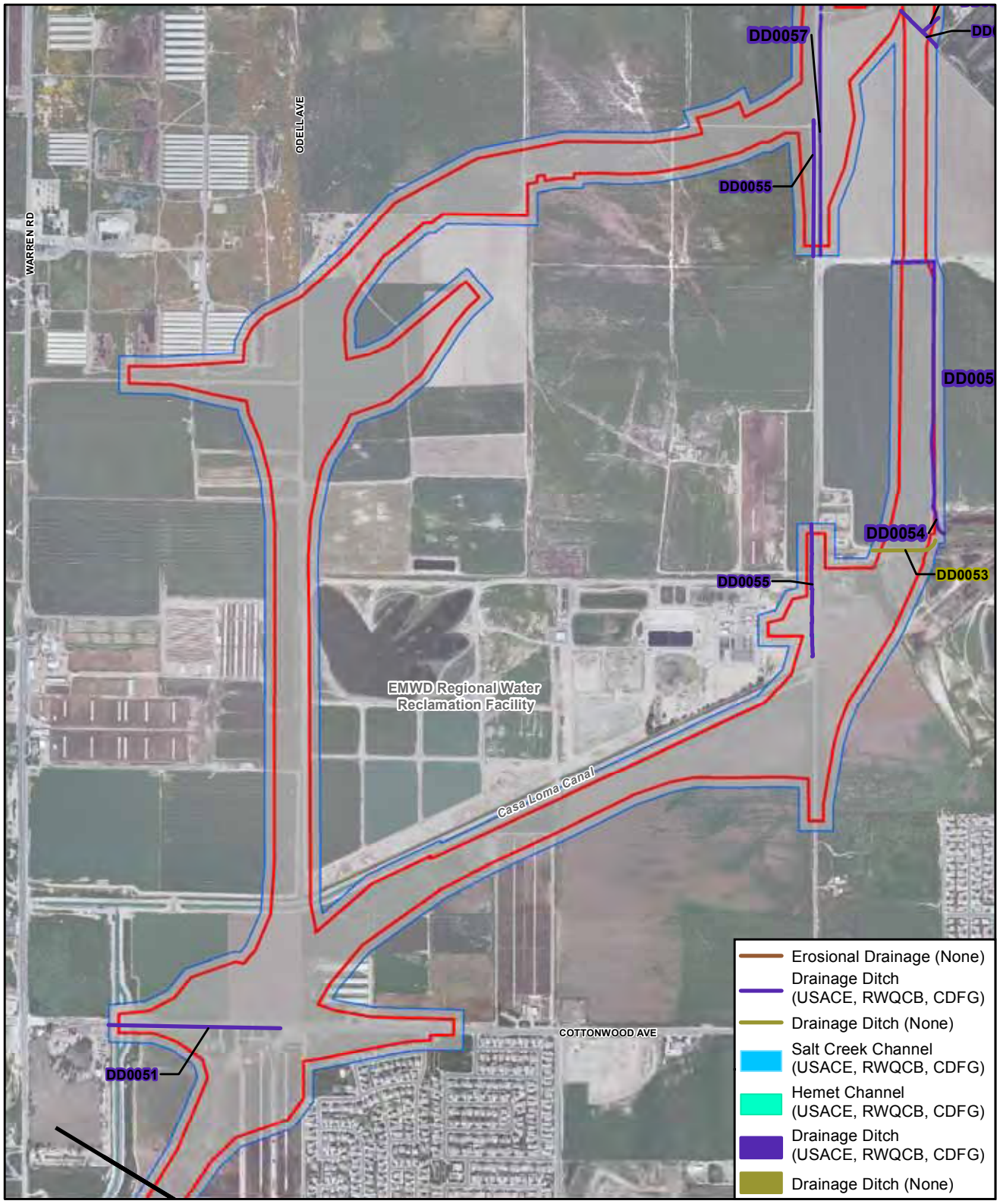
- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 1,500 Feet

0 300 Meters

1:18,000

Figure 3.3-19d
Potential Jurisdictional Wetlands and Waters Channels, Drainage Ditches, and Erosional Drainages
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



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LEGEND

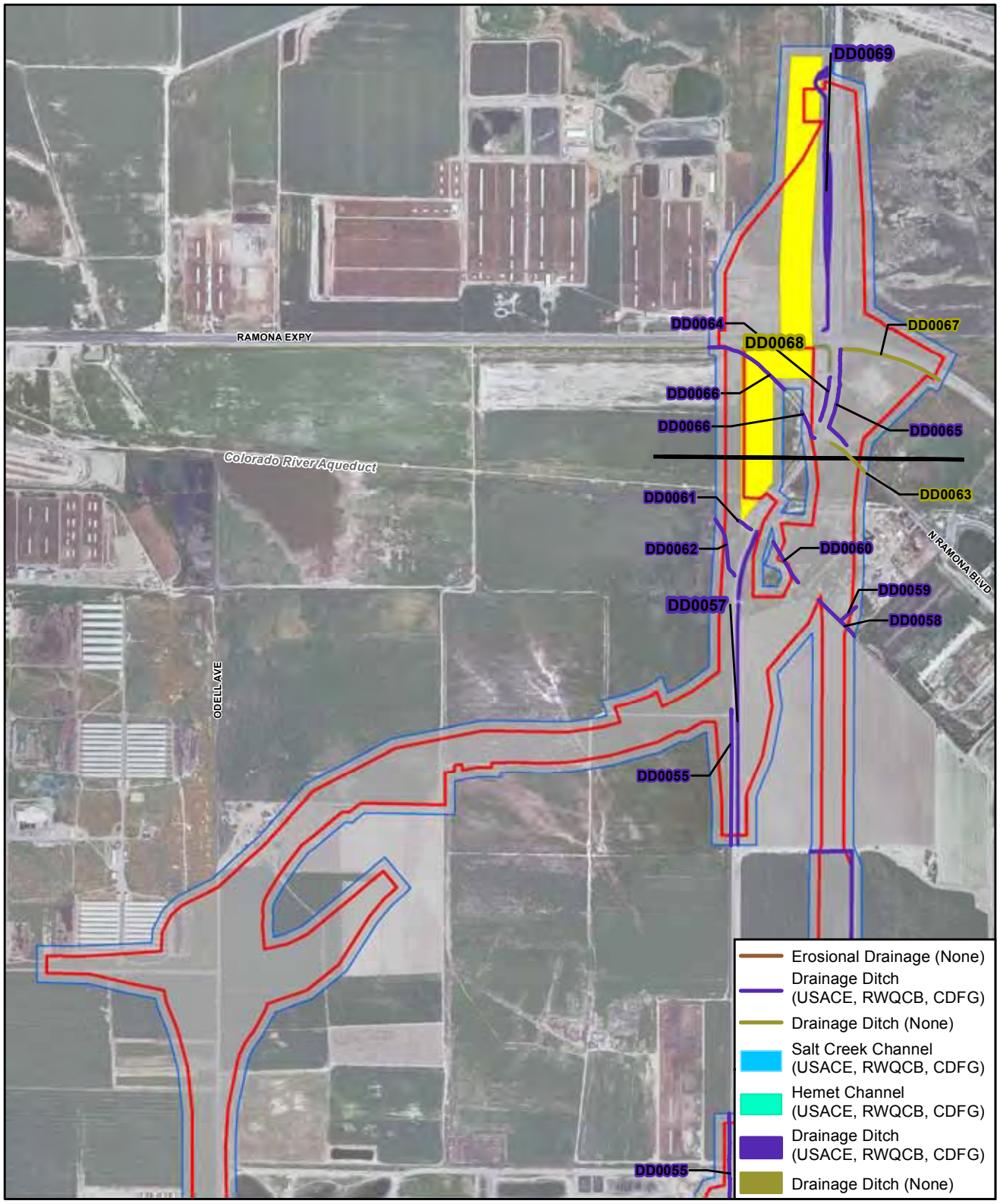
- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 1,500 Feet

0 300 Meters

1:18,000

Figure 3.3-19e
Potential Jurisdictional Wetlands and Waters Channels, Drainage Ditches, and Erosional Drainages
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



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LEGEND

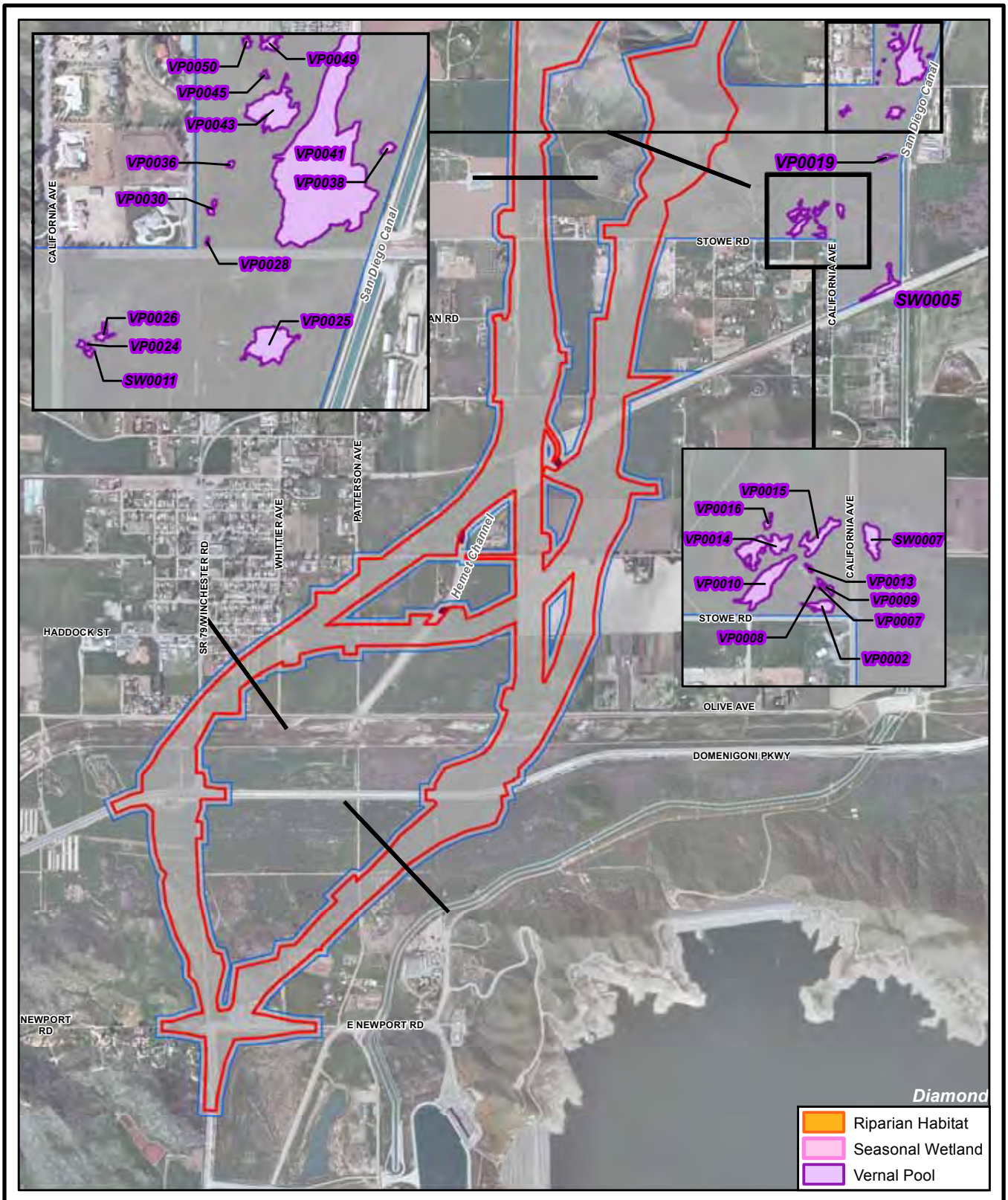
- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 1,500 Feet

0 300 Meters

1:18,000

Figure 3.3-19f
Potential Jurisdictional Wetlands and Waters Channels, Drainage Ditches, and Erosional Drainages
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

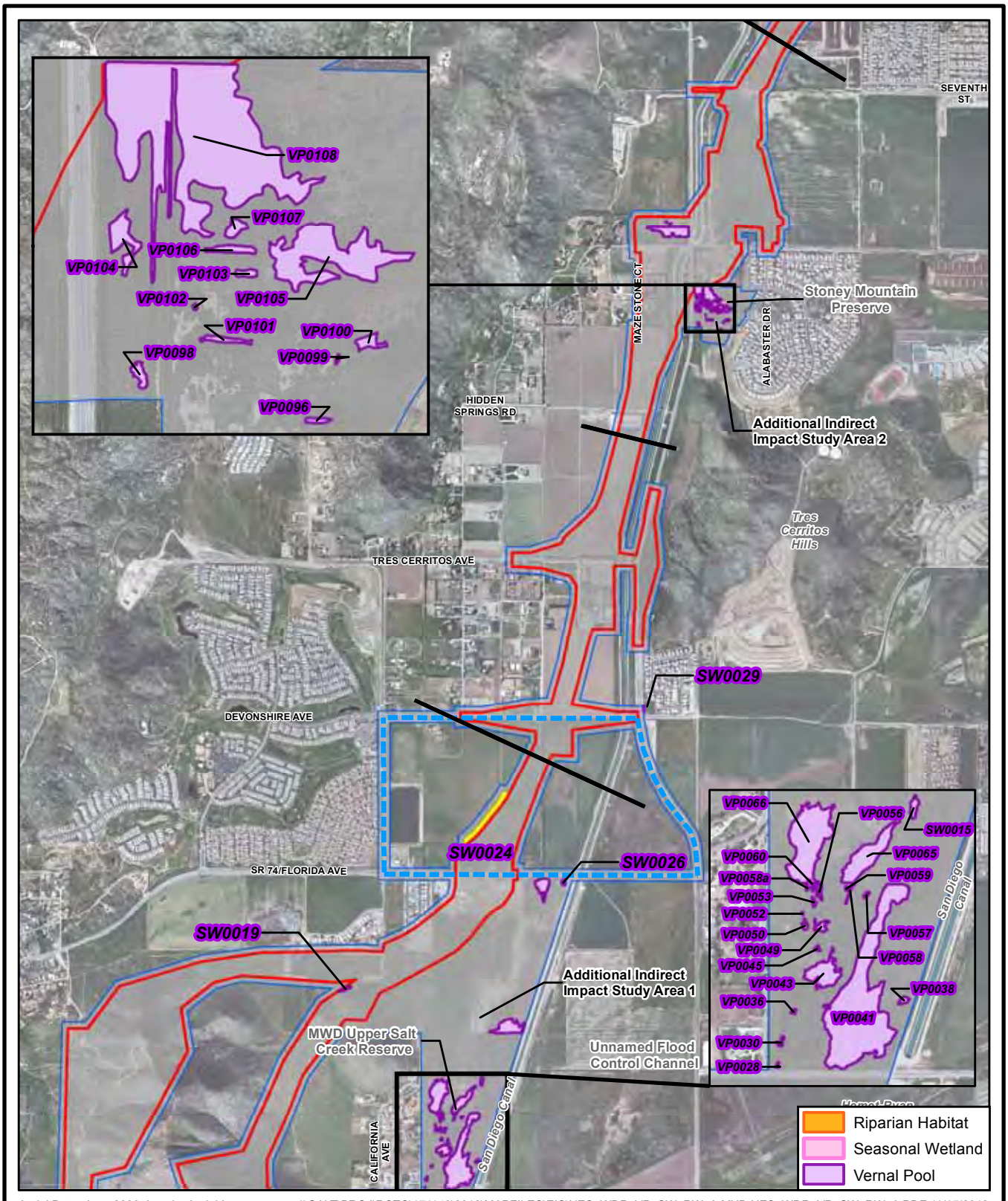
- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 2,400 Feet

0 600 Meters

1:28,800

Figure 3.3-20a
MSHCP Riverine and Riparian Areas
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

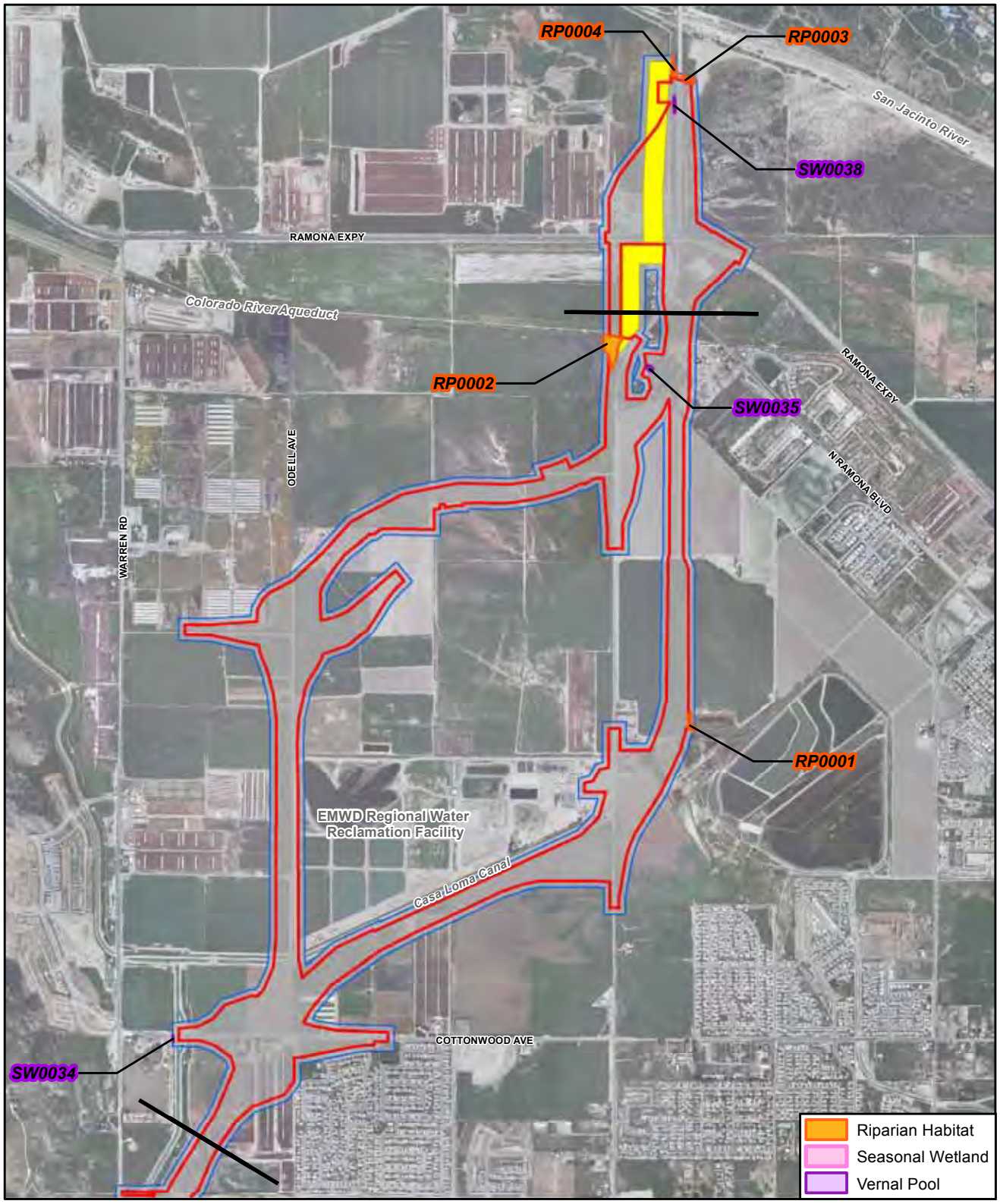
- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 2,400 Feet

0 600 Meters

1:28,800

Figure 3.3-20b
MSHCP Riverine and Riparian Areas
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

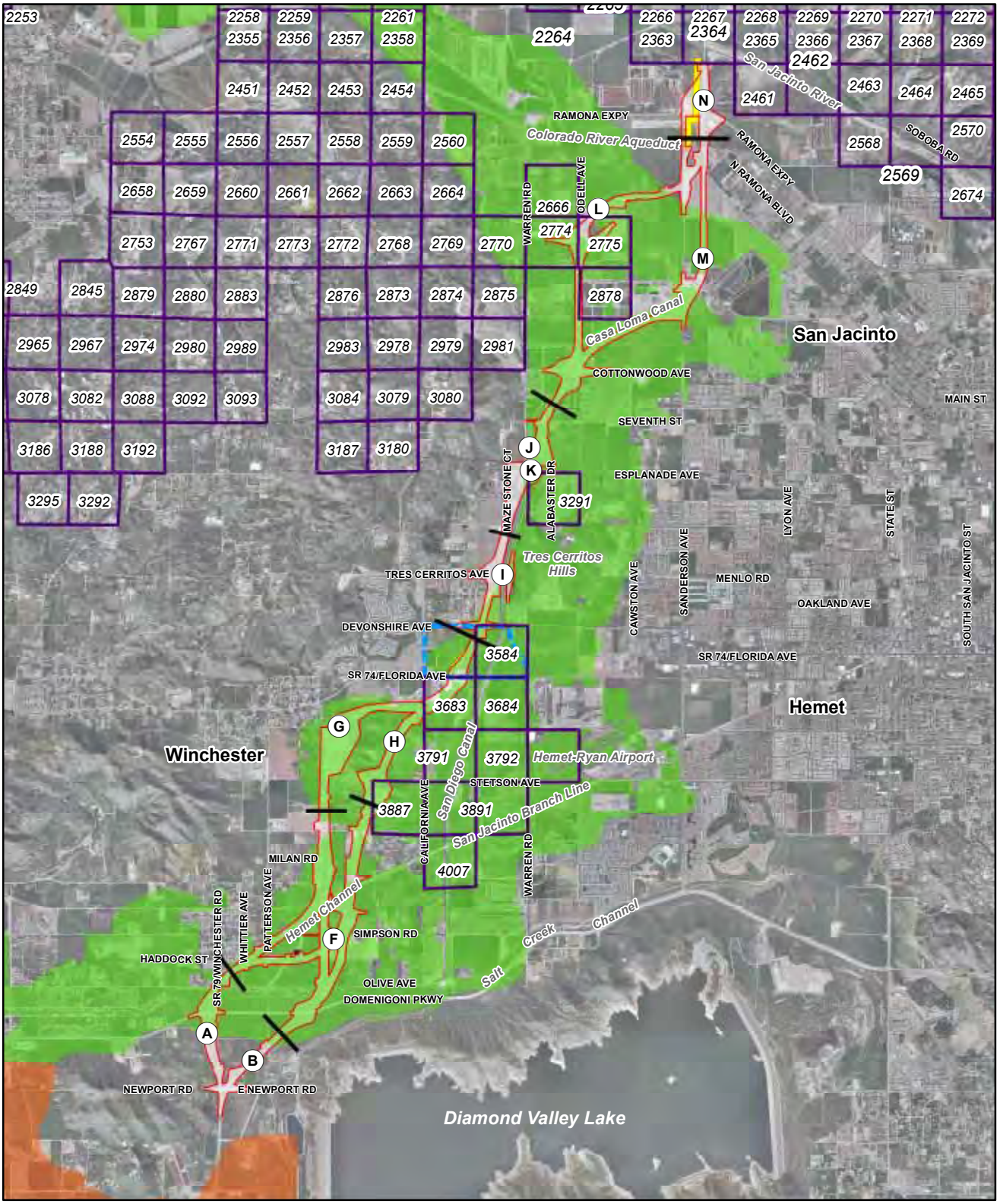
- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

0 2,400 Feet

0 600 Meters

1:28,800

Figure 3.3-20c
MSHCP Riverine and Riparian Areas
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Criteria Cells[CR]

Narrow Endemic Plant Species Survey Areas[CR]

- Area 3
- Area 4

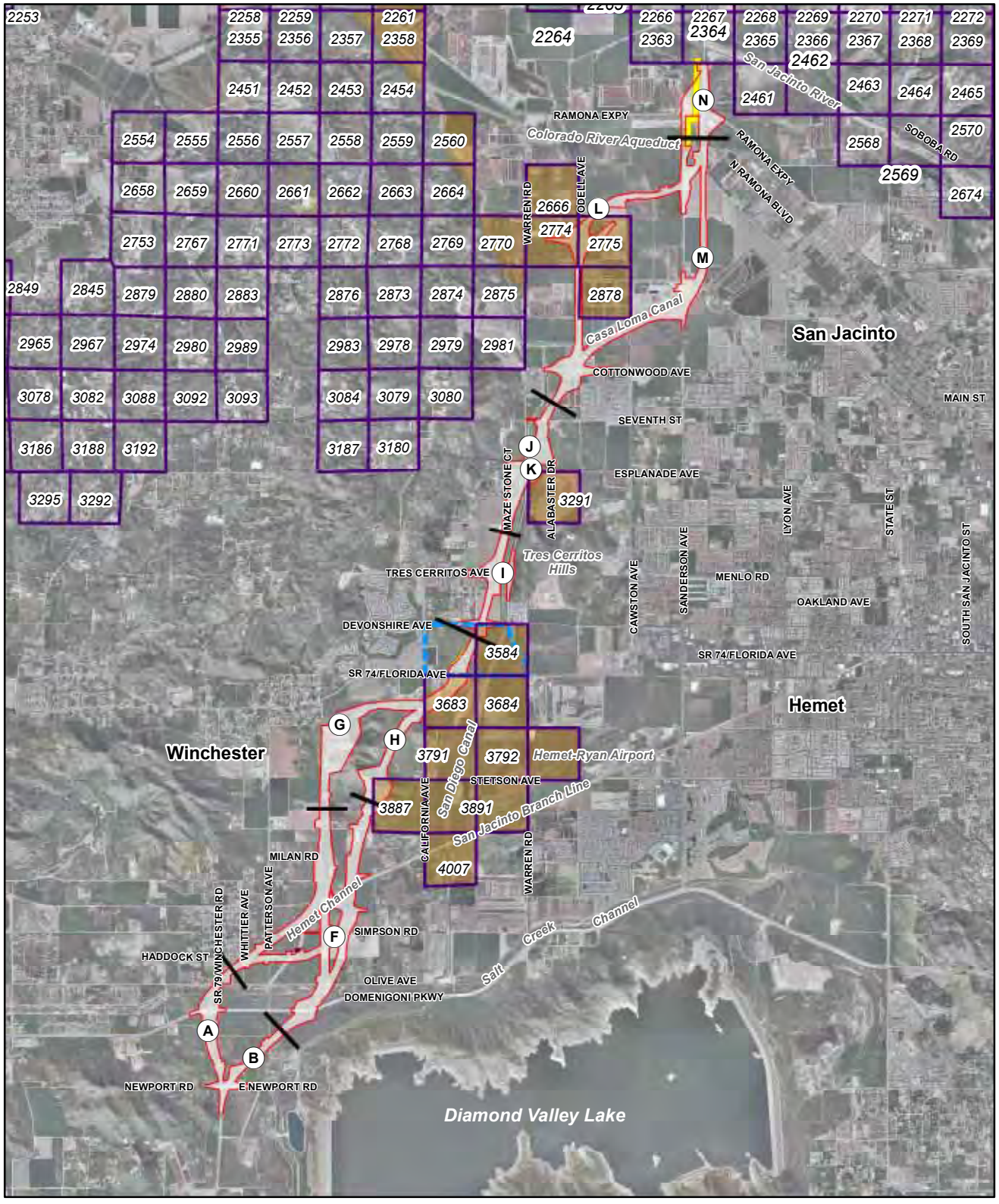
0 7,500 Feet

0 1,500 Meters

1:90,000

Source: CR - County of Riverside

Figure 3.3-21
Multiple Species Habitat Conservation Plan Narrow Endemic Plant Species Survey Areas
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Criteria Cells[CR]
- **Criteria Area Species Survey Area**[CR]
- Area 3

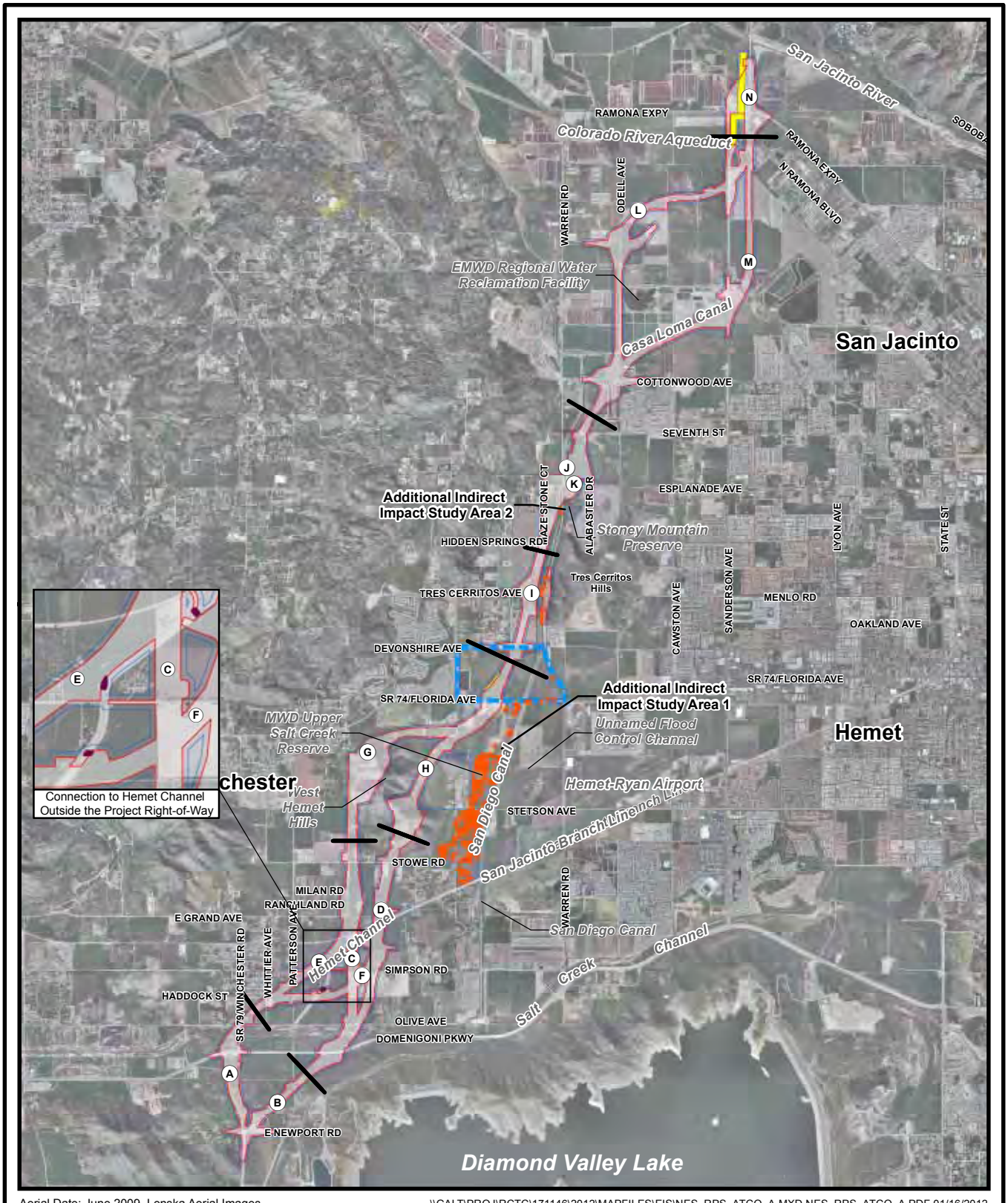
0 7,500 Feet

0 1,500 Meters

1:90,000

Source: CR - County of Riverside

Figure 3.3-22
Multiple Species Habitat Conservation Plan Criteria Area Species Survey Areas
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Atriplex coronata* var. *notatior* (San Jacinto Valley crownscale) CA, PS, RRVP, FE

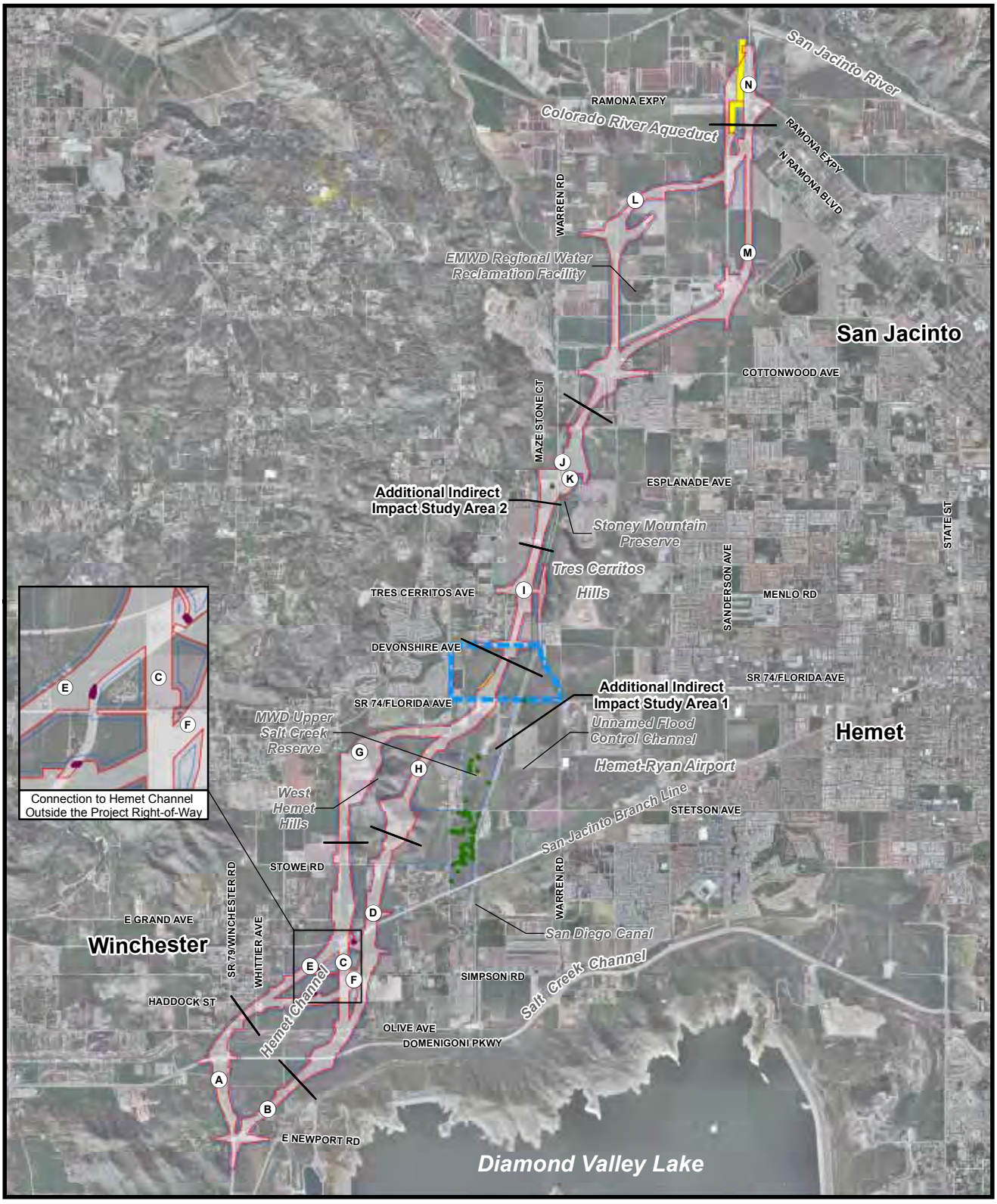
MSHCP Status Codes and Special Conditions: CA - Criteria Area Species; PS - Planning Species; RRVP - Riparian/Riverine and Vernal Pool Species; FE - Federally Endangered

0 7,000 Feet

0 1,000 Meters

1:84,000

Figure 3.3-23
Location of Rare Plants *Atriplex coronata* var. *notatior*
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Atriplex serenana var. davidsonii* (Davidson's saltscale) [CA, PS]

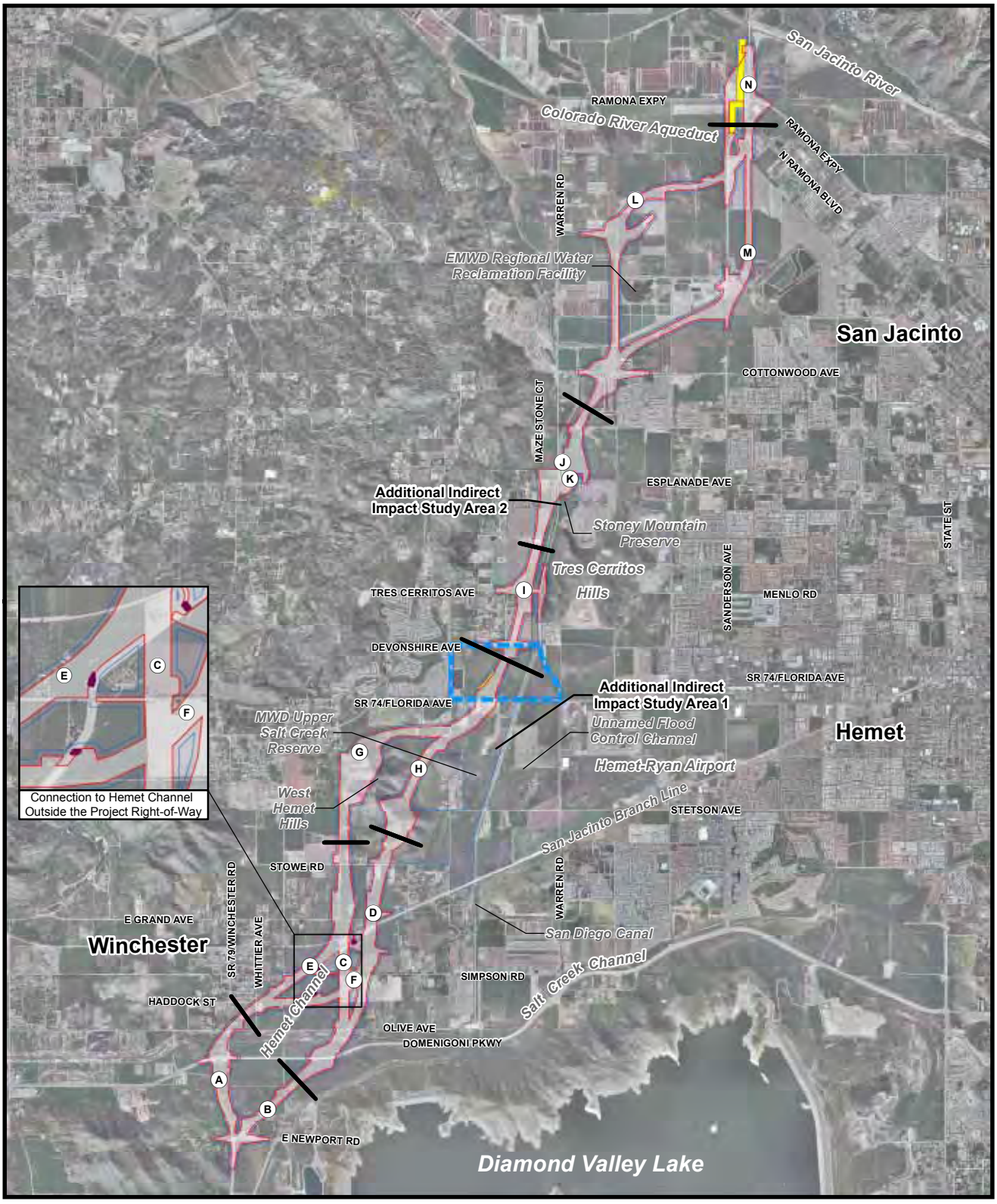
MSHCP Status Codes and Special Conditions:
CA - Criteria Area Species; PS - Planning Species

0 7,000 Feet

0 1,000 Meters

1:84,000

Figure 3.3-24
Location of Rare Plants *Atriplex serenana* var. *davidsonii*
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Calochortus plummerae* (Plummer's mariposa lily)^{CO}

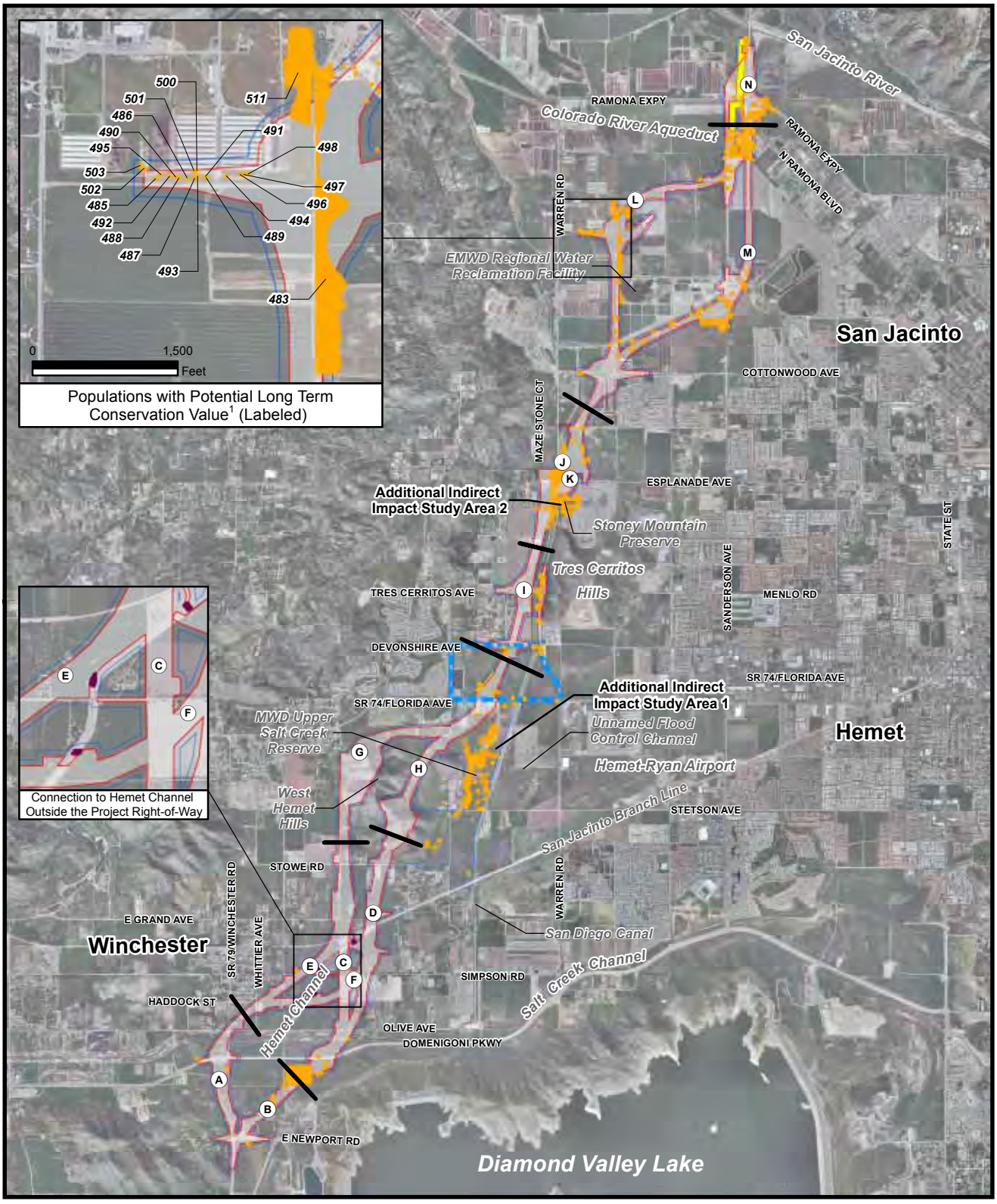
MSHCP Status Codes and Special Conditions: CO - Covered Species Requiring Species-Specific Conservation Objectives

0 7,000 Feet

0 1,000 Meters

1:84,000

Figure 3.3-25
Location of Rare Plants
Calochortus plummerae
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Centromadia pungens* ssp. *laevis* (smooth tarplant)[CA, PS, RRVP]

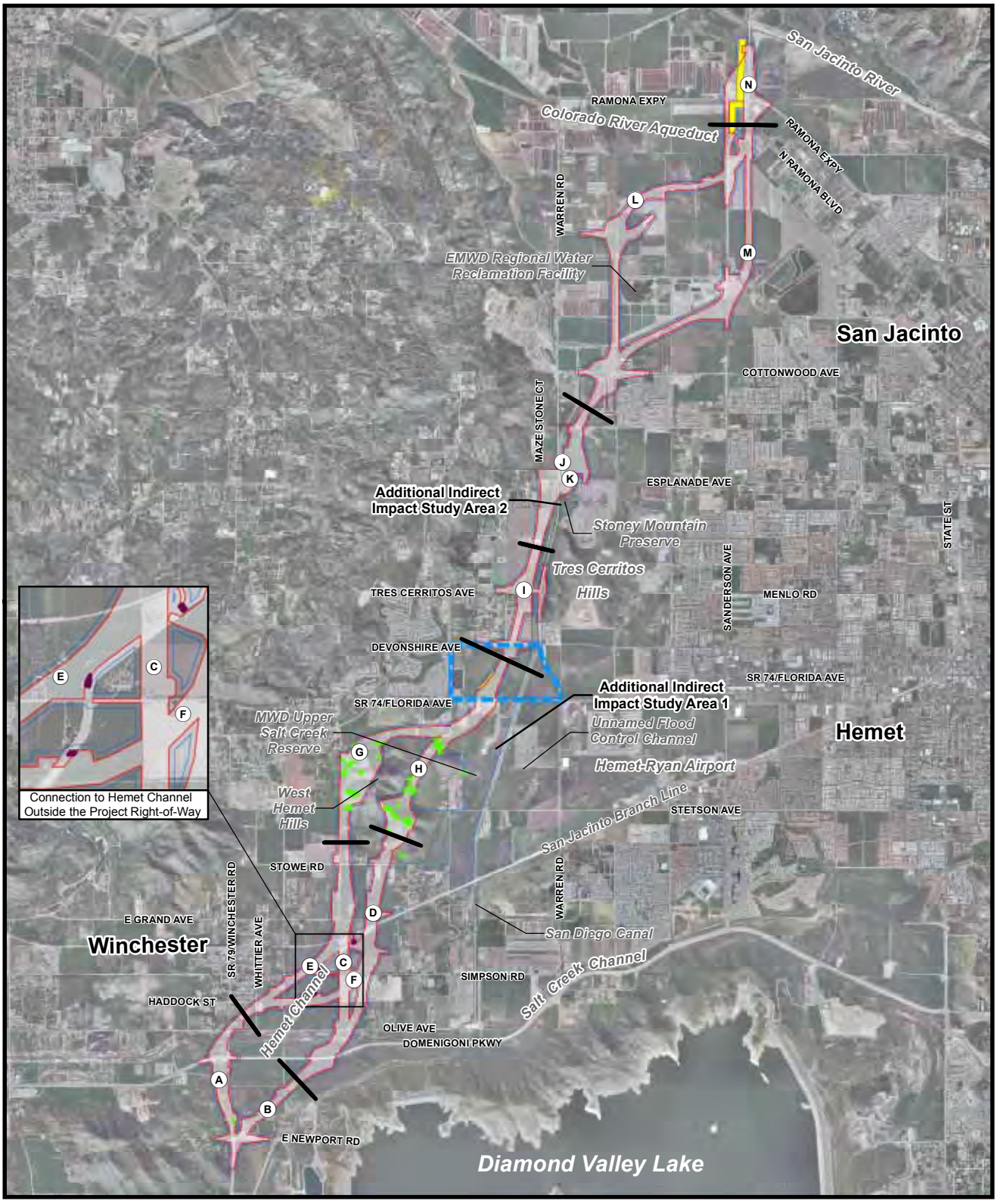
0 7,000 Feet

0 1,000 Meters

1:84,000

Note: 1 - Long term conservation value was assessed only for rare plants located within the Project ROW and the unique design features. **MSHCP Status Codes and Special Conditions:** CA - Criteria Area Species; PS - Planning Species; RRVP - Riparian/Riverine and Vernal Pool Species

Figure 3.3-26
Location of Rare Plants *Centromadia pungens* ssp. *laevis*
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Chorizanthe parryi* var. *parryi* (Parry's spineflower)[CO]

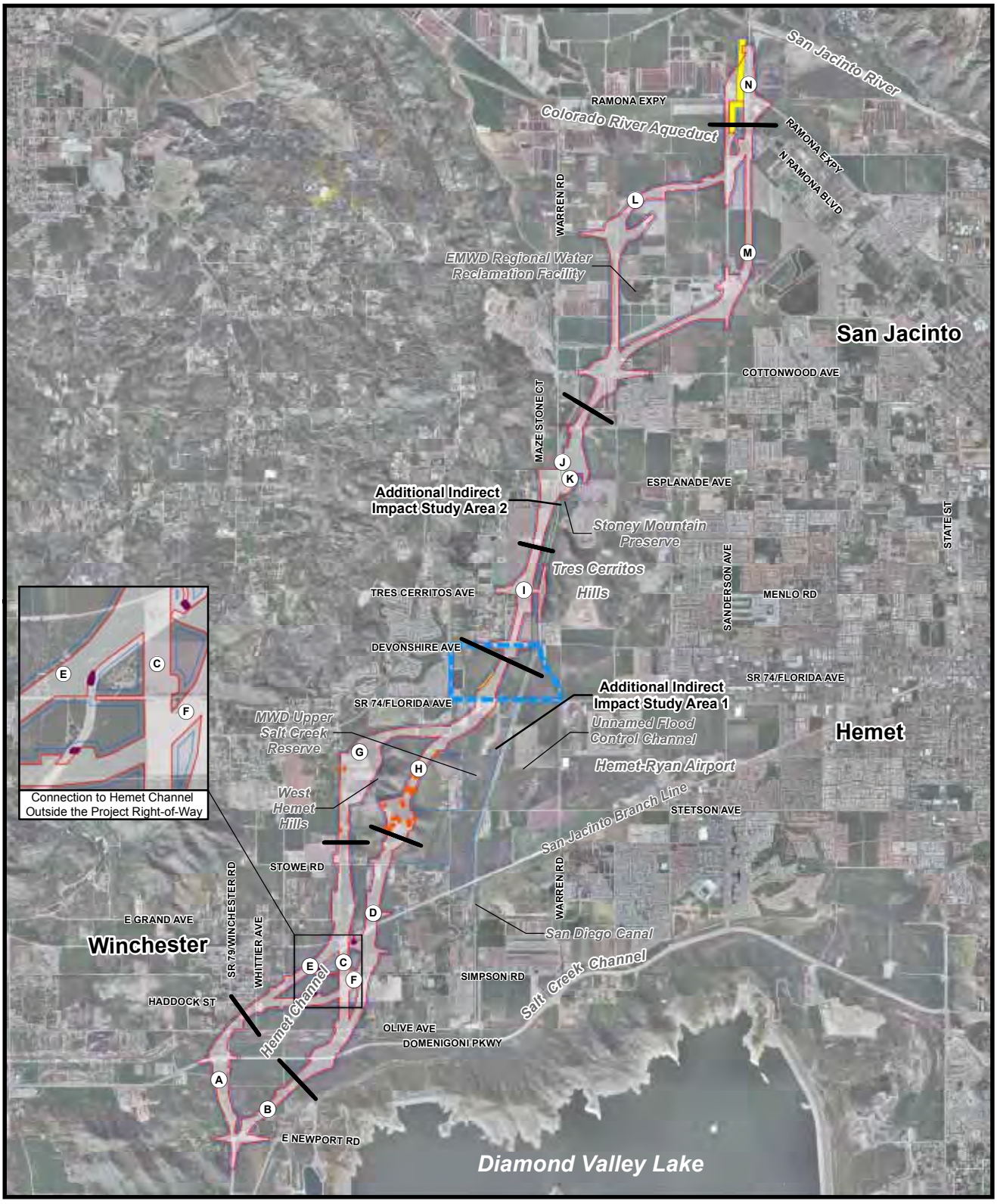
MSHCP Status Codes and Special Conditions: CO - Covered Species Requiring Species-Specific Conservation Objectives

0 7,000 Feet

0 1,000 Meters

1:84,000

Figure 3.3-27
Location of Rare Plants *Chorizanthe parryi* var. *parryi*
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Chorizanthe polygonoides* var. *longispina* (long-spined spineflower)[C]

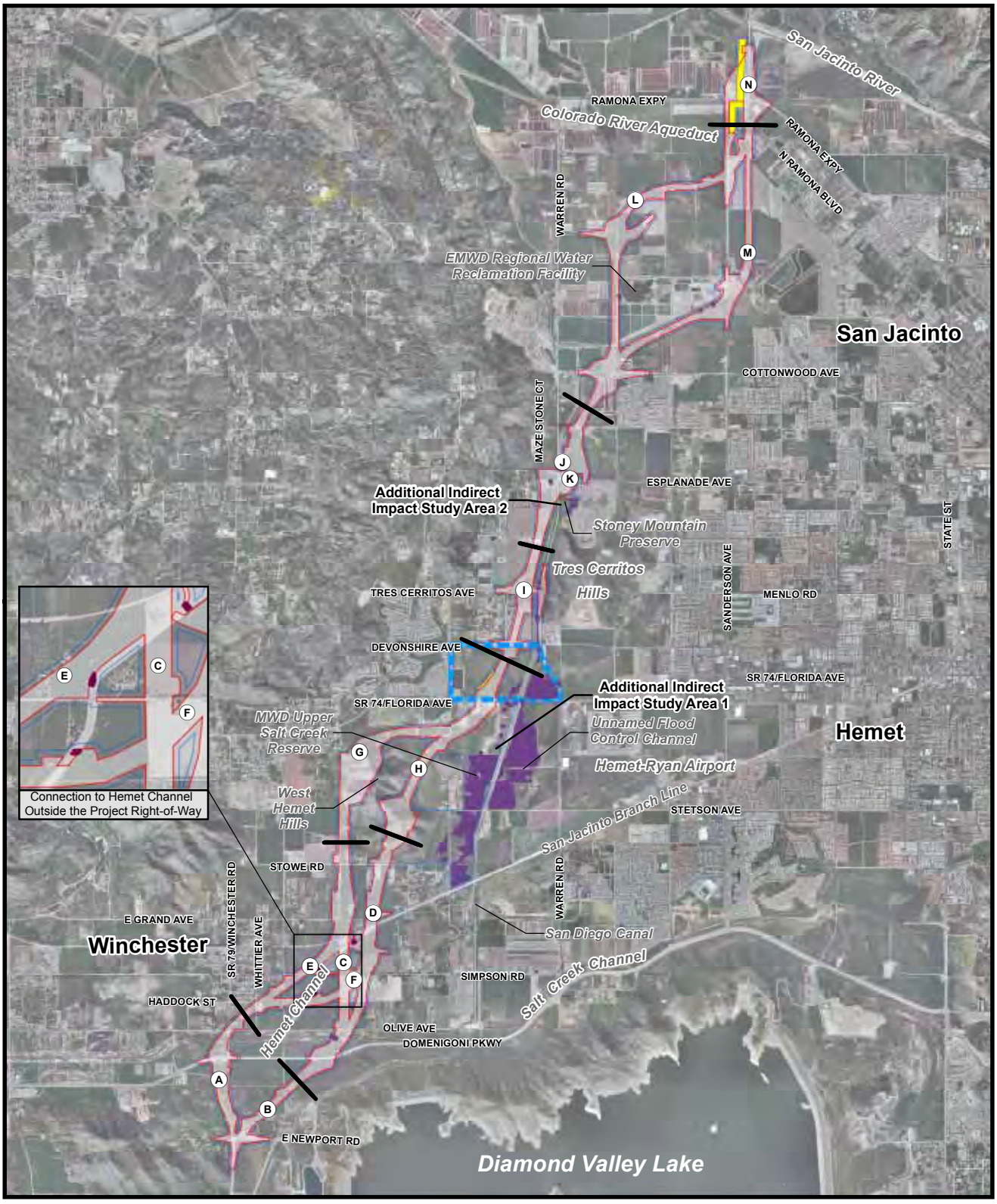
0 7,000 Feet

0 1,000 Meters

1:84,000

MSHCP Status Codes and Special Conditions: C - Covered

Figure 3.3-28
Location of Rare Plants *Chorizanthe polygonoides* var. *longispina*
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Hordeum intercedens* (vernal barley) PS, RRVP

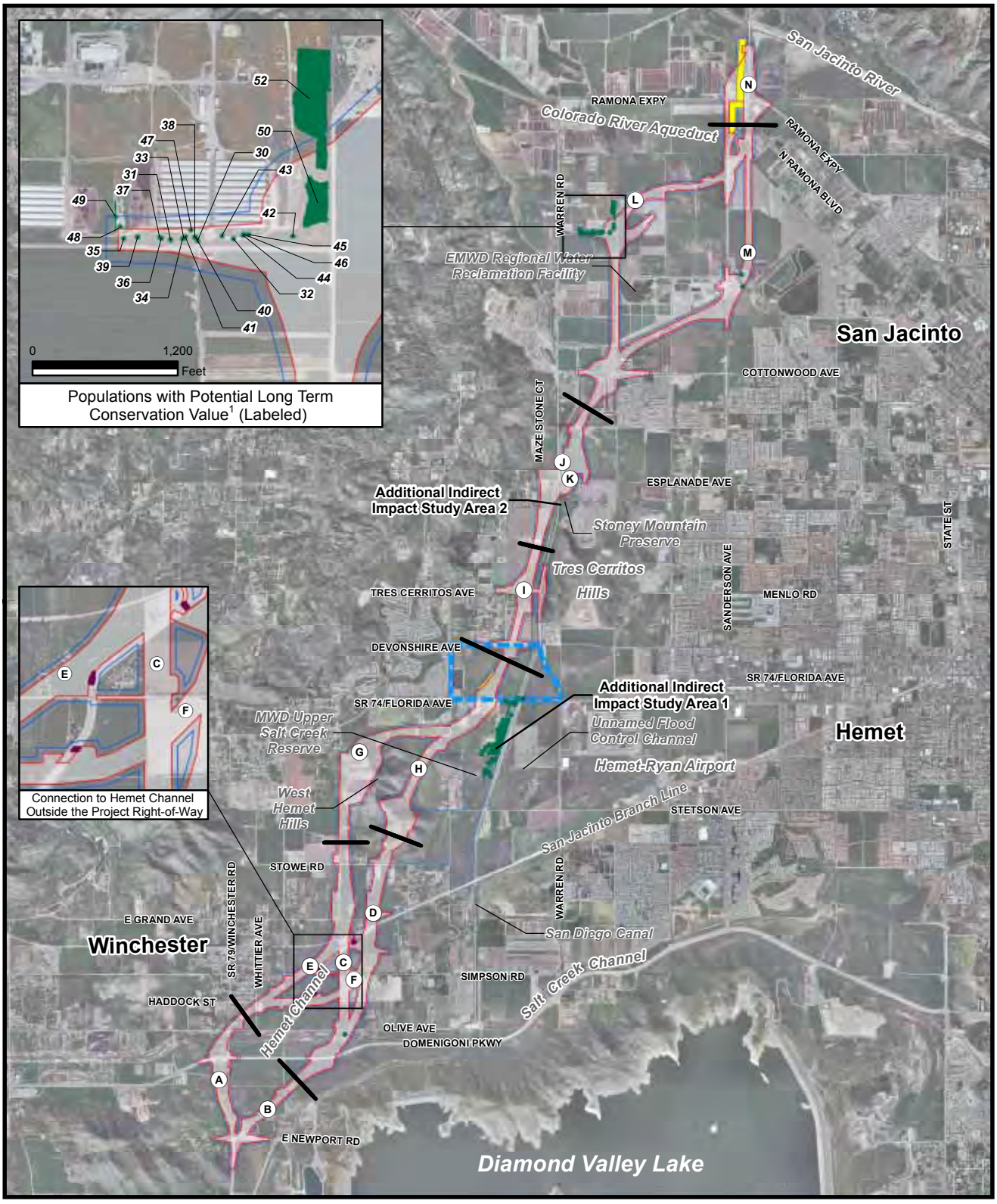
MSHCP Status Codes and Special Conditions: PS - Planning Species; RRVP - Riparian/Riverine and Vernal Pool Species

0 7,000 Feet

0 1,000 Meters

1:84,000

Figure 3.3-29
Location of Rare Plants *Hordeum intercedens*
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Lasthenia glabrata* ssp. *coulteri* (Coulter's goldfields) CA, PS

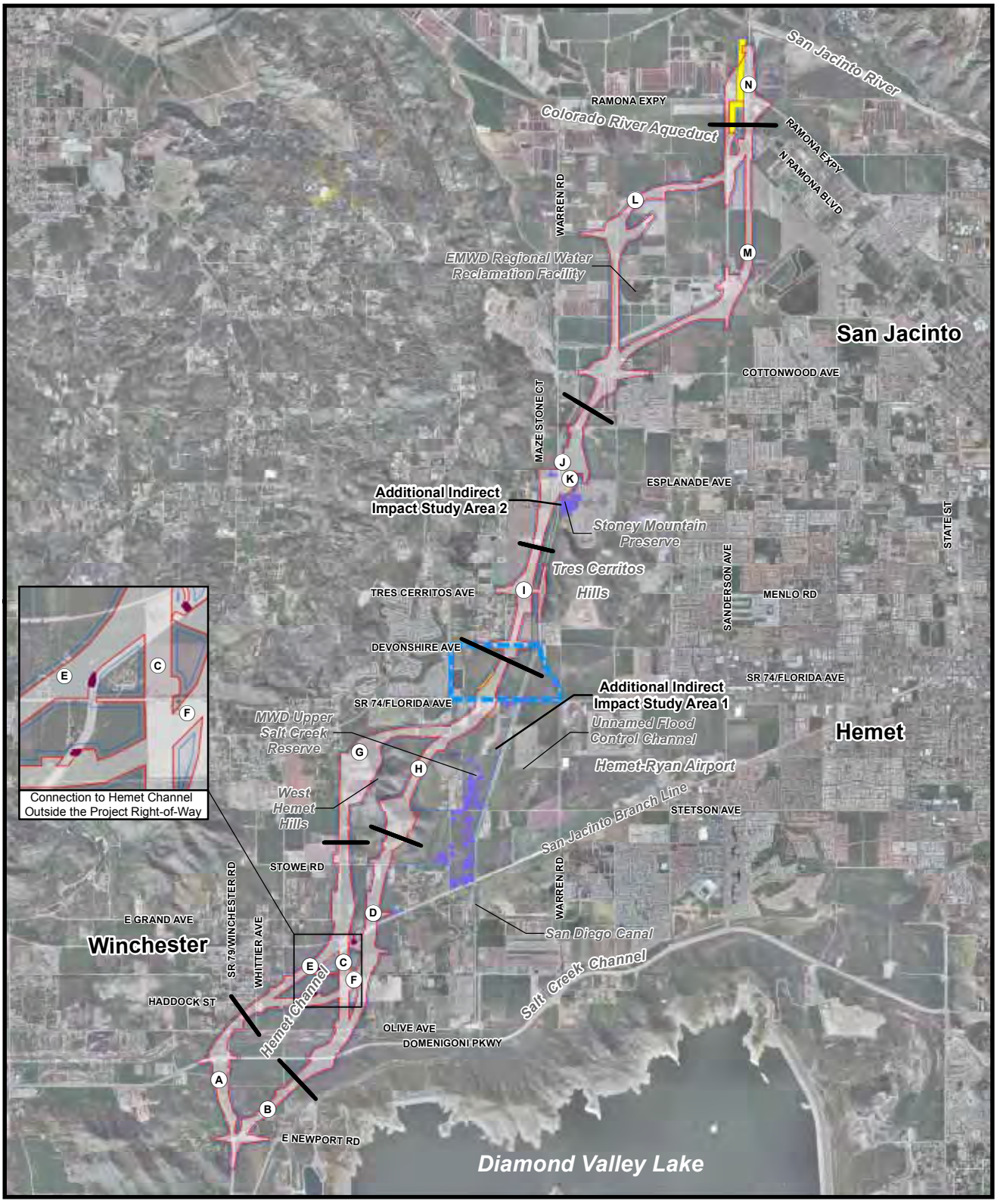
0 7,000 Feet

0 1,000 Meters

1:84,000

Note: 1 - Long term conservation value was assessed only for rare plants located within the Project ROW and the unique design features. **MSHCP Status Codes and Special Conditions:** CA - Criteria Area Species; PS - Planning Species

Figure 3.3-30
Location of Rare Plants *Lasthenia glabrata* ssp. *coulteri*
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Myosurus minimus ssp. apus* (little mousetail) CA, PS

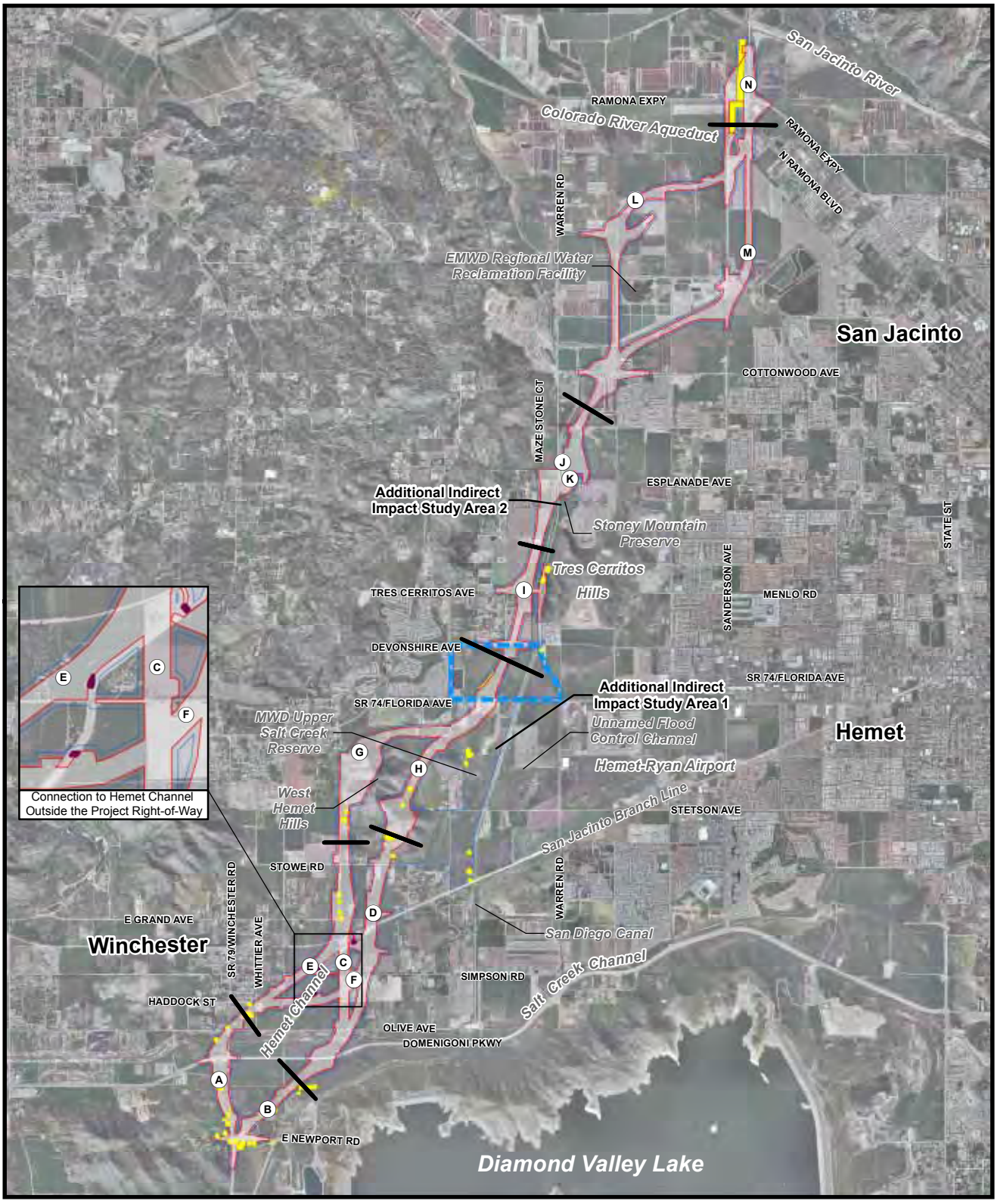
MSHCP Status Codes and Special Conditions:
CA - Criteria Area Species; PS - Planning Species

0 7,000 Feet

0 1,000 Meters

1:84,000

Figure 3.3-31
Location of Rare Plants *Myosurus minimus* ssp. *apus*
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Deinandra paniculata* (paniculate tarplant)[NI]

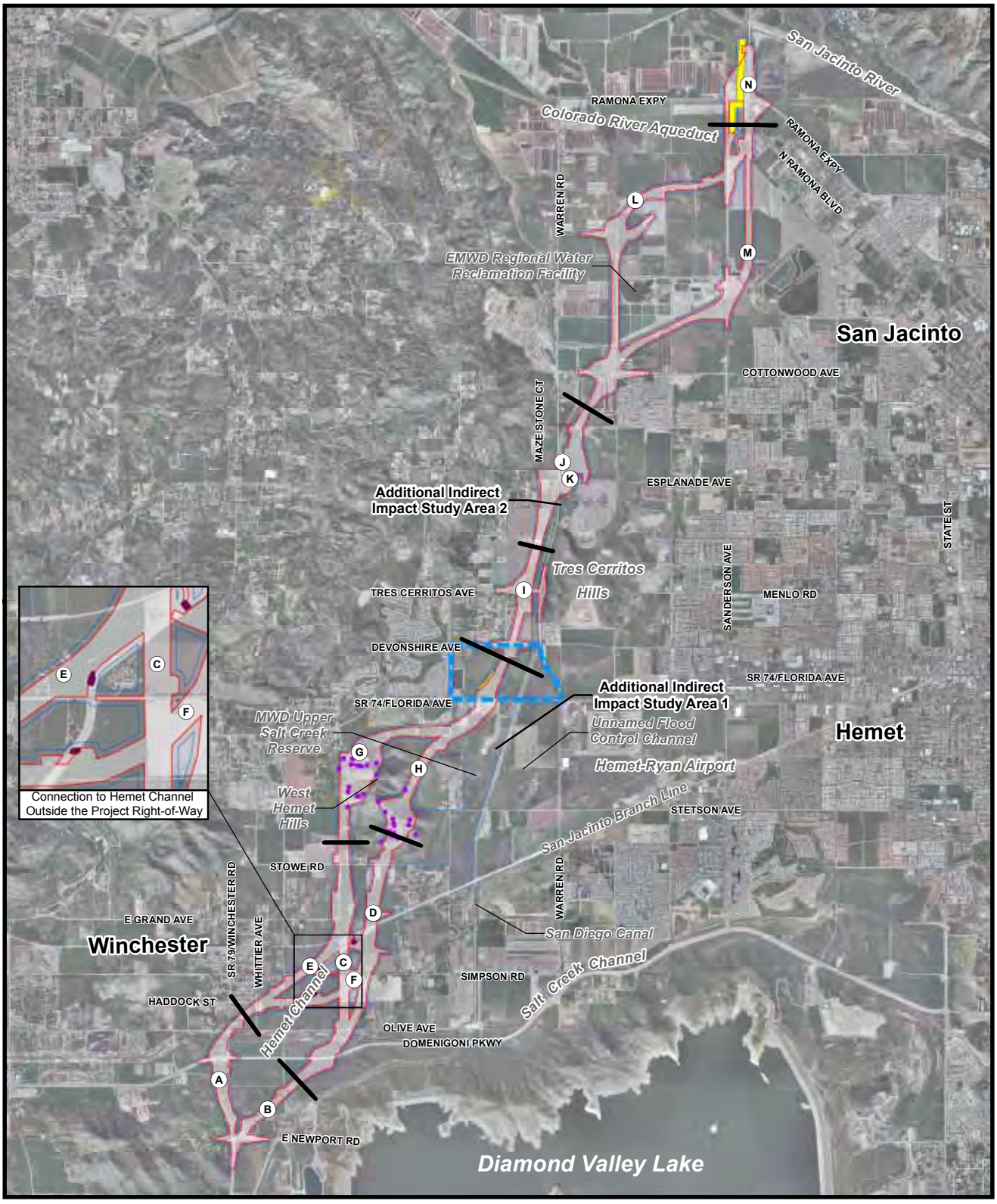
MSHCP Status Codes and Special Conditions: NI - Not Included in MSHCP

0 7,000 Feet

0 1,000 Meters

1:84,000

Figure 3.3-32
Location of Rare Plants
Deinandra paniculata
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Lepidium virginicum* var. *robinsonii* (Robinson's peppergrass)[NI]

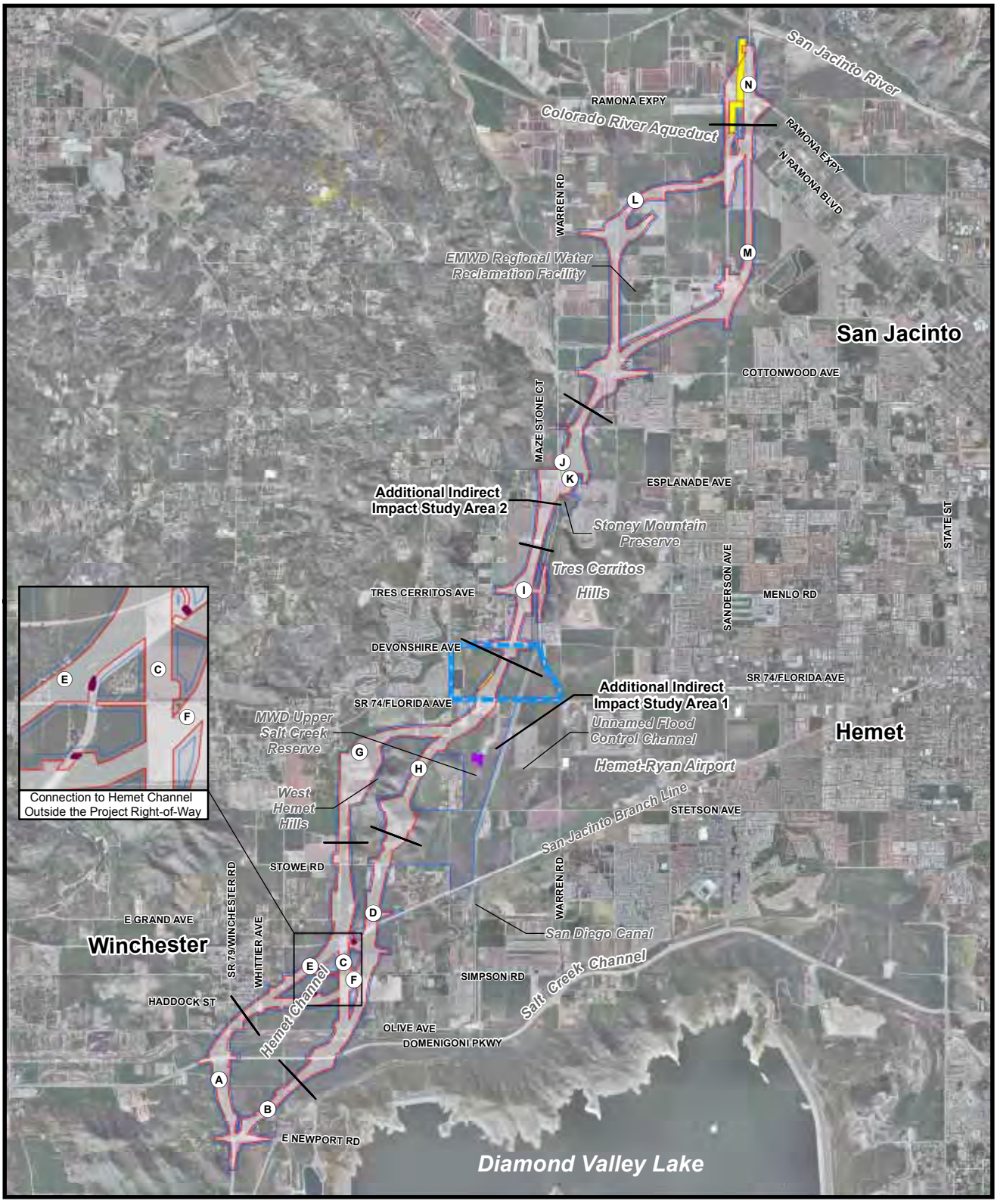
MSHCP Status Codes and Special Conditions: NI - Not Included in MSHCP

0 7,000 Feet

0 1,000 Meters

1:84,000

Figure 3.3-33
Location of Rare Plants *Lepidium virginicum* var. *robinsonii*
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Atriplex parishii* (Parish's brittlescale)[CA, PS]

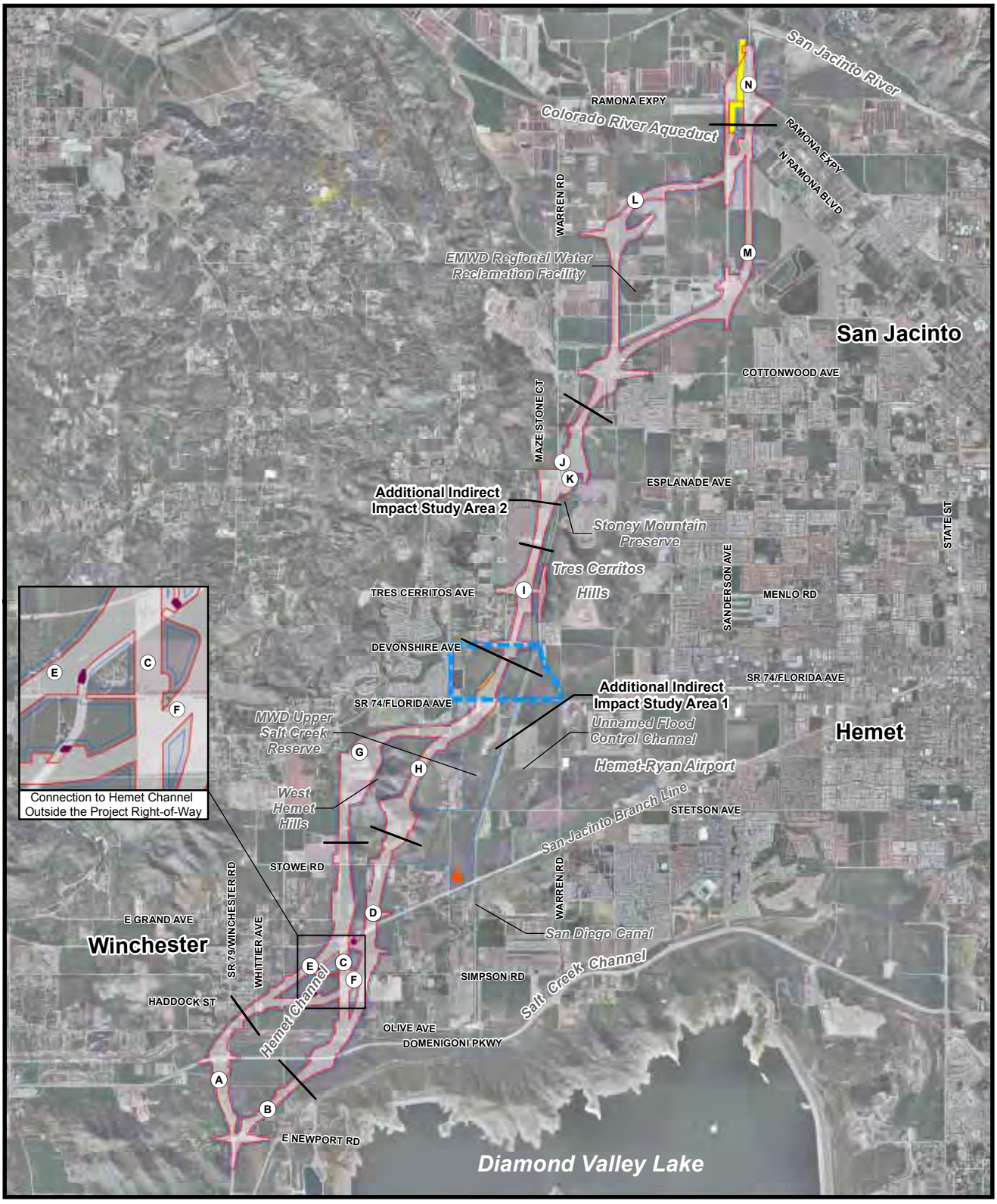
MSHCP Status Codes and Special Conditions:
CA - Criteria Area Species; PS - Planning Species

0 7,000 Feet

0 1,000 Meters

1:84,000

Figure 3.3-34
Location of Rare Plants
Atriplex parishii
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Brodiaea filifolia* (thread-leaved brodiaea) CA, PS, RRVP, SE, FT

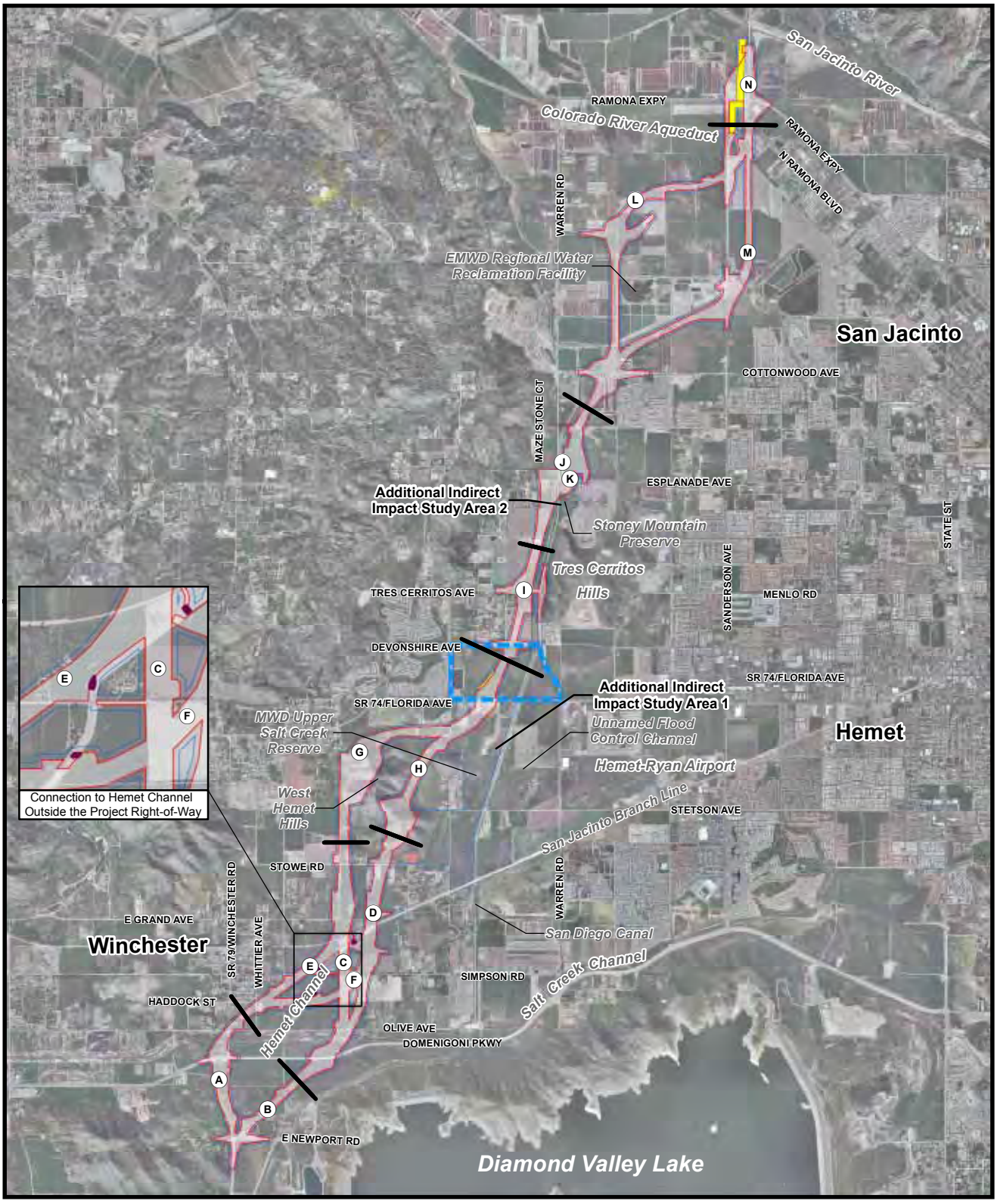
0 7,000 Feet

0 1,000 Meters

1:84,000

MSHCP Status Codes and Special Conditions:
CA - Criteria Area Species; PS - Planning Species; RRVP - Riparian/Riverine and Vernal Pool Species; SE - State Endangered; FT - Federally Threatened

Figure 3.3-35
Location of Rare Plants
Brodiaea filifolia
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Harpagonella palmeri* (Palmer's grapplinghook)[C]

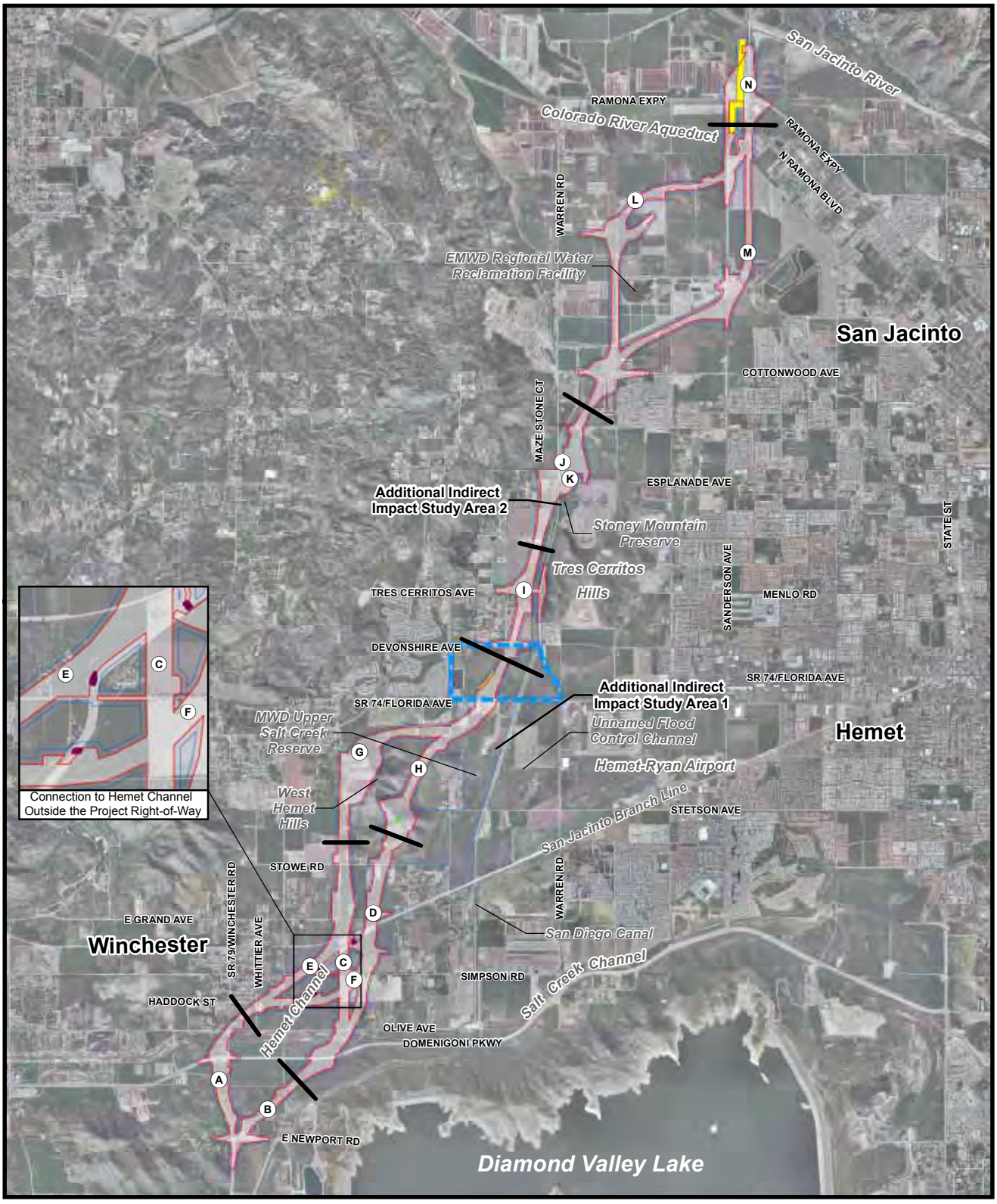
0 7,000 Feet

0 1,000 Meters

1:84,000

MSHCP Status Codes and Special Conditions: C - Covered

Figure 3.3-36
Location of Rare Plants
Harpagonella palmeri
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Microseris douglasii* ssp. *platycarpha* (small-flowered microseris)[CO]

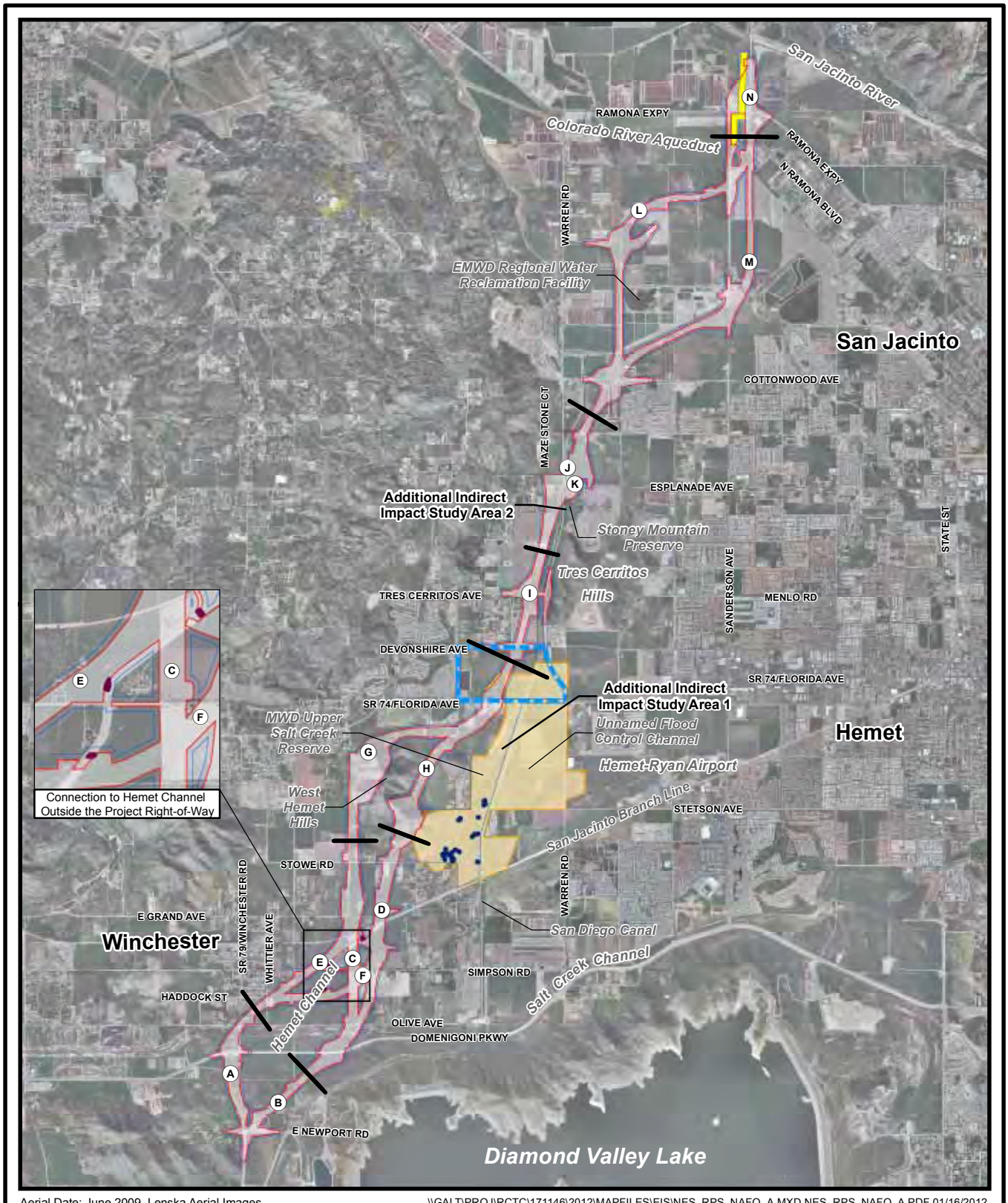
MSHCP Status Codes and Special Conditions: CO - Covered Species Requiring Species-Specific Conservation Objectives

0 7,000 Feet

0 1,000 Meters

1:84,000

Figure 3.3-37
Location of Rare Plants *Microseris douglasii* ssp. *platycarpha*
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Spreading Navarretia, Final Critical Habitat November 8, 2010[UF]

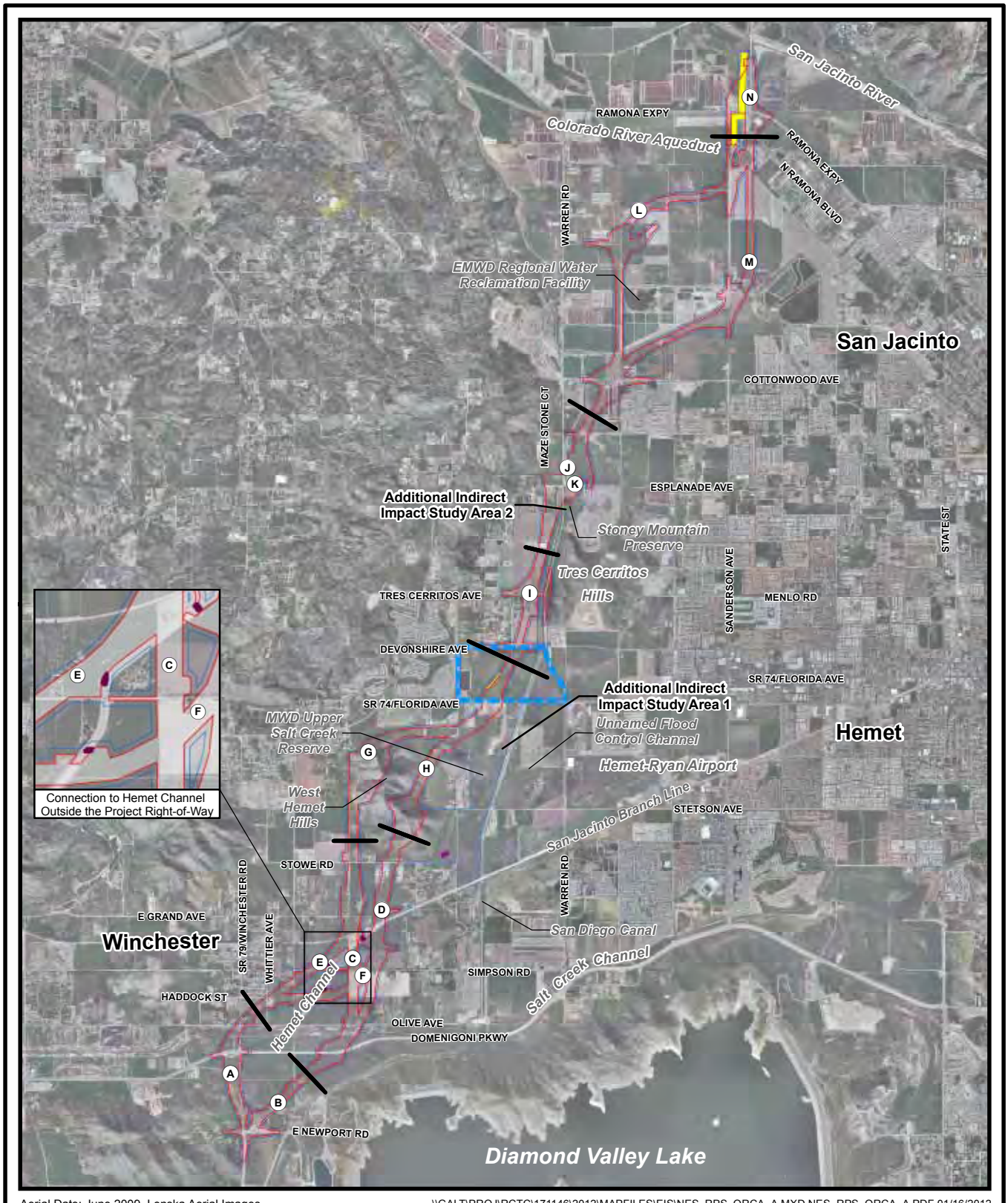
Rare Plant Data

- *Navarretia fossalis* (spreading navarretia)[NE, PS, RRVP, FT]

Source: UF - U.S. Fish and Wildlife Service
MSHCP Status Codes and Special Conditions: NE - Narrow Endemic Species; PS - Planning Species; RRVP - Riparian/Riverine and Vernal Pool Species; FT - Federally Threatened

0 7,000 Feet
0 1,000 Meters
1:84,000

Figure 3.3-38
Location of Rare Plants
Navarretia fossalis
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plants and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plant Data

- *Orcuttia californica* (California orcutt grass) NE, PS, RRVP, SE, FE

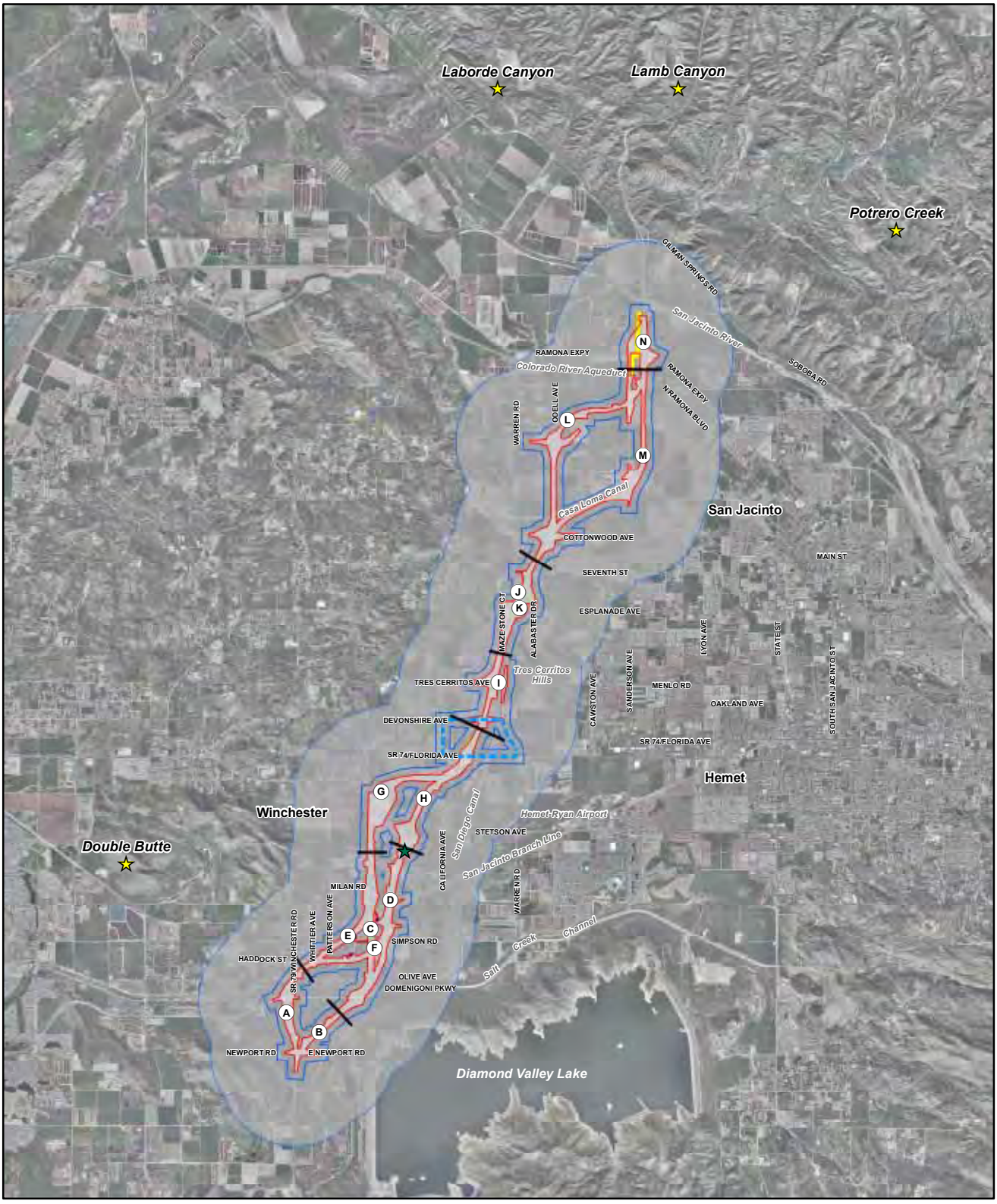
MSHCP Status Codes and Special Conditions:
NE - Narrow Endemic Species; PS - Planning Species; RRVP - Riparian/Riverine and Vernal Pool Species; SE - State Endangered; FE - Federally Endangered

0 7,000 Feet

0 1,000 Meters

1:84,000

Figure 3.3-39
Location of Rare Plants
Orcuttia californica
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

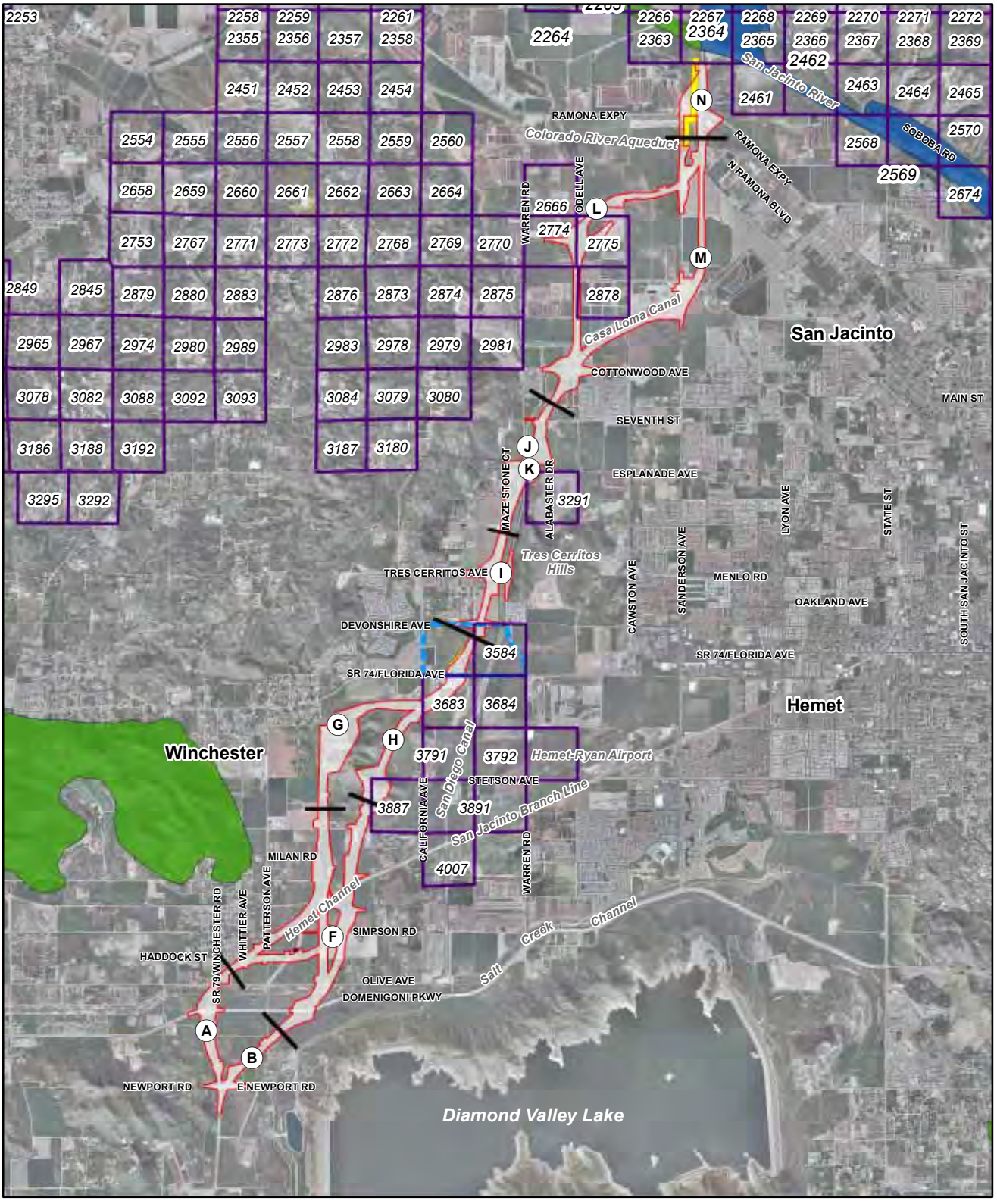
- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Golden Eagle Study Area
- Utility Relocation Area
- Connection to Hemet
- Channel Outside the Project Right-of-Way
- 2006 Golden Eagle Observation
- Golden Eagle Nest Site (August 2006)

0 7,500 Feet

0 1,500 Meters

1:125,000

Figure 3.3-40
Location of Golden Eagles and Project Features
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Criteria Cells[CR]

MSHCP Mammal Survey Areas by Species[CR]

- Los Angeles Pocket Mouse Only
- San Bernardino Kangaroo Rat and Los Angeles Pocket Mouse

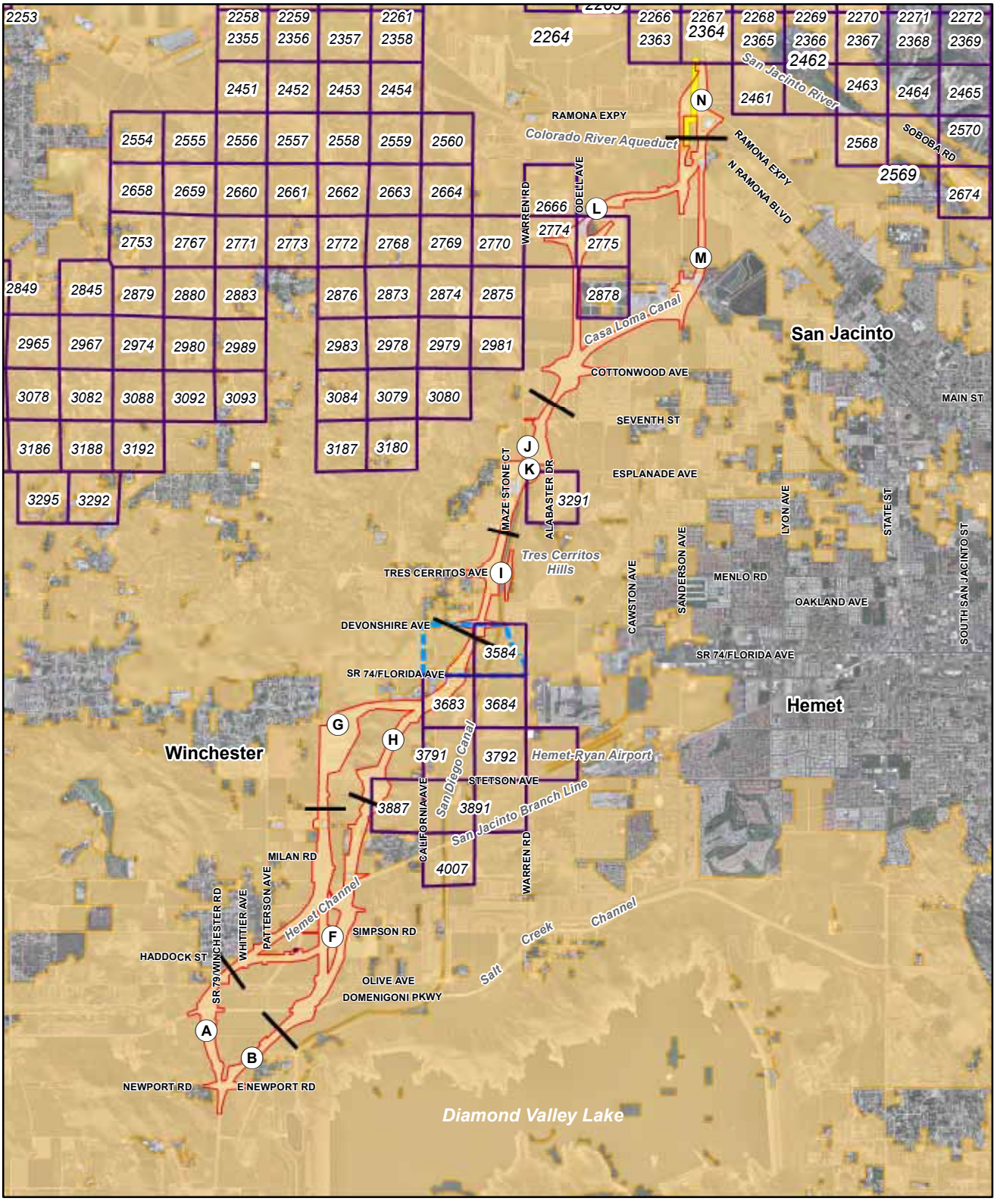
0 7,500 Feet

0 1,500 Meters

1:90,000

Source: CR - County of Riverside

Figure 3.3-41
Multiple Species Habitat Conservation Plan Mammal Survey Areas
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

\\GALT\PROJ\RCTC\171146\2011\MAPFILES\EIS\NES_MSHCP_BWO_A.MXD NES_MSHCP_BWO_A.PDF 01/16/2012

LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Criteria Cells[CR]
- MSHCP Burrowing Owl Survey Area

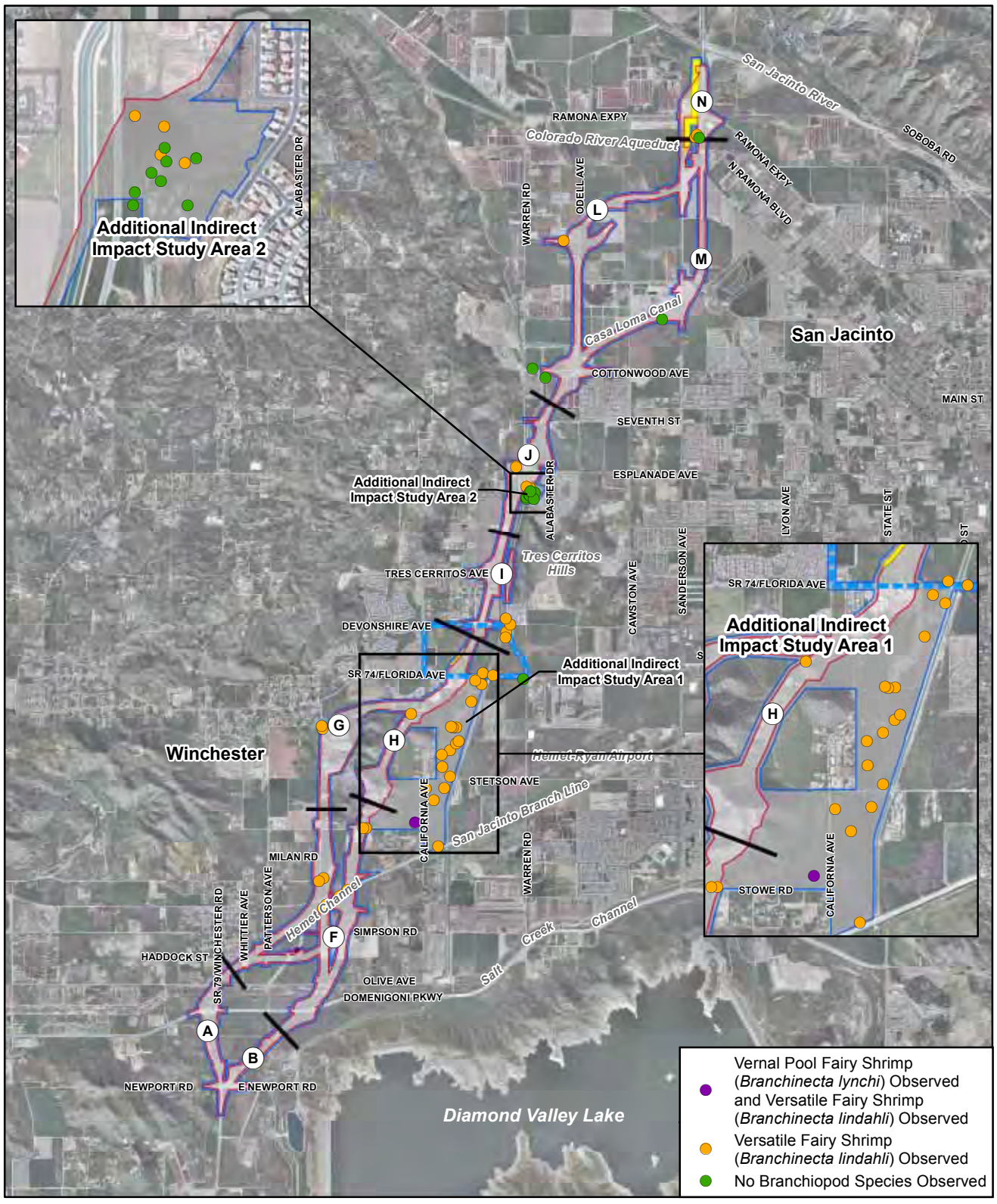
0 7,500 Feet

0 1,500 Meters

1:90,000

Source: CR - County of Riverside

Figure 3.3-42
Multiple Species Habitat Conservation Plan Burrowing Owl Survey Areas
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Rare Plant and Aquatic Resources Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

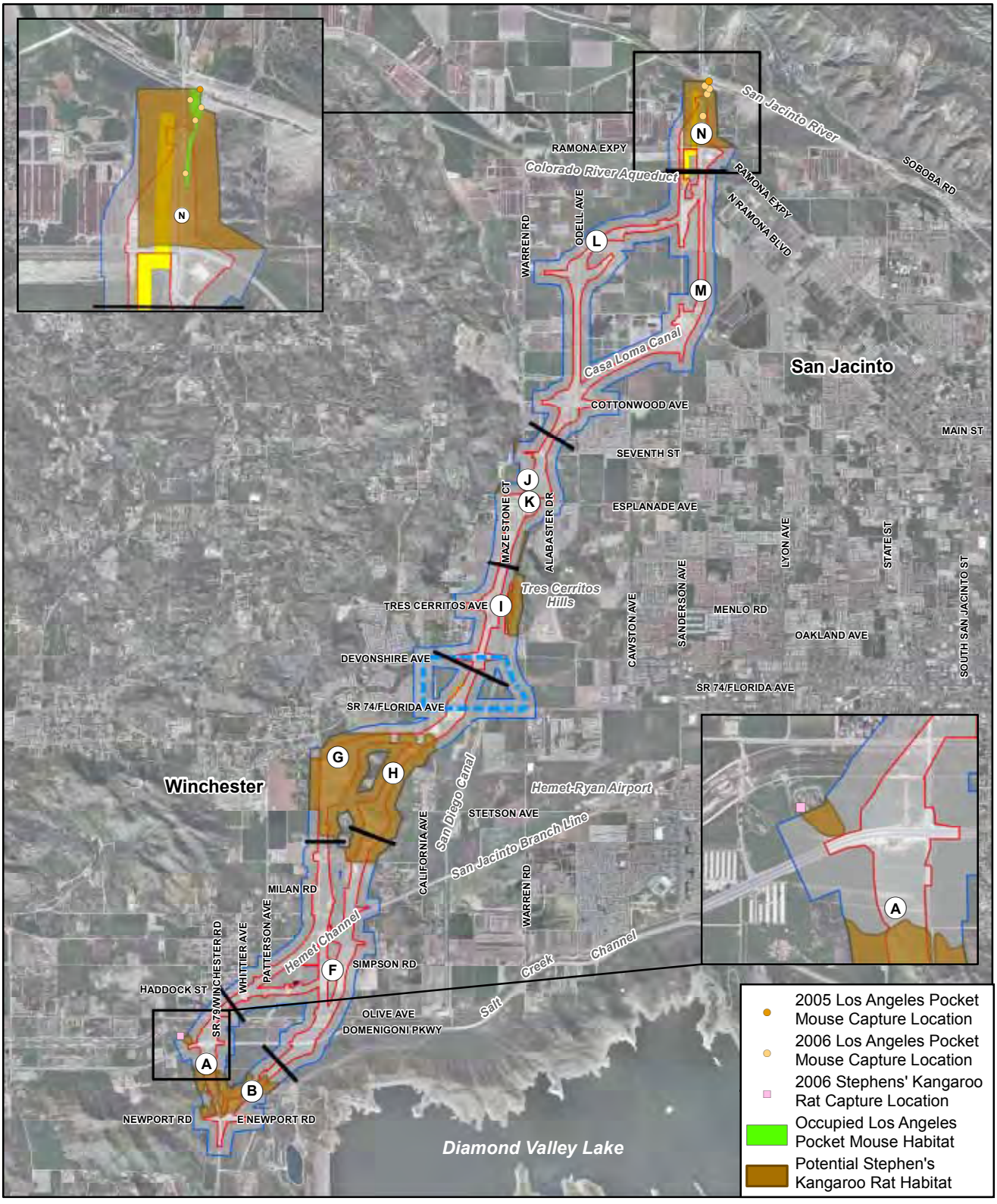
0 7,500 Feet

0 1,500 Meters

1:90,000

Figure 3.3-43
Location of Vernal Pool Branchiopods and Project Features

Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

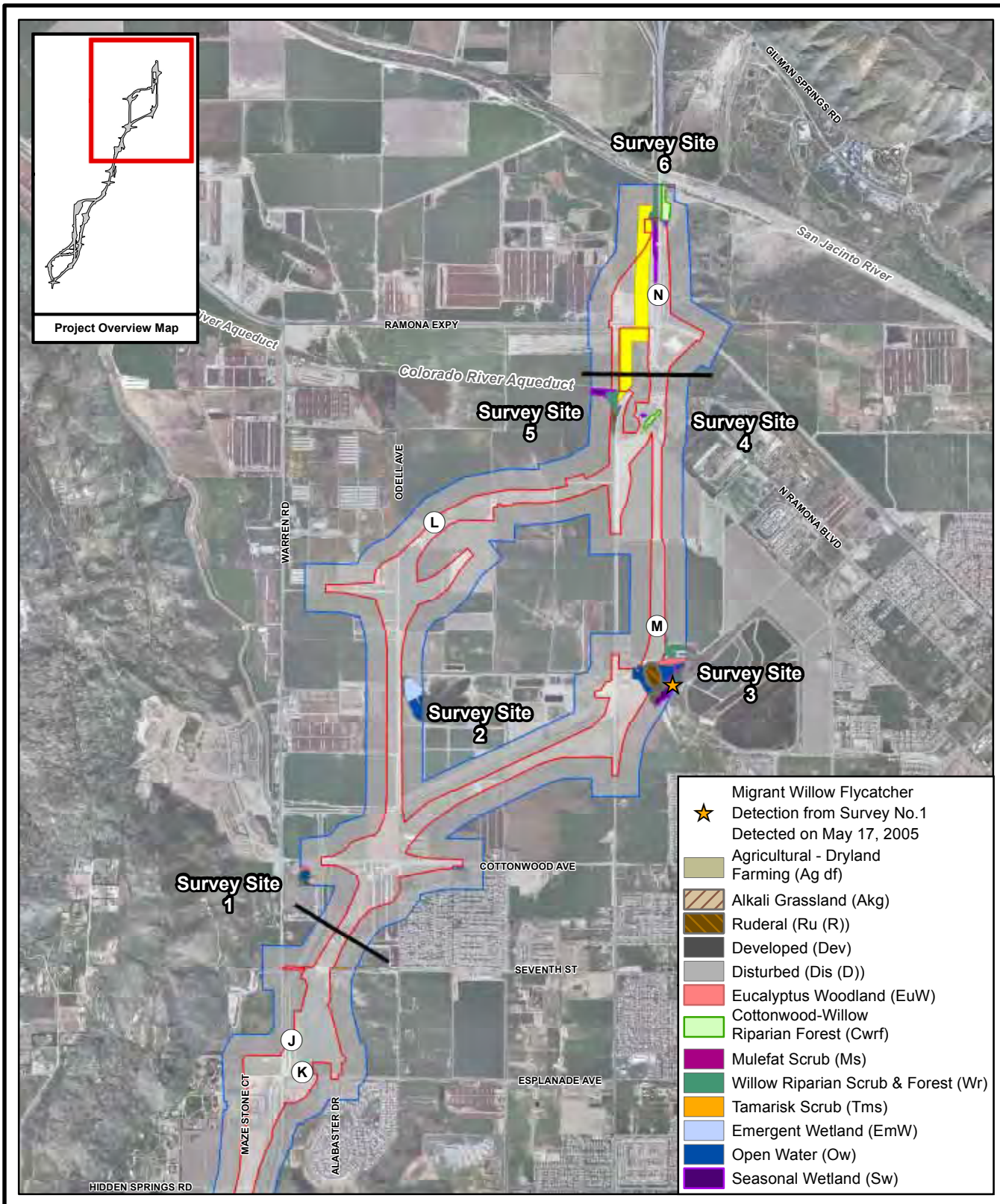
- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Terrestrial Wildlife Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

0 7,500 Feet

0 1,500 Meters

1:90,000

Figure 3.3-44
Location of Sensitive Small Mammals and Project Features
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

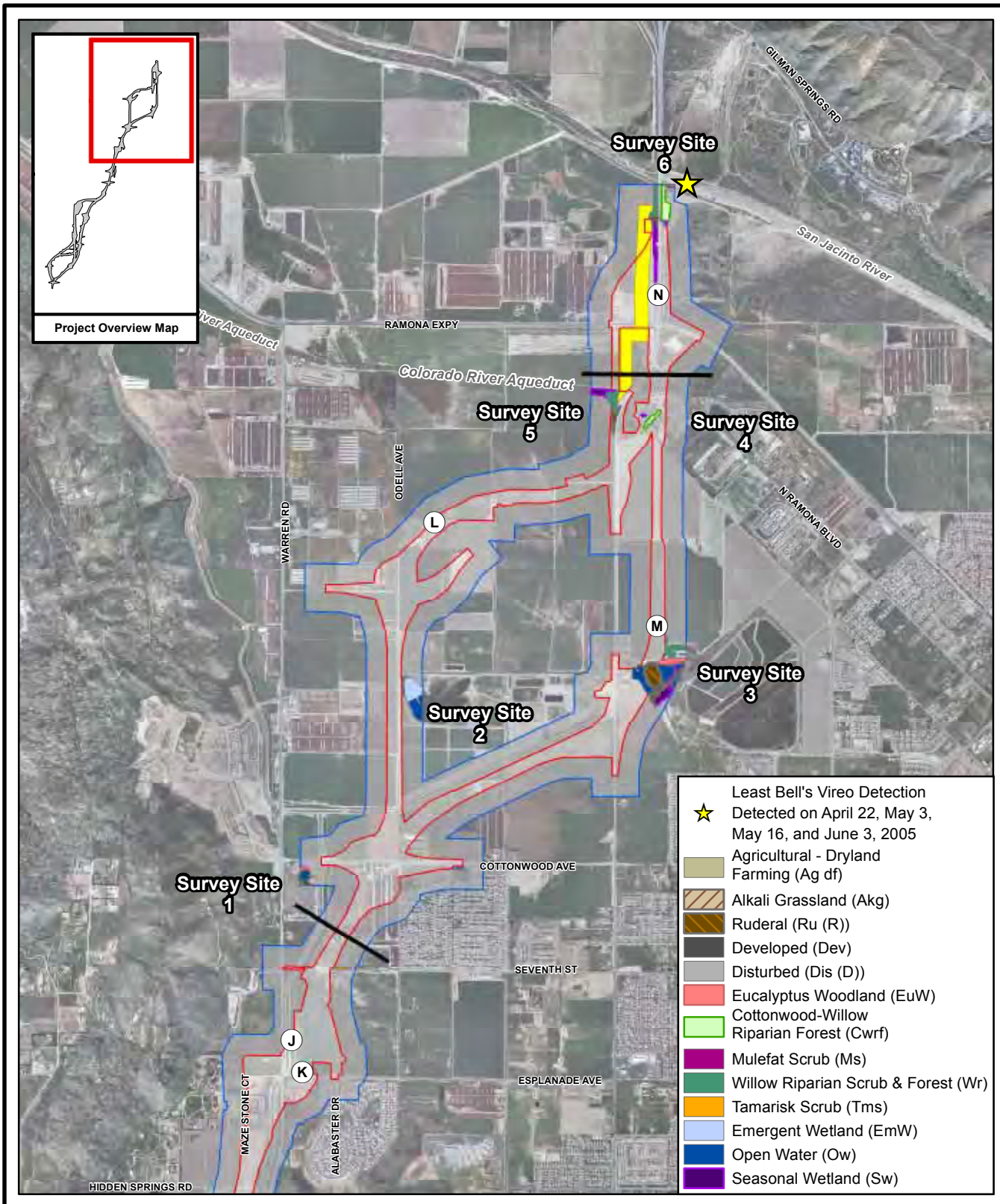
- Roadway Segment
- Match Line
- Project Impact Area
- Terrestrial Wildlife Study Area
- Utility Relocation Area

0 3,500 Feet

0 750 Meters

1:42,000

Figure 3.3-45
Location of Southwestern Willow Flycatcher and Project Features
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

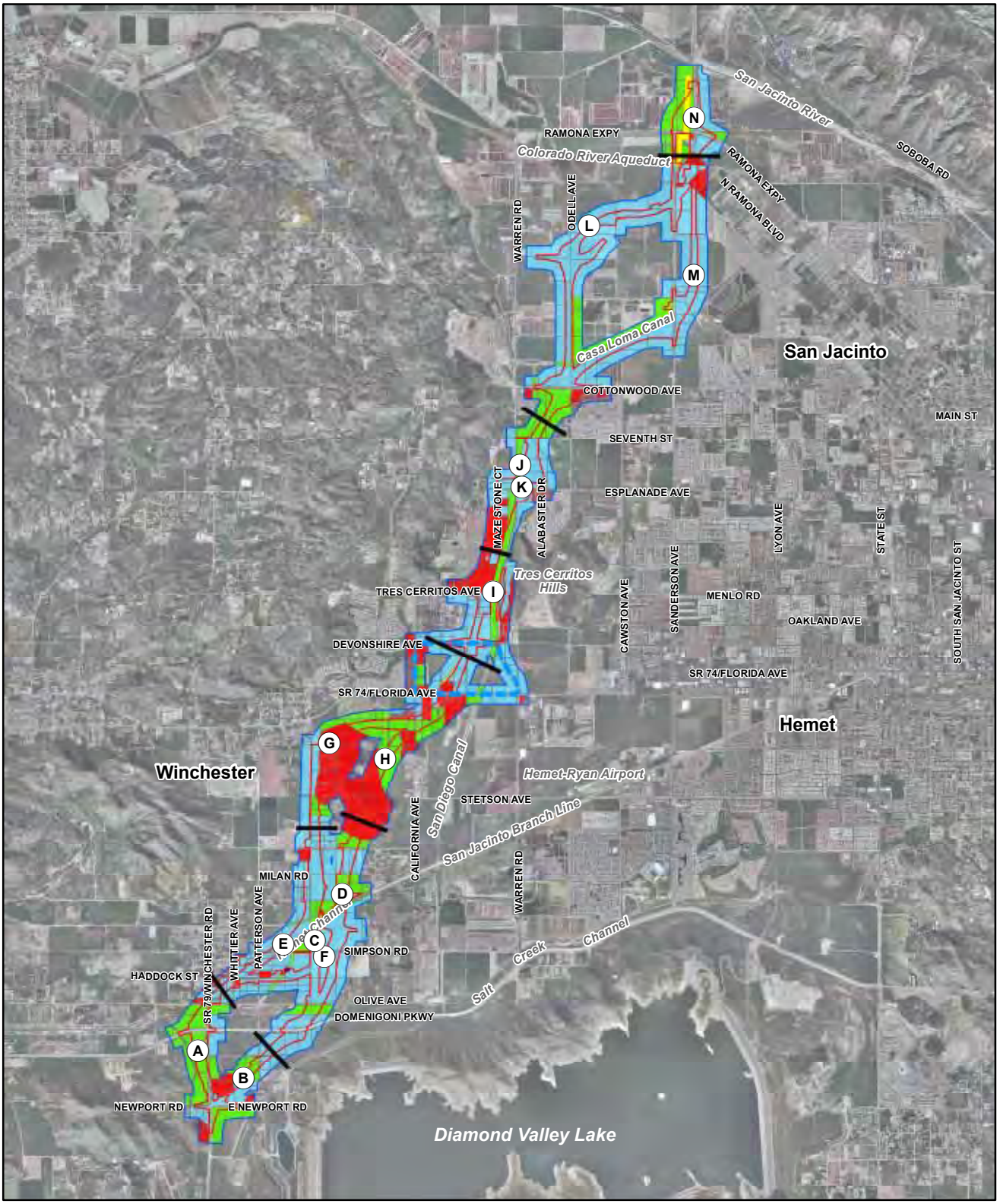
- Roadway Segment
- Match Line
- Project Impact Area
- Terrestrial Wildlife Study Area
- Utility Relocation Area

0 3,500 Feet

0 750 Meters

1:42,000

Figure 3.3-46
Location of Least Bell's Vireo and Project Features
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Terrestrial Wildlife Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Burrowing Owl Habitat Suitability

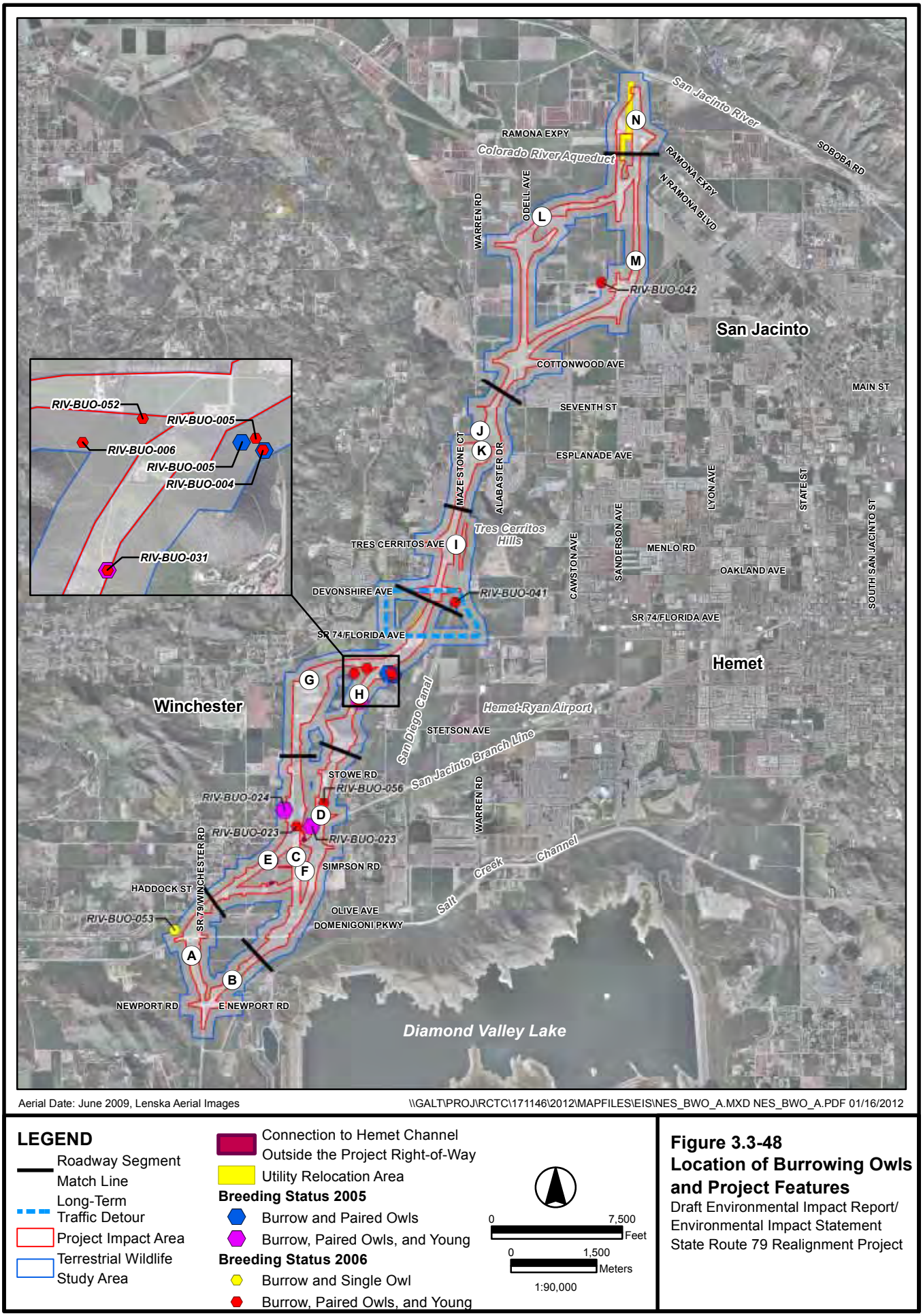
- Excellent
- Suitable
- Excluded

0 7,500 Feet

0 1,500 Meters

1:90,000

Figure 3.3-47
Burrowing Owl Habitat Suitability
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Terrestrial Wildlife Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area

Breeding Status 2005

- Burrow and Paired Owls
- Burrow, Paired Owls, and Young

Breeding Status 2006

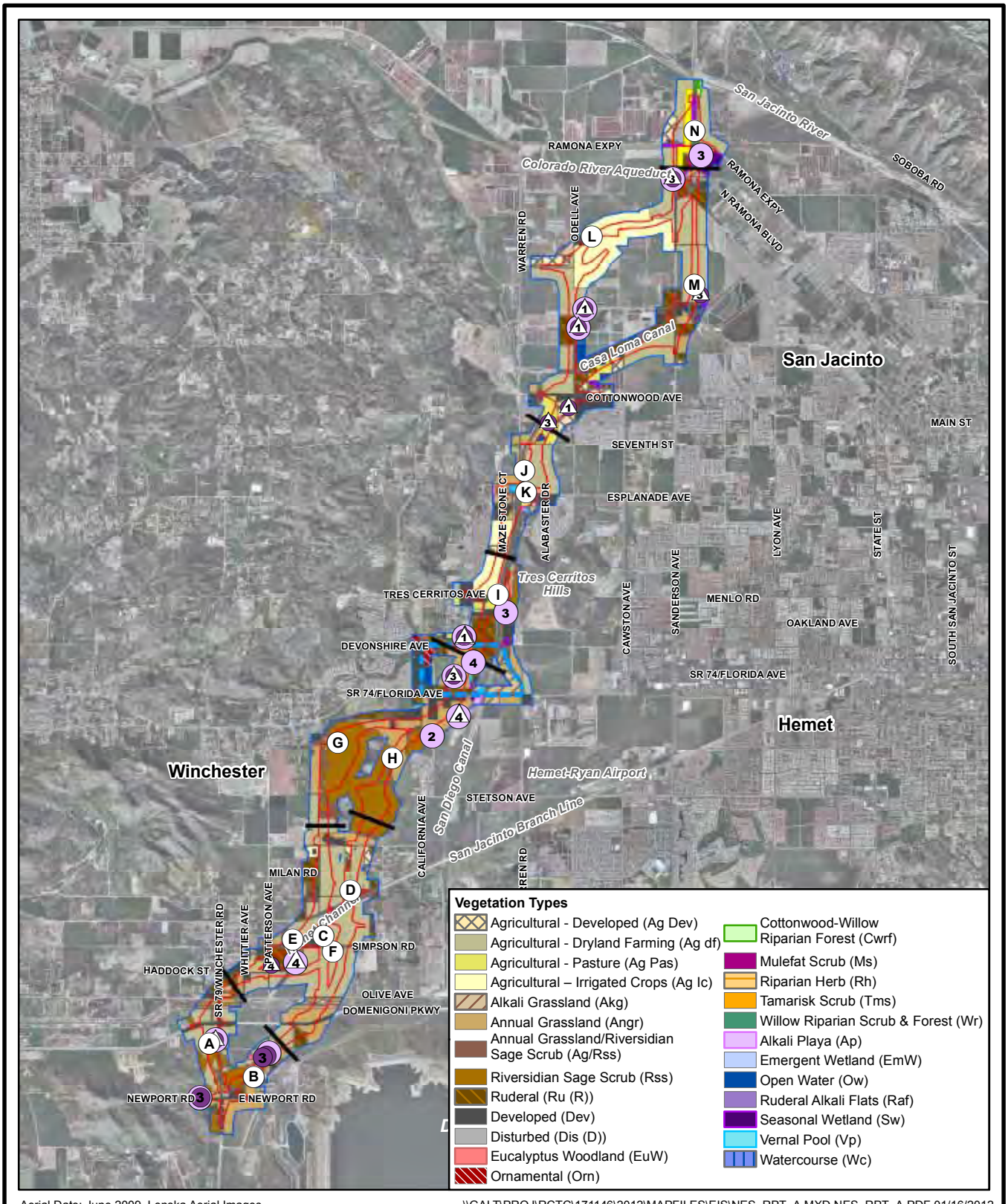
- Burrow and Single Owl
- Burrow, Paired Owls, and Young

0 7,500 Feet

0 1,500 Meters

1:90,000

Figure 3.3-48
Location of Burrowing Owls and Project Features
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Terrestrial Wildlife Study Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Utility Relocation Area
- 2005 Nesting Raptor Location
- 2006 Nesting Raptor Location
- Successful Nesting

Nesting Raptor Species

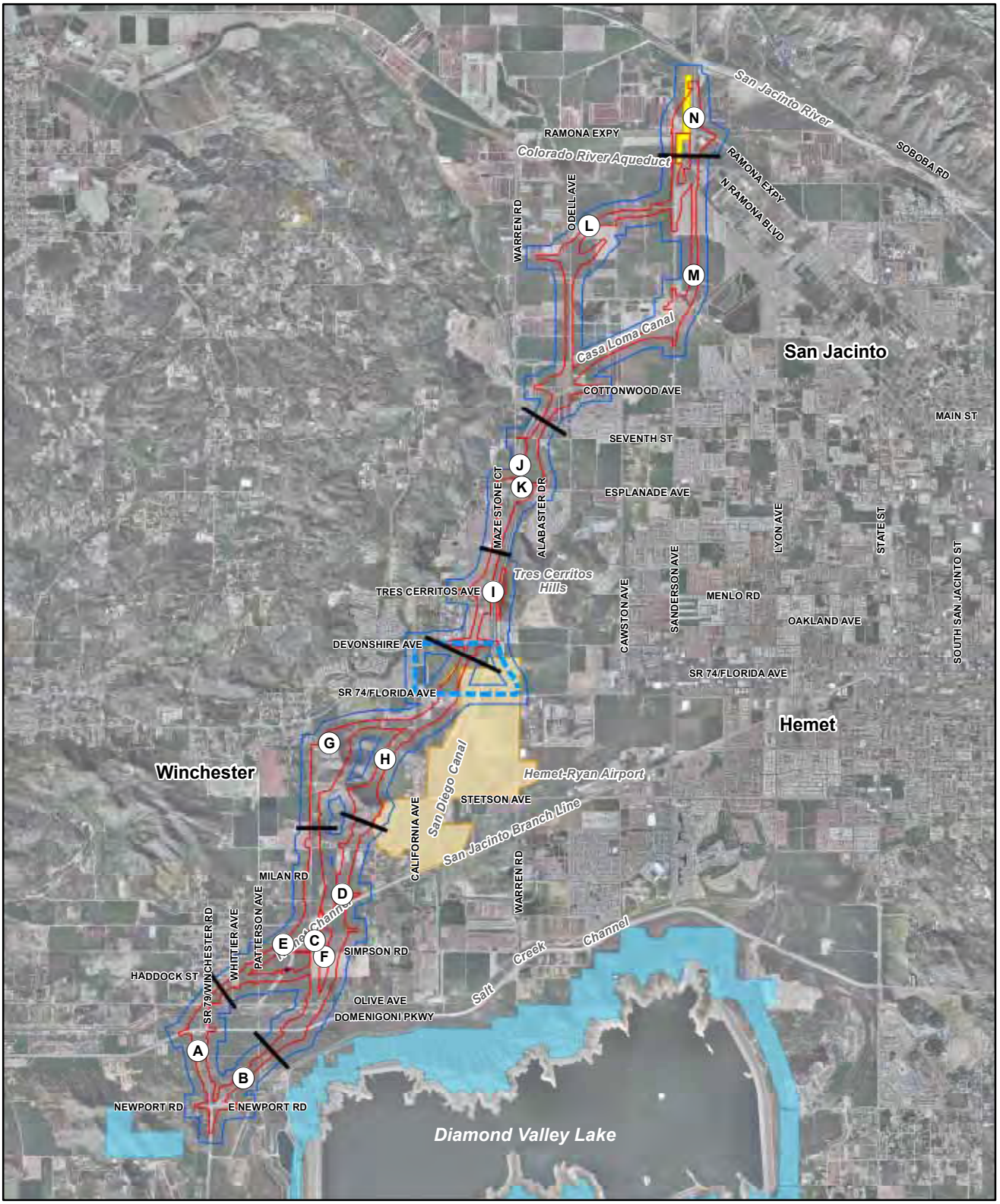
1. Barn owl
2. Cooper's hawk
3. Red-tailed hawk
4. White-tailed hawk

0 7,500 Feet

0 1,500 Meters

1:90,000

Figure 3.3-49
Location of Nesting Raptors and Project Features
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Terrestrial Wildlife Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- Coastal California Gnatcatcher, Final Revised Critical Habitat December 19, 2007[UF]
- Spreading Navarretia, Final Critical Habitat December 8, 2010[UF]

0 7,500 Feet

0 1,500 Meters

1:90,000

Source: UF - United States Fish and Wildlife Service (USFWS)

Figure 3.3-50
Critical Habitat and Project Features
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project

3.4 The Relationship between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

3.4.1 Introduction

The Project proposes the long-term enhancement of the regional transportation system. However, it has the potential to result in both short- and long-term social, aesthetic, biological, noise, and land use impacts. The Project is based on state and local comprehensive planning that considers the need for present and future traffic requirements in the context of present and future land use development.

The Project is included in both the Southern California Association of Governments (SCAG) 2011 Federal Transportation Improvement Program (FTIP) and the 2012-2035 Regional Transportation Plan (RTP). The Project is listed in the SCAG 2012-2035 RTP under Project ID RIV62024. The SCAG adopted the 2012-2035 RTP on April 4, 2012. Following the SCAG adoption, the 2012-2035 RTP was approved by FHWA and FTA on June 4, 2012. Currently, RCTC has filed an amendment to the 2011 FTIP, which is expected to be approved in late September or early October 2012. Inclusion in the adopted RTP and FTIP demonstrates that the Project meets the planning and regional requirements for demonstration of federal conformity, and is consistent with local air quality planning efforts.

The Project has been a part of ongoing transportation planning for Riverside County and the cities of Hemet and San Jacinto. The San Jacinto General Plan identifies a Locally Preferred Alternative for the SR 79 Project (San Jacinto 2006[15]). The Locally Preferred Alternative is the easternmost alignment proposed to pass through the city, Roadway Segments K, N, and M. The general plans for both Riverside County and the City of Hemet acknowledge a corridor or study area for the roadway facility. Although the Project as currently proposed is not identified in these general plans, coordination with these entities is ongoing to ensure that local transportation goals are achieved by the Project and addressed in this environmental analysis. On May 13, 2008, the Project was addressed in City of Hemet Resolution No. 4216, wherein the City of Hemet identified a Locally Preferred Alternative, based on information received to that date, to replace the now-eliminated Locally Preferred Alternative specified in the 1992 Hemet General Plan. The resolution goes on to direct the Hemet City Manager or his designee to work cooperatively with RCTC as part of its Project Development Team process to continue review of the final two alternative corridors and to present the City's final Preferred Alternative, when appropriate (Hemet 2008). The Locally Preferred Alternative identified by the City of Hemet is represented by one or more of the Build alternatives.

[15]Complete references for all citations are in Chapter 8.

3.4.2 Environmental Consequences

3.4.2.1 No Build Alternative

The No Build Alternative would require no action by RCTC or the federal and state lead agency (the Department). Existing and projected capacity and safety needs would not be addressed. Existing SR 79 would not be realigned, ROW would not be acquired, and roadway construction would not occur. The portion of SR 79 proposed for realignment would remain in place and unchanged. The No Build Alternative would not preclude projects that are currently included in the General Plans of Riverside County, the City of Hemet, and the City of San Jacinto or those that may be proposed in the future.

The No Build Alternative would not result in the losses/impacts described in association with the Build alternatives. However, under the No Build Alternative, the existing roadway would continue to operate at reduced or degraded levels of service. It would not provide the benefits to traffic circulation or safety that would result from any of the Build alternatives or design options, as discussed below.

3.4.2.2 Build Alternatives

The general types of short- and long-term impacts and benefits associated with the Project would be similar regardless of the Build alternative or design option that is identified as the Preferred Alternative. Therefore, this discussion is presented for the collective Project, as opposed to a specific Build alternative.

The Build alternatives could cause short-term losses that could result from displacements or relocations, traffic delays and detours, modification of the aesthetic environment, and air quality and noise impacts:

- Reduced economic performance of businesses
- Delayed travel and emergency response
- Impaired access to businesses and community services
- Reduced enjoyment of recreational and other outdoor uses due to changed or blocked viewsheds, dust clouds, or construction noise

A short-term benefit of all the Build alternatives would be the employment of local and regional construction workers for the Project construction period and a potential effect from the additional employment and business activity generated in the regional economy the resulting expenditure of funds for construction materials and labor.

The Build alternatives could also cause long-term loss of resources and could have a permanent impact on aesthetics, air quality, and noise levels. Specific long-term losses include:

- Permanent impacts to open space, plants, wildlife, and their habitat
- Permanent loss of agricultural lands and economic values associated with crop and/or livestock production
- Permanent consumption of materials and energy required for roadway construction and operation
- Changes to community character and cohesion due to blocked or altered viewsheds, impaired air quality, and increased roadway noise
- Permanent removal of residential and commercial uses

- Permanent increases in noise levels along the new alignment
- Permanent impacts to known archaeological resources

Long-term benefits from all of the Build alternatives would be improved traffic flow and increased capacity to facilitate the regional movement of people and goods. Specifically, the Build alternatives would:

- Provide a segment of SR 79 that will facilitate an effective north-south transportation corridor between Domenigoni Parkway and Gilman Springs Road
- Address the east-west and north-south through traffic mix from local traffic attempting to access the numerous businesses in the commercial district in the city of Hemet
- Accommodate Surface Transportation Assistance Act (STAA) National Network for oversize trucks and meet current and future goods movement needs through the cities of San Jacinto and Hemet
- Provide a facility that would not preclude any future multimodal enhancements such as HOT lanes, HOV lanes, a rail system, or a regional bus system.

3.4.2.3 Conclusions

The proposed Project would result in short-term construction-related effects such as air pollutant emissions, noise, and temporary disruption to recreational uses, as well as potential long-term losses of agricultural, biological, cultural, and visual resources. However, these potential adverse environmental impacts should be considered along with the long-term benefits to transportation and safety associated with the Project.

Existing SR 79 serves as a commuter and regional route linking rural areas of San Diego County to the communities in western Riverside County. The portion of SR 79 proposed for realignment also serves regional traffic, connecting Winchester, Hemet, and San Jacinto to Temecula and Murrieta in the south and Beaumont in the north. The use of SR 79 is changing because of widespread and rapid growth in the area. The level of service during certain periods decreases to a point that traffic demand exceeds the capacity of the existing facility. Inadequate control of access has contributed to disorderly and inefficient movement of vehicles (Department 1992, 1999). In addition, injury accident rates on most of SR 79 between Domenigoni Parkway and Gilman Springs Road are higher than the comparable statewide average. The Project would improve traffic conditions in the region by providing a direct and continuous north-south route between Domenigoni Parkway and Gilman Springs Road. This would allow efficient and safe movement of regional traffic between these two locations.

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3.5 Irreversible and Irretrievable Commitments of Resources That Would Be Involved in the Proposed Project

Irreversible commitments result from decisions that affect nonrenewable resources. These decisions are considered irreversible because their implementation would affect a resource to the point that renewal can occur only over a long period of time or at great expense or because they would cause the resources to be destroyed or removed. An irretrievable commitment of resources means a loss of production or use of resources as a result of a decision. Irretrievable also refers to the permanent loss of resources, including production, harvest, or use of natural resources. The potential for use or removal of resources associated with the Project is discussed below.

3.5.1 No Build Alternative

The No Build Alternative would require no action by RCTC or the federal and state lead agency (the Department). Existing SR 79 would not be realigned, ROW would not be acquired, and roadway construction would not occur. The portion of SR 79 proposed for realignment would remain in place and unchanged. The No Build Alternative would not preclude projects that are currently included in the General Plans of Riverside County, the City of Hemet, and the City of San Jacinto or those that may be proposed in the future. Although impacts from as-yet unidentified projects could occur, they cannot be considered the impacts of the No Build Alternative.

3.5.2 Build Alternatives

Commitments of resources associated with the Project would be similar regardless of the Build alternative or design option that is identified as the Preferred Alternative. Therefore, this discussion is presented for the collective Project, as opposed to a specific Build alternative or design option.

The Build alternatives would result in the commitment of resources throughout the existence of the Project. Project construction would be associated with a substantial expenditure of both state and federal funds, which are not retrievable. Construction materials such as sand, cement, steel, wood, asphalt would be used, and energy (oil, gasoline, diesel fuel) would be expended to build the proposed Project. Additionally, large amounts of labor and natural resources would be used in making these construction materials and generally are not retrievable. Once obtained and/or dedicated to the Project, these resources would not be available to other transportation projects or for any other future use.

The Project would require the commitment of land for the roadway and associated facilities. Agricultural lands, biological habitat, open space, and other land uses that are converted for the Project would be lost. Although the proposed Project would be considered a permanent use, if a greater need arises for use of the land, or if the facility is no longer needed, the land could ultimately be converted to another use. However, this is highly unlikely and, therefore, conversion of existing land uses would be considered an irretrievable commitment of resources.

Project operation would be associated with ongoing expenditures of state and local funds for maintenance and upkeep. As with construction funding, these financial commitments would be considered irretrievable once they are obtained and/or dedicated to the proposed Project.

The Project would require disposal of nonhazardous materials at Lamb Canyon Landfill. Landfill capacity is finite, and once used, available capacity would not be available to other transportation projects or for any other future use. The Project's disposal of excess material in area landfills would be an irretrievable commitment of landfill capacity.

The irreversible and irretrievable commitment of materials, labor, resources, and funds associated with the Build alternatives is offset by the beneficial aspects of an improved transportation system. Associated benefits would consist of improved accessibility, travel, time, and safety for residents, workers, travelers, and others.

3.6 Cumulative Impacts

3.6.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act (CEQA) Guidelines, Section 15130, describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under CEQA, can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts, under the National Environmental Policy Act (NEPA), can be found in 40 Code of Federal Regulations (CFR) Section 1508.7 of the Council on Environmental Quality (CEQ) Regulations.

3.6.2 Methodology

The cumulative impact analysis follows the *Guidance for Preparers of Cumulative Impact Analysis* (Department 2005[16]), as discussed in the following sections.

The following eight steps serve as guidelines for identifying and assessing cumulative impacts for the Project.

1. Identify the resources to consider in the cumulative impact analysis by gathering input from knowledgeable individuals and reliable information sources.

2. Define the geographic boundary or Resource Study Area (RSA) for each resource to be addressed in the cumulative impact analysis.

3. Describe the current health and the historical context of each resource.

4. Identify the direct and indirect impacts of the proposed Project that might contribute to a cumulative impact on the identified resources.

[16]Complete references for all citations are in Chapter 8.

5. Identify the set of other current and reasonably foreseeable future actions or projects and their associated environmental impacts to include in the cumulative impact analysis.

6. Assess the potential cumulative impacts.

7. Report the results of the cumulative impact analysis.

8. Assess the need for mitigation and/or recommendations for actions by other agencies to address a cumulative impact.

In addition, the cumulative impact analysis relies heavily on the analysis conducted as part of the Riverside County Integrated Project (RCIP) process for both the Riverside County General Plan and the western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

3.6.2.1 Resources/Issues to Consider for Cumulative Impacts

Potential direct and indirect impacts to the human, physical, and the natural environment associated with the proposed Project are discussed earlier in this chapter, in Section 3.1, Human Environment (Volume 1, page 3-7), Section 3.2, Physical Environment (Volume 1, page 3-269), and Section 3.3, Biological Environment (page 3-437), in this volume. The resource topics analyzed in these sections are listed in Table 3.6-1 (page 3-693). Summary information is provided for each resource topic. This information includes whether the resource would be affected by the Project, its study area (RSA), and a determination of poor or declining health. The two right-hand columns in Table 3.6-1 indicate whether the resource is recommended and included in the cumulative impact analysis. The resource topics carried forward for cumulative impact analysis are listed below.

- Farmlands
- Community
- Visual/Aesthetics
- Cultural Resources
- Air Quality
- Natural Communities
- Wetlands and Other Waters
- Plant Species
- Animal Species
- Threatened and Endangered Species

Table 3.6-1 Resources Evaluated for Project Cumulative Impact Analysis

Resource Area	Potentially Affected by Project	Comment on Project Impact	Resource Study Area (RSA)	Resources in Poor or Declining Health	Recommendation for Cumulative Impact Analysis	Resource Included in Cumulative Impact Analysis
Land Use Section 3.1.1 (page 3-7)	Yes	The proposed Project has been closely coordinated with the County of Riverside and the cities of Hemet and San Jacinto and is consistent with the respective general plans and associated land use elements. Many of the undeveloped lands are being developed consistent with the respective local jurisdictions' general plan land use plans, which designate areas for both land development and open space. Because of the consistency with the general plans of the associated jurisdictions, the Project would not result in adverse impacts to land use.	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	No	Because the Project would not result in adverse impacts to land use, it would not contribute to cumulative adverse effects on this resource. Therefore, this resource is not included in the cumulative impact analysis.	No
Growth Section 3.1.2 (page 3-66)	Yes	The San Jacinto Valley has been and will continue to transition from an agriculturally based community to an area composed of residential neighborhoods with commercial and light industrial uses. Growth in the Project area has been constant and will continue to occur. The Project may influence the rate of growth (positive or negative) or type and patterns of land use around interchanges on undeveloped land. However, because of the consistency with the general plans of the associated jurisdictions, the Project would not result in adverse impacts to growth.	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	No	Because the Project would not result in adverse impacts to growth, it would not contribute to cumulative adverse effects on this resource. Therefore, this resource is not included in the cumulative impact analysis.	No
Farmlands Section 3.1.3 (page 3-86)	Yes	The Project would contribute incrementally to the loss of farmland in the Project vicinity; however, based on the FCIRS for each alternative and the planned farmland conversion in the cumulative impact study area and documented in the respective general plans of each jurisdiction, the contribution of the Project to cumulative	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	Yes	Although the Project would not result in adverse impacts to farmlands, this resource is in poor and declining health and is included in the cumulative impact analysis.	Yes

Table 3.6-1 Resources Evaluated for Project Cumulative Impact Analysis

Resource Area	Potentially Affected by Project	Comment on Project Impact	Resource Study Area (RSA)	Resources in Poor or Declining Health	Recommendation for Cumulative Impact Analysis	Resource Included in Cumulative Impact Analysis
		impacts on farmlands in Riverside County would be minimal. Therefore, the Project would not result in adverse impacts to farmlands.				
Community Section 3.1.4 (page 3-108)	Yes	The Project would not divide communities or adversely affect community cohesion. In many locations, the Build alternatives would be adjacent to existing linear facilities (canals) and would not divide an existing urban center or sever a substantial number of local roads. Because the Project would also result in the need for property acquisitions and subsequent relocations, the Project could result in an adverse impact to the community.	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	No	Because the Project could result in an adverse impact and possibly contribute to a cumulative adverse effect on relocations, this resource is included in the cumulative impact analysis.	Yes
Utilities/Emergency Services Section 3.1.5 (page 3-156)	Yes	Cable television, electricity, natural gas, sewer, telephone, and water utilities could experience occasional disruption during construction of any of the Build alternatives. Both design options would include a near-grade crossing of the San Jacinto Branch Line. This would limit the expansion of rail operations because the near-grade crossing would make the tracks unusable at the crossing. As a result of mitigation measures being proposed to minimize these impacts, the Project would not result in adverse impacts to utilities and emergency services.	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto Emergency Services: Project PIA and unique design features, plus an additional 3.22 km (2 mi)	No	Because the Project would not result in adverse impacts to utilities and emergency services, it would not contribute to cumulative adverse effects on these resources. Therefore, these resources are not included in the cumulative impact analysis.	No

Table 3.6-1 Resources Evaluated for Project Cumulative Impact Analysis

Resource Area	Potentially Affected by Project	Comment on Project Impact	Resource Study Area (RSA)	Resources in Poor or Declining Health	Recommendation for Cumulative Impact Analysis	Resource Included in Cumulative Impact Analysis
Traffic and Transportation/ Pedestrian and Bicycle Facilities Section 3.1.6 (page 3-167)	Yes	The Project would benefit the transportation system because it would provide a more efficient north/south regional facility. The Project would not result in adverse impacts to the transportation system, except for short-term disruption of intersecting roadways that require reconstruction or possibly adjacent roads that serve as detour routes.	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	No	The 2035 traffic analysis is a cumulative analysis which includes each of the Build alternatives and the future planned land use. Because the Project would not result in adverse impacts to the transportation system, it would not contribute to cumulative adverse effects on the this resource. Therefore, this resource is not included in the cumulative impact analysis.	No
Visual/Aesthetics Section 3.1.7 (page 3-211)	Yes	The cumulative Project study area historically has been characterized by rural and agricultural areas. However, ongoing planning as guided by the general plans for Riverside County and the Cities of Hemet and San Jacinto indicates a development movement to support anticipated future growth and change. The Project would contribute to a change in visual character and quality by introducing a major transportation facility into a rural area in which this type of land use did not previously exist.	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	No	Because the Project would result in an adverse impact and possibly contribute to a cumulative adverse effect on visual/aesthetics, this resource is included in the cumulative impact analysis.	Yes
Cultural Resources Section 3.1.8 (page 3-249)	Yes	Project impacts to cultural resources will not be known definitively until all known cultural resources have been evaluated for their eligibility to the NRHP and the SHPO has rendered a Finding of Effect for any NRHP-eligible resources. Three resources in the APE are considered both NRHP eligible and CRHR eligible. The CBJ Dairy (P-33-15272), is a historical resource because it is associated with events that have made a significant contribution to	The broad, flat San Jacinto Valley in the north and the Pleasant Valley to the south in the Winchester area.	Yes	The CBJ Dairy is an example of a declining cultural resource type. Because the dairy is expected to be affected by two reasonably foreseeable projects in addition to the proposed Project, this resource is included in the cumulative impact analysis.	Yes

Table 3.6-1 Resources Evaluated for Project Cumulative Impact Analysis

Resource Area	Potentially Affected by Project	Comment on Project Impact	Resource Study Area (RSA)	Resources in Poor or Declining Health	Recommendation for Cumulative Impact Analysis	Resource Included in Cumulative Impact Analysis
		the development of the San Jacinto Valley dairy industry. Properties representing this resource type are becoming increasingly rare because of residential growth in the area. The Project would only affect the eastern edge of the property and would not have a direct impact on the property in a manner that would compromise its significance or integrity as a historical resource.				
Hydrology and Floodplain Section 3.2.1 (page 3-269)	Yes	The Project would encroach on floodplains, but roadway design would comply with applicable FEMA regulations and policies to address hydrology and flood risk. Impacts would be addressed through specific design and compliance with applicable regulations and policies specific to hydrology and floodplain. The Project would not result in adverse impacts to hydrology and floodplains.	Santa Ana River Basin and San Diego Basin	No	Because the Project would not result in adverse impacts to hydrology and floodplains, it would not contribute to cumulative adverse effects on these resources. Therefore, these resources are not included in the cumulative impact analysis.	No
Water Quality and Storm Water Runoff Section 3.2.2 (page 3-284)	Yes	The Project would incorporate measures to address water quality and storm flows, resulting in minimal change to the capacity and quality of nearby water courses. Other projects would drain to the same downstream water bodies as the proposed Project. However, these projects would also be required through project-specific design and compliance to comply with the same storm water and water quality regulations and policies that are applicable to the Project. Therefore, the Project would not result in adverse impacts to water quality and storm water runoff.	San Jacinto Watershed, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	No	Because the Project would not result in adverse impacts to water quality and storm water runoff, it would not contribute to cumulative adverse effects on these resources. Therefore, these resources are not included in the cumulative impact analysis.	No

Table 3.6-1 Resources Evaluated for Project Cumulative Impact Analysis

Resource Area	Potentially Affected by Project	Comment on Project Impact	Resource Study Area (RSA)	Resources in Poor or Declining Health	Recommendation for Cumulative Impact Analysis	Resource Included in Cumulative Impact Analysis
Geology/Soils/Seismic/ Topography Section 3.2.3 (page 3-313)	Yes	Potential impacts for the proposed Project include surface fault rupture, ground shaking, liquefaction susceptibility, compressible/ collapsible soils, and expansive soils. The location of the Project study area in relation to known active and potentially active faults indicates that the alignments are not exposed to a greater seismic risk than other sites in the region. The Project study area is located in areas considered moderately to highly susceptible to liquefaction. The hills to the west and east of the Project may be subject to rock fall, rock slides, or other rock slope failure. The Project would use standard engineering practices to deal with these risks and would not result in adverse impacts to geology, soils, seismic, or topography.	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	No	Because the Project would not result in adverse impacts to geology, soils, seismic, and topography, it would not contribute to cumulative adverse effects on these resources. Therefore, these resources are not included in the cumulative impact analysis.	No
Paleontology Section 3.2.4 (page 3-326)	Yes	During excavation, the Project could result in loss of fossils, an unrecorded fossil site, loss of associated fossil specimen data and corresponding geologic and geographic site data, or loss of fossil-bearing strata A Paleontological Mitigation Plan (PMP) would be completed and implemented for the Project to avoid this potential loss. The mitigation program would allow for the recovery of scientifically important fossilized remains, if any are encountered by these activities, along with associated fossil specimen data and corresponding geologic and geographic site data, preservation of the specimens in a recognized museum repository, and availability for future study by qualified scientific investigators.	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	No	Because the Project would not result in adverse impacts to paleontology, it would not contribute to cumulative adverse effects on this resource. Therefore, this resource is not included in the cumulative impact analysis.	No

Table 3.6-1 Resources Evaluated for Project Cumulative Impact Analysis

Resource Area	Potentially Affected by Project	Comment on Project Impact	Resource Study Area (RSA)	Resources in Poor or Declining Health	Recommendation for Cumulative Impact Analysis	Resource Included in Cumulative Impact Analysis
Hazardous Waste/Materials Section 3.2.5 (page 3-334)	Yes	Potential risks of the proposed Project include impacting agricultural parcels with a low to moderate potential for pesticide residue in soil; buildings constructed prior to the 1980s that pose a low to moderate risk of lead-based paint or asbestos-containing material; and parcels within the current right-of-way of SR 79/Winchester Road, SR 74/Florida Avenue, and Domenigoni Parkway have a low to moderate potential for aerially deposited lead in soil. Appropriate measures will be taken during construction to minimize exposure. The Project would not result in adverse impacts from hazardous waste and materials.	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	No	Because the Project would not result in adverse impacts from hazardous waste and materials, it would not contribute to cumulative adverse effects from hazardous waste and materials. Therefore, this resource is not included in the cumulative impact analysis.	No
Air Quality Section 3.2.6 (page 3-353)	Yes	The Project is located in a federal nonattainment area for ozone (O_3), particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$), and particulate matter less than 10 micrometers in diameter (PM_{10}) and a federal maintenance area for carbon monoxide (CO). The Project demonstrates conformity with localized PM_{10} and $PM_{2.5}$ requirements.	South Coast Air Basin	Yes	The Project considers construction activities and traffic emissions generated by planned land uses, including the Project, and other planned transportation improvements. The Project demonstrates conformity with localized PM_{10} and $PM_{2.5}$ requirements. NO_X emissions would have an adverse cumulative effect on air quality during construction, and construction of the Project is expected to contribute temporarily to existing violations of the O_3 standards. Therefore, this resource is included in the cumulative impact analysis.	Yes

Table 3.6-1 Resources Evaluated for Project Cumulative Impact Analysis

Resource Area	Potentially Affected by Project	Comment on Project Impact	Resource Study Area (RSA)	Resources in Poor or Declining Health	Recommendation for Cumulative Impact Analysis	Resource Included in Cumulative Impact Analysis
Noise and Vibration Section 3.2.7 (page 3-378)	Yes	The Project would impact sensitive receptors with highway noise, but mitigation measures are proposed to minimize the effects of noise and vibration to be consistent with applicable policies and regulations. The noise and vibration study also considered the cumulative noise impacts to each sensitive receptor because the future land uses and corresponding circulation element were included in this analysis. As a result of the mitigation measures being proposed to minimize impacts, the Project would not result in adverse impacts from noise and vibration.	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	No	Because the Project would not result in adverse impacts from noise and vibration, it would not contribute to cumulative adverse effects from noise and vibration. Therefore, this resource is not included in the cumulative impact analysis.	No
Energy Section 3.2.8 (page 3-431)	No	The Project would provide a more direct route than the existing SR 79, reduce congestion, and lead to lower vehicle miles traveled. Therefore, the Project would result in lower energy consumption than No Build conditions. The Project is not expected to impact regional energy consumption and, therefore, would not have adverse impacts to energy.	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	No	Because the Project would not result in adverse impacts to energy, it would not contribute to cumulative adverse effects to this resource. Therefore, this resource is not included in the cumulative impact analysis.	No
Natural Communities Section 3.3.1 (page 3-437)	Yes	Permanent direct and indirect impacts to nine sensitive natural communities are expected to occur: • Alkali Grassland: between 10.1 ha (25.0 ac) and 22.9 ha (56.6 ac) • Alkali Playa: between 0.10 ha (0.25 ac) and 0.062 ha (0.15 ac) • Cottonwood Willow Riparian Forest: between 0.7 ha (1.7 ac) and 0.8 ha (2.0 ac) • Emergent Wetland: between 0.09 ha (0.2 ac) and 0.2 ha (0.5 ac)	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	Yes	Because this resource is in poor and declining health, it is included in the cumulative impact analysis.	Yes

Table 3.6-1 Resources Evaluated for Project Cumulative Impact Analysis

Resource Area	Potentially Affected by Project	Comment on Project Impact	Resource Study Area (RSA)	Resources in Poor or Declining Health	Recommendation for Cumulative Impact Analysis	Resource Included in Cumulative Impact Analysis
		• Mulefat Scrub: 0.004 ha (0.01 ac) • Riversidian Sage Scrub: between 57.2 ha (141.3 ac) and 66.3 ha (163.8 ac) • Seasonal Wetland: between 5.0 ha (12.4 ac) and 5.4 ha (13.3 ac) • Vernal Pool: between 0.30 ha (0.74 ac) and 2.1 ha (5.2 ac) • Willow Riparian Scrub and Forest: between 1.6 ha (4.0 ac) and 1.9 ha (4.7 ac) Up to eight wildlife corridors are expected to be impacted by the Project: • Existing Constrained Linkage B: Avian, Large Mammals, Small Mammals, Reptile, Amphibian, and Insects • Newport Road Hills to Patton Road: Avian, Large Mammals, Small Mammals, Reptile, Amphibian, and Insects • Hemet Channel: Avian Wildlife, Large Mammals, Small Mammals, Reptile, Amphibian, and Insects • San Jacinto Branch Line: Avian, Large Mammals, Small Mammals, Reptile, and Amphibian • Double Butte to West Hemet Hills: Avian, Large Mammals, Small Mammals, Reptile, and Amphibian • West Hemet Hills to Lakeview Mountains: Avian and Large Mammals				

Table 3.6-1 Resources Evaluated for Project Cumulative Impact Analysis

Resource Area	Potentially Affected by Project	Comment on Project Impact	Resource Study Area (RSA)	Resources in Poor or Declining Health	Recommendation for Cumulative Impact Analysis	Resource Included in Cumulative Impact Analysis
		• Lakeview Mountains to Tres Cerritos Hills: Avian and Large Mammals • Colorado River Aqueduct: Avian, Large Mammals, Small Mammals, Reptile, and Amphibian				
Wetlands and Other Waters Section 3.3.2 (page 3-502)	Yes	The Project will result in direct loss of 7.82 ha (19.38 ac) to 10.00 ha (24.74 ac) of wetlands and other waters	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	Yes	Impacts would be offset through creation, enhancement, and preservation of wetland areas as required by state and federal laws and regulations. Because this resource is in poor and declining health, it is included in the cumulative impact analysis.	Yes
Plant Species Section 3.3.3 (page 3-521)	Yes	Permanent direct and indirect impacts to two non-MSHCP covered special-status plant species, paniculate tarplant (CNPS List 4) and Robinson's peppergrass (CNPS List 1B), are expected to occur.	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	Yes	Because this resource is in poor and declining health and is not included as a Covered Species in the MSHCP, it is included in the cumulative impact analysis.	Yes
Animal Species Section 3.3.4 (page 3-573)	Yes	The Project would permanently impact (either directly or indirectly) 10 pairs of nesting raptors (red-tailed hawk) and bat species that are not Covered Species in the MSHCP.	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	Yes	Because this resource would be impacted by the Project it is included in the cumulative impact analysis.	Yes
Threatened and Endangered Species Section 3.3.5 (page 3-634)	Yes	Potential impact to: • Stephens' kangaroo rat habitat: between 227.7 ha (92.1 ac) and 235.1 ha (580.9 ac) • Quino checkerspot butterfly habitat: between 249.03 ha (615.4 ac) and 402.64 ha (994.9 ac)	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	Yes	Impacts to threatened and endangered species will be handled through a joint MSHCP Consistency Determination/ Biological Opinion for the proposed Project. Because this resource is in poor and declining health, it is included in the cumulative impact analysis.	Yes

Table 3.6-1 Resources Evaluated for Project Cumulative Impact Analysis

Resource Area	Potentially Affected by Project	Comment on Project Impact	Resource Study Area (RSA)	Resources in Poor or Declining Health	Recommendation for Cumulative Impact Analysis	Resource Included in Cumulative Impact Analysis
		• Coastal California gnatcatcher habitat: between 67.78 ha (167.49 ac) and 86.84 ha (214.6 ac) • Suitable least Bell's vireo habitat: between 10.99 ha (27.16 ac) and 16.93 ha (41.84 ac) • Suitable southwestern willow flycatcher habitat: between 10.99 ha (27.16 ac) and 16.93 ha (41.84 ac) Potential impact to: • Vernal pool branchiopod habitat: 0.72 ha (1.79 ac) • San Jacinto Valley crownscale: between 13 populations (6,749 individuals) and 237 populations (64,065 individuals) • Spreading navarretia critical habitat between 0.9 ha (2.3 ac) and 1.0 ha (2.4 ac)				
Invasive Species Section 3.3.6 (page 3-675)	Yes	Invasive plant species may establish in construction areas and spread outside the right-of-way. Because of the implementation of mitigation measures, the Project would not result in adverse impacts from invasive species.	San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto	No	Because the Project would not result in adverse impacts from invasive species, it would not contribute to cumulative adverse effects from these species. Therefore, this resource is not included in the cumulative impact analysis.	No

3.6.2.2 Geographic Boundaries for Cumulative Analysis

Generally, the cumulative analysis study area for the Project encompasses the San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto (Figure 3.6-1). Individual RSA boundaries for the cumulative impact analysis of each resource are described below.

- Farmlands, Relocation Impacts, Visual/Aesthetics, and Biological Resources: San Jacinto Valley, which includes portions of unincorporated Riverside County and the cities of Hemet and San Jacinto
- Cultural Resources: San Jacinto Valley in the north and Pleasant Valley in the Winchester area
- Air Quality: South Coast Air Basin

3.6.2.3 Related Projects Contributing to Cumulative Impacts

Cumulative impacts analysis differs from direct and indirect impact analysis in that the cumulative impacts analysis considers the effect of multiple actions on a resource, including historical actions, actions of the proposed Project, and all reasonably foreseeable future actions. Cumulative analysis focuses on the resource rather than on the project.

To address Step 5 of the cumulative impact analysis methodology, the current and reasonably foreseeable actions or projects and their associated environmental impacts were identified so that they could be included in this cumulative impact analysis. Individual projects were identified, as well as the change in land use patterns anticipated based on the release of the updated general plans. Each of the local jurisdictions' (County of Riverside, Cities of Hemet and San Jacinto) general plans project these changes in planned land use. Generally, each of the general plans accounts for a shift in land use from rural, agriculturally based communities to a more developed suburban area composed of residential developments and commercial and light industrial uses. Compared to the existing uses, this shift is drastic because it encompasses a large portion of the valley.

Typically, the time this type of transition will take could be difficult to estimate. This is important because timeframe contributes to establishing the portion of the transition that could be considered reasonably foreseeable and thus be included in the cumulative impact analysis. To clarify this transition in local land use, the proposed projects in the San Jacinto Valley were evaluated by jurisdiction to better define reasonably foreseeable projects. As a result, 480 development projects have been identified and are listed in Appendix H. Development projects consist of commercial, residential, and industrial projects. They are representative of the foreseeable actions for each jurisdiction. Figure 3.6-1 shows the locations of these projects, as well as their development status. This figure provides a comprehensive view of the volume of reasonably foreseeable projects in the San Jacinto Valley. Of the 480 development projects listed in Appendix H, some are operational and some are under construction. The remaining projects are in the planning process. Some have been approved, but are not under construction, and others have application-submitted or pre-application status. The projects shown are in the general plans of the respective agencies with jurisdiction or have been proposed by formal public notices (e.g., Notice of Intent, Notice of Preparation), have pending environmental documents, or are in the regulatory review and approval process.

Although any project could be modified, or even abandoned, large-scale development has been occurring in the valley and is planned to continue in the foreseeable future, even if details, including schedules, change.

In addition to the analysis above, a review of infrastructure projects proposed in the San Jacinto Valley was also conducted. This was completed by reviewing the Regional Transportation Plan, the Federal Transportation Improvement Program, and proposed projects of other agencies. Infrastructure projects that are in the San Jacinto Valley and are in a phase of the project development process have been included in this cumulative impacts analysis. Table 3.6-2 contains a list of these infrastructure projects. These projects and the development projects in Appendix H and shown in Figure 3.6-1 are included in the cumulative impact analysis.

Table 3.6-2 Infrastructure Projects Included in the Cumulative Analysis

Project Name	Description	Current Project Status
Mid County Parkway Project	A proposed 25.75-kilometer (16-mile) transportation corridor, primarily along the Ramona Expressway through Riverside County, the City of Perris, and the City of San Jacinto. The corridor will relieve traffic congestion for east-west travel in western Riverside County between the San Jacinto and Perris areas to accommodate current and projected travel demand through 2040.	A Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement is being prepared and is expected to be circulated for public review in summer/fall 2012. Construction to occur in 2014 and beyond.
SR 79 Widening Project: Thompson Road to Domenigoni Parkway	A proposed 11.27-kilometer (7-mile) widening of SR 79 from Thompson Road to Domenigoni Parkway to increase the number of lanes from two to four.	Construction to be completed in spring 2013.
Newport Road Extension Project	Completed 6-lane extension from SR 79 to Menifee Road.	Completed.
Hemet-Ryan Airport Runway Extension	Hemet-Ryan Airport Runway Extension.	Long-term planning project from City of Hemet General Plan 2030.
San Jacinto Levee Project	Construct a levee to protect the Ramona Expressway and Sanderson Avenue from flooding, provide access to the city of San Jacinto from the north and the west during flood events, and enable the City to implement the San Jacinto Gateway Specific Plan Project and major drainage facilities.	A draft environmental document is expected to be completed in 2012.
Perris Valley Line	Extend the existing Metrolink 91 Line service from the Downtown Riverside station, 38.62 kilometers (24 miles) along the existing San Jacinto Branch Line, terminating in Perris.	Project expected to begin operation in 2014.
Esplanade Avenue	Widen to 4 lanes from State Street to Sanderson Avenue	Currently completing preliminary engineering.
Ramona Expressway	Widen to 4 lanes from Sanderson Avenue to Warren Road	Constructed.
Future Metrolink	Long-term plans call for an extension of the Metrolink to Hemet. The Hemet General Plan shows two Metrolink stations, one in a future business park in west Hemet and one in downtown Hemet.	Long-term planning project from City of Hemet General Plan 2030.
Hemet-Ryan Airport	Improvements to Stetson Avenue and the realigned SR 79 will improve access to the airport. The Hemet General Plan assumes improvements on the airport property, including a runway extension advocated by the Riverside County Economic Development Agency, but no specific plans are programmed.	Long-term planning project from City of Hemet General Plan 2030.

Table 3.6-2 Infrastructure Projects Included in the Cumulative Analysis

Project Name	Description	Current Project Status
Ramona Expressway	Widen to 4 lanes east of State Street and to 6 lanes west of State Street.	City of San Jacinto adopted a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Plan as recommended by the Planning Commission on January 12, 2012.
Stetson Avenue	Initially widen to four lanes from Warren Road to State Street. Eventually, the Hemet General Plan designates Stetson Avenue as a six-lane arterial route west of Sanderson Avenue and proposes a future Metrolink station near the interchange between future Stetson Avenue and future SR 79.	Long-term planning project from City of Hemet General Plan 2030.
Warren Road	Widen to 4 lanes from Domenigoni Parkway to Ramona Expressway. Widen to a 6-lane arterial between Esplanade Avenue and Domenigoni Parkway.	Long-term planning project from City of Hemet General Plan 2030.
Winchester Road	Upgrade to 4-lane Divided Secondary Arterial.	Long-term planning project from City of Hemet General Plan 2030.
Florida Avenue	Widen to 6-lane arterial between Winchester Road and Cawston Avenue.	Long-term planning project from City of Hemet General Plan 2030.

3.6.3 Cumulative Impacts Analysis

3.6.3.1 Farmlands

There are no timberlands in the Cumulative Impacts study area. Therefore, the assessment of cumulative effects will address farmlands only.

Current Health and the Historical Context

The Natural Resources Conservation Service (NRCS) guides private landowners and property managers with programs aimed at protecting natural resources to sustain agricultural productivity and environmental quality while supporting continued economic development, recreation, and scenic beauty. The local jurisdictions guide land use planning and agricultural protection in the Project cumulative impacts study area, consistent with NRCS programs. The general plans for Riverside County and the Cities of Hemet and San Jacinto contain specific goals and policies that acknowledge an area historically characterized by rural and agricultural areas, but also specifically indicate a movement toward development, consistent with the existing and planned growth. The San Jacinto Valley was established in the late 1800s as a ranching, and later agricultural, community. Following World War II, and accelerating in the 1960s, the area began to transition toward becoming a residential community. First, it served as a destination for senior living and later transitioned in the 1990s to a community of younger families. This has resulted in the conversion of open space and agriculture to more urban uses, such as housing developments and commercial centers, and transportation planning to support regional and local circulation (County 2003a; Hemet 1992, 2008; San Jacinto 2001, 2006).

The general plans have specified future land uses in response to development pressure. Farmland conversion in Riverside County is occurring at a rapid rate. According to the California Department of Conservation (CDC), farmland conversion between 2002 and 2004 in Riverside County totaled about 18,688 ha (46,719 ac)

(CDC 2006). From 2000 to 2010, the CDC reports that prime, unique, and other important farmlands in Riverside County have been converted to nonagricultural uses at an average rate of 3,197 ha (7,900 ac) per year.

Direct and indirect impacts of the proposed Project that might contribute to a cumulative impact

Most of the Project impacts to important farmlands (about 375 ha [927 ac] combined, direct and indirect) would be in farmland planned for conversion by their respective jurisdictions. The impacts of the Project on existing farmlands by jurisdiction are summarized in Table 3.6-3 (page 3-707). Based on calculations for Project impacts to areas designated to remain farmlands in the general plans or local zoning, each Build alternative would impact a small percentage (less than 0.01 percent) of the farmland in Riverside County and less than 1 percent in the city of Hemet (Table 3.1-15 [Volume 1, page 3-97]). The local jurisdictions recognize the potential for conflicts with the uses of agricultural land in the Project study area. Applicable policies pertaining to agriculture are included in Section 3.1.3.2 (Volume 1, page 3-91).

Assessment of the potential cumulative impacts

Riverside County has designated approximately 35,106 ha (86,748 ac) of prime, unique, and statewide important farmland for conversion to nonagricultural uses, the City of Hemet has planned 877 ha (2,166 ac) for conversion, and San Jacinto has planned 3,246 ha (8,020 ac) for conversion. These numbers represent 33 percent, 45 percent, and 100 percent, respectively, of the existing resources in these jurisdictions. The environmental impact reports required for the general plans recognize that these conversions will have significant and unavoidable impacts on agricultural resources. In the San Jacinto Valley portion of Riverside County, there was a total of about 42,300 ha (104,500 ac) of prime, statewide and other important farmland in 2000. By 2010, there had been a loss of 7,274 ha (17,974 ac), or more than 17 percent of prime and other important farmland, in the valley. Conversion has been ongoing and is based on the projects shown in Figure 3.6-1 and listed in Table 3.6-2 (page 3-704) and Appendix H.

The areas of important farmlands that would be directly and indirectly affected by the Project (about 375 ha [927 ac] combined) were designated for conversion by these general plans prior to the Project. As such, these parcels represent nonconforming uses based on current land use designations. Therefore, the Project's impacts on important farmlands are accounted for in the environmental impact reports for the general plans. Overall, Project impacts would constitute less than one tenth of one percent of the planned farmland conversions in the area. As a result, the Project would contribute only incrementally to the loss of farmland in the Project vicinity. While the cumulative loss of farmlands in the study area has been determined to be significant and unavoidable based on the environmental documents for the general plans prepared by Riverside County, the City of Hemet, and the City of San Jacinto (County 2003a, Hemet 2012, San Jacinto 2006), the contribution of the Project to cumulative impacts on farmlands in the San Jacinto Valley, and therefore Riverside County, would be minimal.

Indirect cumulative effects could result from impacts to access or farm operations or as a result of increased noise or changes in air quality. However, the Project incorporates mitigation to address these impacts, such as commitments to maintain access to farm units, coordination with local service providers to maintain utilities such as water and electricity, and measures to control noise and dust.

Table 3.6-3 Permanent Land Use Impacts for Project Alternatives

Jurisdiction and Land Use Type	Project Alternative				
	No Build Alternative[a]	Build Alternative 1a[b] (Hectares [Acres])	Build Alternative 1b (including Design Option 1b1)[c, f] (Hectares [Acres])	Build Alternative 2a[d] (Hectares [Acres])	Build Alternative 2b (including Design Option 2b1)[e, f] (Hectares [Acres])
Agricultural					
Riverside County	N/A	91.54 ha (226.19 ac)	75.94 ha (187.64 ac)	89.80 ha (221.90 ac)	71.57 ha (176.86 ac)
City of Hemet	N/A	17.42 ha (43.05 ac)	17.42 ha (43.05 ac)	17.42 ha (43.06 ac)	17.42 ha (43.06 ac)
City of San Jacinto	N/A	132.92 ha (328.44 ac)	109.88 ha (271.52 ac)	131.33 ha (324.53 ac)	111.46 ha (275.43 ac)
TOTAL	N/A	241.88 ha (597.68 ac)	203.24 ha (502.21 ac)	238.55 ha (589.49 ac)	272.02 ha (495.35 ac)
Commercial/Industrial					
Riverside County	N/A	6.68 ha (16.49 ac)	6.24 ha (15.42 ac)	6.76 ha (16.71 ac)	5.94 ha (14.67 ac)
City of Hemet	N/A	N/A	N/A	N/A	N/A
City of San Jacinto	N/A	7.43 ha (18.35 ac)	7.43 ha (18.35 ac)	7.43 ha (18.35 ac)	7.43 ha (18.35 ac)
TOTAL	N/A	14.11 ha (34.84 ac)	13.67 ha (33.77 ac)	14.19 ha (35.06 ac)	13.37 ha (33.02 ac)
Parks and Designated Open Space					
Riverside County	N/A	N/A	N/A	N/A	N/A
City of Hemet	N/A	N/A	N/A	N/A	N/A
City of San Jacinto	N/A	N/A	N/A	N/A	N/A
TOTAL	N/A	N/A	N/A	N/A	N/A
Residential					
Riverside County	N/A	0.95 ha (2.34 ac)	0.79 ha (1.96 ac)	0.76 ha (1.88 ac)	0.61 ha (1.50 ac)
City of Hemet	N/A	0.06 ha (0.15 ac)	0.06 ha (0.15 ac)	0.06 ha (0.15 ac)	0.06 ha (0.15 ac)

Table 3.6-3 Permanent Land Use Impacts for Project Alternatives

Jurisdiction and Land Use Type	Project Alternative				
	No Build Alternative[a]	Build Alternative 1a[b] (Hectares [Acres])	Build Alternative 1b (including Design Option 1b1)[c, f] (Hectares [Acres])	Build Alternative 2a[d] (Hectares [Acres])	Build Alternative 2b (including Design Option 2b1)[e, f] (Hectares [Acres])
City of San Jacinto	N/A	0.18 ha (0.44 ac)	0.18 ha (0.44 ac)	0.18 ha (0.44 ac)	0.18 ha (0.44 ac)
TOTAL	N/A	1.19 ha (2.93 ac)	1.03 ha (2.55 ac)	1.00 ha (2.47 ac)	0.85 ha (2.09 ac)
Rural Residential					
Riverside County	N/A	42.19 ha (104.26 ac)	31.86 ha (78.72 ac)	35.06 ha (86.64 ac)	37.43 ha (92.50 ac)
City of Hemet	N/A	3.82 ha (9.45 ac)	3.40 ha (8.41 ac)	3.40 ha (8.41 ac)	3.82 ha (9.45 ac)
City of San Jacinto	N/A	2.48 ha (6.13 ac)	8.43 ha (20.84 ac)	2.48 ha (6.13 ac)	8.43 ha (20.84 ac)
TOTAL	N/A	48.49 ha (119.84 ac)	43.69 ha (107.97 ac)	40.94 ha (101.18 ac)	49.68 ha (122.79 ac)
Services/Facilities					
Riverside County	N/A	30.45 ha (75.24 ac)	32.54 ha (80.40 ac) OR 32.85 ha (81.17 ac)	32.72 ha (80.85 ac)	27.64 ha (68.31 ac) OR 27.98 ha (69.13 ac)
City of Hemet	N/A	3.35 ha (8.27 ac)	3.31 ha (8.19 ac)	3.31 ha (8.19 ac)	3.82 ha (9.45 ac)
City of San Jacinto	N/A	26.42 ha (65.29 ac)	22.95 ha (56.71 ac)	24.51 ha (60.55 ac)	24.87 ha (61.45 ac)
TOTAL	N/A	60.22 ha (148.80 ac)	58.80 ha (145.30 ac) OR 59.11 ha (146.07 ac)	60.54 ha (149.59 ac)	55.33 ha (139.21 ac) OR 56.67 ha (140.03 ac)
Undeveloped					
Riverside County	N/A	71.96 ha (177.81 ac)	88.26 ha (218.09 ac)	58.39 ha (144.28 ac)	75.17 ha (185.74 ac)
City of Hemet	N/A	3.26 ha (8.06 ac)	3.26 ha (8.06 ac)	3.26 ha (8.06 ac)	3.26 ha (8.06 ac)
City of San Jacinto	N/A	7.77 ha (19.20 ac)	7.27 ha (17.96 ac)	7.77 ha (19.20 ac)	7.27 ha (17.96 ac)
TOTAL	N/A	82.99 ha (205.07 ac)	98.79 ha (244.11 ac)	69.42 ha (171.54 ac)	85.70 ha (211.76 ac)

Table 3.6-3 Permanent Land Use Impacts for Project Alternatives

Jurisdiction and Land Use Type	Project Alternative				
	No Build Alternative[a]	Build Alternative 1a[b] (Hectares [Acres])	Build Alternative 1b (including Design Option 1b1)[c, f] (Hectares [Acres])	Build Alternative 2a[d] (Hectares [Acres])	Build Alternative 2b (including Design Option 2b1)[e, f] (Hectares [Acres])

Source: Community Impact Assessment, August 2010

Note: N/A – Not Applicable. See Note [a].

ha = hectares

ac = acres

[a]Existing land uses associated with the No Build Alternative would not change because of the Project. Therefore, no impacts would occur.

[b]Build Alternative 1a is composed of Roadway Segments A, E, G, I, J, L, and N, Utility Relocation Areas 1 and 2, Connections 1 and 2 to Hemet Channel Outside the Project ROW, and short-term and long-term traffic detours.

[c]Build Alternative 1b and Design Option 1b1 are composed of Roadway Segments B, C, G, I, K, M, and N, Utility Relocations Areas 1 and 2, and short-term and long-term traffic detours.

[d]Build Alternative 2a is composed of Roadway Segments A, F, H, I, K, L, and N, Utility Relocation Areas 1 and 2, Connection 3 to Hemet Channel Outside the Project ROW, and short-term and long-term traffic detours.

[e]Build Alternative 2b and Design Option 2b1 are composed of Roadway Segments B, D, H, I, J, M, and N, Utility Relocation Areas 1 and 2, and short-term and long-term traffic detours.

[f]Permanent land use impacts for Project alternatives are presented first for the base condition followed by design options. If there is no variation between the base condition and design option, the information is given only once.

Projects that would impact designated farmlands and existing agricultural uses are contemplated in the general plans for the local jurisdictions and would be required to comply with overall goals and policies pertaining to land use and development, as well as protection of important agricultural lands. Applicable policies pertaining to agriculture are included in Section 3.1.3.2 (Volume 1, page 3-91).

Assess the need for mitigation and/or recommendations for actions by other agencies to address a cumulative impact

As a land development action, the Project cannot be entirely consistent with preservation of farmland within its direct impact area. However, careful siting of the Build alternatives and involving the local, county, and regional planning agencies has helped to minimize the impacts to prime and other farmlands in a manner consistent with the intent of the general plans.

The vast majority of farmland in the San Jacinto Valley is assumed to be converted to nonagricultural uses over time in the general plans that include the Project area. Despite the consensus that development pressure will ultimately convert these lands, the general plans include measures to minimize impacts to farmlands and encourage the continued agricultural use of these lands. Although some measures can be implemented in review of proposed development plans, many measures are implemented at the discretion of the landowners. These include mitigation measures such as the establishment of setbacks and buffers between development and agricultural areas in San Jacinto (San Jacinto 2006), and the encouragement of compatibility with agricultural policies and programs in Riverside County (County 2003a) and the City of Hemet (Hemet 2012).

3.6.3.2 Community

Current Health and the Historical Context

The cumulative impact study area historically has been characterized by rural and agricultural areas, but this has been changing for the last 20 years, and development is expected to continue. Ongoing planning, as guided by the general plans for the local jurisdictions, indicates a development movement to support anticipated future growth and change. Most noticeably, this has resulted in the conversion of open space and agriculture to more urban uses, such as housing developments and commercial centers, thus requiring land acquisitions and relocations.

Any property acquisitions and subsequent relocations associated with the Project would require compliance with the provisions of the applicable federal and state relocation regulations. The Department's Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see Appendix D for a summary of the RAP. All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 USC 2000d, et seq.). Please see Appendix C for a copy of the Department's Title VI Policy Statement. Private projects would require an agreement between buyers and sellers.

According to the Draft Relocation Impact Report of July 2010, the housing stock available in neighboring communities would be sufficient for finding comparable replacement dwellings that satisfy the decent, safe, and sanitary standards for relocating the displaced residents from the impacted area.

Direct and indirect impacts of the proposed Project that might contribute to a cumulative impact

A permanent relocation impact would occur if a home or business were displaced by the Project. A displacement would result in residents moving their households to a different location and businesses moving their inventory and customer base to a different location.

The largest number of residential displacements would occur with Build Alternative 1a (42 displacements), while the least would occur with Build Alternative 2b and Design Option 2b1 (29 displacements). The number of commercial displacements would be 14 with Build Alternatives 1a and 1b, Design Option 1b1, and Build Alternative 2a, with 13 displacements for Build Alternative 2b and Design Option 2b1.

Permanent relocations would be required as part of right-of-way acquisition for the Project and could result in indirect impacts to property values and property tax revenue. In addition, the Project would require relinquishment of existing SR 79 to the local jurisdictions (Riverside County, City of Hemet, and City of San Jacinto), which could affect their revenue flows.

Assessment of the potential cumulative impacts

Relatively few projects have occurred in the San Jacinto Valley that required acquisitions and displacements. A few of those that have been completed include the Metropolitan Water District Diamond Valley Lake and the San Diego Aqueduct. In addition, local development projects or additional infrastructure projects may have also required acquisitions and displacements.

The Project would require a minimal number of relocations and displacements. Depending on the final Selected Alternative, the Project could result in approximately 29 to 42 residential acquisitions, 13 to 14 commercial acquisitions, 75 to 134 residential displacements, and 86 to 90 employee displacements.

Additional relocations would be expected as a result of the development projects shown in Figure 3.6-1 and listed in Appendix H and the infrastructure projects listed in Table 3.6-2 (page 3-704). In the San Jacinto Valley, most of the private development projects are not expected to require substantial relocations. Public infrastructure projects have the greatest potential to result in relocations. Two such projects would be located in the vicinity of the proposed Project, the SR 79 Widening Project in the south and the Mid County Parkway Project in the north. The SR 79 Widening Project requires the purchase of one vacant mobile home and the acquisition of two residential properties already purchased by a developer, and no commercial relocations or displacements. The Mid County Parkway Project, depending on the final Selected Alternative, could result in approximately 36 to 102 residential acquisitions, 81 to 159 nonresidential acquisitions, 35 to 90 business displacements, 373 to 675 residential displacements, and 188 to 1,148 employee displacements (Epic 2011). When considering the relocations and displacements required for the Project with both the SR 79 Widening Project and the Mid County

Parkway Project, the unincorporated area of Winchester and the cities of Hemet and San Jacinto have adequate housing and commercial stock available that would satisfy the decent, safe, and sanitary standards for relocating residents and businesses who are displaced by the Project. The volume of currently available housing and commercial stock would also be expected to satisfy relocation needs of other reasonably foreseeable projects and therefore would not result in an adverse relocation cumulative impact.

Assessment of the need for mitigation and/or recommendations for actions by other agencies to address a cumulative impact

For the proposed Project, the Riverside County Transportation Commission (RCTC), as the agency responsible for relocations, will implement and administer, with Department oversight, the California Department of Transportation Relocation Assistance Program to provide relocation assistance or compensation to eligible persons and businesses in accordance with the federal Uniform Relocation Assistance and Property Acquisition Act of 1970, as amended (42 United States Code Sections 4601-4655) and the California Relocation Act (California Government Code, Section 7260 et. seq.). Mitigation beyond this compliance is not required for the Project. It would be expected that other lead agencies would complete their property acquisitions and subsequent relocations in compliance with the provisions of the applicable federal and state relocation regulations.

3.6.3.3 Visual/Aesthetics

Visual character and quality, as guided by the presence of scenic elements in the cumulative impacts study area, were considered for the cumulative analysis of visual/aesthetics.

Current Health and the Historical Context

The landscape of western Riverside County is characterized by terrain that varies from broad valleys with rocky outcrops to foothills and dramatic peaks. The San Jacinto Valley is bounded by localized peaks of the San Jacinto and Santa Rosa Mountains to the east and the Santa Ana Mountains to the west (Lakeview Mountains) and south. The broad valley is marked by prominent hills and rock outcrops and is characterized by rural residences, equestrian estates, mobile home parks, and residential subdivisions. Interspersed among more rural development are industrial and infrastructure elements (such as light industrial and commercial centers, channelized canals, electric transmission towers and lines, the Hemet-Ryan Airport, and the San Jacinto Branch Line railroad tracks). Most concentrated commercial and residential development is east of the Project study area.

The Project cumulative impacts study area historically has been characterized by rural and agricultural areas. However, ongoing planning as guided by the general plans for Riverside County and the cities of Hemet and San Jacinto indicates a development movement to support anticipated future growth and change. Most noticeably, this has resulted, and will continue to result, in the conversion of open space and agriculture to more urban uses, such as housing developments and commercial centers.

Direct and indirect impacts of the proposed Project that might contribute to a cumulative impact

The construction of the proposed Project would result in the substantial removal of existing hillsides and creation of large and visually prominent cut slopes most evident in the West Hemet Hills. In addition, fill slopes would be created on which much of the roadway would be constructed. Along much of the route assumed in each of the Build alternatives, the roadway would be located on berms approximately 1.5 m (5 ft) in height. However, in places along all of the Build alternatives, the berms would be considerably higher, rising to heights of 6.1 m (20 ft) and more. The higher fill slopes would alter the visual character of rural environments, blocking views toward more distant elements of the landscape, and dominating the views from nearby areas. In addition, major overcrossing structures would be constructed at several locations, both for the Project roadway as it crosses over surface streets and for surface streets that cross over the Project roadway. These structures have the potential to dominate views from nearby areas and to block views toward more distant landscape features. The Project would substantially contribute to the cumulative adverse impact to the visual and aesthetic characteristics of the San Jacinto Valley.

Assessment of the potential cumulative impacts

The San Jacinto Valley has been developed to include a variety land uses, which include agricultural fields, dairy farms, equestrian estates, mobile home parks, and rural residences and subdivisions set against rugged, undeveloped slopes. Infrastructure projects have also been constructed, which include water conveyance and storage facilities (San Diego and Colorado River Aqueducts, Diamond Valley Lake), airports (Hemet-Ryan Airport), wastewater treatment facilities (Eastern Municipal Water District Treatment Facility), and local roads (Florida Avenue, Sanderson Avenue, Warren Road, and others) and expressways (Ramona Expressway, Domenigoni Parkway).

The proposed Project would result in the conversion of open space, rural, and agricultural areas to more urbanized development. The Project would also contribute to a change in the visual character and quality by introducing a new major transportation facility into a rural area in which this type of land use did not previously exist. The various Build alternatives would result in different degrees of exposure from existing viewer groups. Green Acres residents would have close-range views of Build Alternatives 1a and 1b and Design Option 1b1 because those alternatives would require cuts in the western slopes of the West Hemet Hills immediately adjacent to their community. Winchester residents would have mid-range views of all of the Build alternatives, but close range views of Build Alternatives 1a and 2a. With the two design options, Winchester residents would have a mid-range view of Design Option 2b1 but would not have direct views of Design Option 1b1. Hemet and San Jacinto residents would likely have oblique views of Build Alternatives 2a and 2b and Design Option 2b1. All of the Build alternatives would be visible to travelers along State Eligible Scenic Highway SR 74. However, Build Alternatives 1a and 1b and Design Option 1b1 would be more visible to roadway users as a frontal view than the side view created by Build Alternatives 2a and 2b and by Design Option 2b1. Overall, Design Option 1b1 would have the least exposure.

Other reasonably foreseeable development projects would eliminate much of the remaining rural nature of the area and replace it with residential, commercial, and light industrial uses. This would occur based on the construction

of the proposed development projects shown in Figure 3.6-1, and listed in Appendix H, as well as the infrastructure projects listed in Table 3.6-2 (page 3-704). A similar impact to the proposed Project would also occur with the construction of the Mid County Parkway Project in the northern portion of the San Jacinto Valley. The proposed Project would result in a permanent change to the visual character and visual quality of the San Jacinto Valley. This impact can be minimized, but not fully avoided and, therefore, would represent a cumulative adverse effect.

Assessment of the need for mitigation and/or recommendations for actions by other agencies to address a cumulative impact

There are no mitigation measures that can completely eliminate the impact of the removal of large segments of the existing hillsides, creation of fill slopes, and the construction of new bridge structures, but measures have been proposed for the Project to minimize this impact. These measures include grading to mimic the natural conditions in the area and the inclusion of site treatments, including embankment development and design, rock weathering, other hardscape and landscape, to improve the visual character and aesthetics of the local setting. The objectives of these measures should be mimicked in other projects, independent of their scale, to ensure that the minimization of visual impacts would collectively occur from all the reasonably foreseeable land and infrastructure projects in the San Jacinto Valley.

3.6.3.4 Cultural Resources

Current Health and the Historical Context

The assessment of cumulative effects to cultural resources (archaeological sites and historical structures or built environment resources) considers the direct and indirect impacts of the Project on qualifying resources and whether they contribute to cultural resources impacts within a broader cumulative impact study area that includes San Jacinto Valley in the north and the Pleasant Valley to the south in the Winchester area. This corridor has seen a general pattern of historical transformation from vacant land to historical farmsteads to commercial agricultural pursuits and now to residential and commercial centers.

The analysis considers impacts only to cultural resources that are eligible for either the National Register of Historic Places (known as historic properties) or the California Register of Historical Resources (known as historical resources). No further management of non-qualifying resources is required under existing laws and regulations, and destruction of those resources is not considered to be a significant impact or effect. The analysis of the Project's contribution to past, present, and future impacts is therefore based on impacts to known archaeological sites, historic properties and historical resources.

Direct and indirect impacts of the proposed Project that might contribute to a cumulative impact and assessment of the potential cumulative impacts

The full cumulative impact of the Project on cultural resources will not be known definitively until all cultural resources have been evaluated for their eligibility to the NRHP and the SHPO has rendered a Finding of Effect for any NRHP-eligible resources. Those evaluations and effects determinations will occur after a Preferred

Alternative is identified (only for resources on the Preferred Alternative), but prior to circulation of the Final EIR/EIS.

For the current Project, evaluation of all built environment resources and three archaeological sites has been completed, while evaluation of other archaeological sites that could be affected will occur after identification of a Preferred Alternative, but before the Final EIR/EIS. The evaluation of archaeological sites will be conducted in a broad regional study that examines the relationship of individual resources in the Preferred Alternative to a larger settlement system or cultural landscape, as requested by Native Americans (Pechanga Tribe Letter to RCTC dated November 16, 2008 [HPSR 2010. Exhibit 6, Public Participation]). In the regional landscape context, the effects of the cumulative loss of individual sites and landscape elements will also be examined. In addition, the Department notified the SHPO by letter dated May 20, 2008, that the Project would defer the evaluation stage of the Section 106 process. SHPO was also notified on June 24, 2010, that a supplemental HPSR would be submitted after the identification of the Preferred Alternative that would discuss and evaluate the remaining prehistoric and/or historical archaeological sites within the APE. In accordance with the Section 106 phasing plan, SHPO concurrence on eligibility determinations for these resources, as well as a Finding of Effect for the Project that considers cumulative impacts, will be sought prior to preparation of the Final EIR/EIS.

Thus far, only three historic properties (NRHP eligible) and four historical resources (CRHR eligible) have been determined to be in the Project's Area of Potential Effects (APE). As discussed below, it is not expected that the Project would affect these resources in a manner that would contribute to significant cumulative effects.

Three resources in the APE are considered both NRHP eligible and CRHR eligible (see Sections 3.1.8.2 [page 3-251] and 4.2.2.3 [page 4-15]). Archaeological site CA-RIV-5786 was previously determined eligible for the NRHP, but was completely removed during the grading of Salt Creek Channel associated with construction of Domenigoni Parkway. A final determination of effect will be made after the evaluations of the remaining archaeological sites have been completed. If it is determined that the Project would have a no adverse effect/less than significant impact on the resource, the Project can be construed not to contribute to a cumulative impact on the site.

Archaeological site CA-RIV-6907/H consists of 26 outcrops with 50 milling slicks, a complex lithic scatter containing both ground and flaked stone artifacts, a dry-laid rock wall, evidence of historical rock quarrying, and historical refuse. Intact components of the site are well outside the PIA of the Project and will be protected in place with Environmentally Sensitive Area (ESA) fencing and monitoring. Therefore, the Project would have a less than significant impact on this archaeological site, with mitigation (establishment of an ESA). Because mitigation for the Project would ensure that the Project does not physically impact the resource, the Project would not contribute to a cumulative impact. However, other projects considered in the cumulative impacts analysis, including the Crossroads Specific Plan in Winchester, have the potential to adversely affect historic properties.

The Colorado River Aqueduct (CA-RIV-6726H), is eligible for the NRHP and is also a historical resource for the purposes of CEQA. Portions of CA-RIV-6726H are in areas proposed for the construction of bridges, local street improvement, and traffic detours. As currently designed, there would be four crossings of the Colorado River Aqueduct. These crossings would be designed in accordance with MWD requirements and would not affect

historical integrity or impede continued operation. Therefore, the Casa Loma siphons and Casa Loma Canal (elements of the Colorado River Aqueduct crossed by the Project) would not be significantly affected by construction of any of the Build alternatives. A final determination of effect will be made when the Section 106 process is complete. If it is determined that the Project would have a no adverse effect/less than significant impact on the resource, the Project can be construed not to contribute to a cumulative impact on the Colorado River Aqueduct. The Colorado River Aqueduct is a system owned and operated by MWD. None of the cumulative projects would be permitted to affect this historic property because the system is a vital functioning facility for importing water to Southern California.

Currently, there is only one cultural resource in the APE that would be directly or indirectly impacted by the Project, with the potential for contributing to cumulative impacts. This resource is a historical resource for the purposes of CEQA only and, thus, is evaluated for cumulative impacts only for purposes of CEQA.

The CBJ Dairy (P-33-15272), located at 2397 Ramona Expressway in San Jacinto, California, is a historical resource for the purposes of CEQA because it is associated with events that have made a significant contribution to the development of the San Jacinto Valley dairy industry. The period of significance is from 1959 to 1965. This resource is located on three contiguous parcels; the resource boundary encompasses all of the parcels. Contributing elements include the barn, three houses, elliptical driveway, landscaping, hay shelter, fields, and other dairy accoutrements that were constructed during the period of significance.

The easternmost portion of P-33-15752 is in areas proposed for the construction of roadway segments, a grade-separated interchange, and constructing culverts/drainages where the depth of disturbance should not exceed 3 m (10 ft). Only this portion of the property would be inside the PIA. The areas of the property that would be impacted include a vacant agricultural field, trench silos, an equipment storage stockpile area, and hay shed, most of which is modern in appearance (less than 50 years old). However, none of these elements contributes to the eligibility (significance) of the site as a whole.

The Project would also have an indirect impact to the setting of the property; a grade-separated interchange (7.9 m [26 ft] high) is proposed immediately adjacent to the property's southeastern corner. The Project in this location requires that these modifications be made to an existing transportation corridor, and with mitigation for visual impacts, the potential indirect impact does not rise to the level of being considered significant. Therefore, it has been determined that the Project would individually have a less than significant impact on this resource (see Section 4.2.2.3 [page 4-15]).

The cumulative contribution of the indirect Project impact to the CBJ Dairy is considered in the context of a broader study area that includes San Jacinto Valley in the north and Pleasant Valley in the Winchester area. This corridor has seen a general pattern of historical transformation from vacant land to historical farmsteads to commercial agricultural pursuits and now to residential and commercial centers. The impacts of past and foreseeable projects in the San Jacinto Valley and Pleasant Valley are combined with the potential Project impacts to the CBJ Dairy to assess the Project's contribution to significant cumulative impacts. Only within the last decade has this rural area been transformed from small commercial agricultural properties and homesteads to mid- to high-density housing developments and retail commercial facilities. The area has been dominated by agricultural

pursuits since the 1890s, when it was characterized by individual farmsteads that supported a variety of agricultural operations, including dry farming, small orchards, beekeeping, poultry raising, dairying, and cattle grazing. More recently, in the middle of the twentieth century, several of these family operations were expanded and commercialized, particularly egg ranches and dairy farms. The CBJ Dairy, in its present form, was a result of new technology that allowed more intensive and cost-effective milk production and transformed the northern end of the study area to a dairy district. This agricultural region was characterized by structures typical of family and small commercial ranches—vernacular, generally simple and functional residences, surrounded by a variety of barns, corrals, coops, storage and processing buildings, dams, ponds, fences, and shelters.

Such structures and landscape features are considered to be cultural resources, which through time (generally 50 years) and distinction or importance, may qualify for listing on the NRHP or CRHR. Many of these farms and ranches in the cumulative impacts study area, which represent an important component of America's cultural heritage, have been impacted or destroyed by ground-disturbing activities associated with development, as well as by changes in the visual character of the historic setting and other indirect effects. While there are no known agricultural structures in the study area that have been found eligible for the NRHP, there is no easily obtainable record of the number of structures in this broader study area that may qualify as historic properties or historical resources or how many of those have already been destroyed. Although it is impossible to quantify precisely, a substantial number of these ranches and farms in the cumulative impact study area have been affected by direct impacts and indirect impacts. These past impacts to cultural resources have contributed over time to a cumulative loss of cultural resources representing the agricultural history of the valleys.

As described in the introduction to the cumulative impact analysis, there are several other development projects (shown in Figure 3.6-1 and listed in Appendix H) and infrastructure projects (listed in Table 3.6-2 [page 3-704]) in the planning or construction phases within the cumulative impact study area. Only one of those, the Mid County Parkway (MCP) Project, has documented the potential to impact a CRHR-eligible farm—a different portion of the CBJ Dairy than would be impacted by the Project. The actual numbers and types of resources that might be impacted by the other projects in the study area (Appendix H) are impossible to define precisely with available data, but generally, the resources represent Native American (Luiseño, Cahuilla, and Serrano) occupations of the study region, and later, homesteading and agriculture, with supporting transportation and water conveyance infrastructure associated with Spanish, Mexican, and American occupation. It is likely that additional CRHR-eligible farms or ranches would be impacted by future projects in the broader study area. Together, the cumulative projects could contribute incrementally to the overall decline in the health of historical resources in the cumulative impacts study area.

Two future projects could contribute incrementally to impacts to the CBJ Dairy and thus would contribute to cumulative impacts in the study area, the MCP Project and San Jacinto Gateway Specific Plan. Construction of the proposed MCP, which would intersect the Project at its northern end, would impact open-space portions in the northern and eastern end of the resource (but not elements such as buildings that contribute to the resource's CRHR eligibility) with all proposed alternatives. Only one alternative, the San Jacinto North Design Variation, which would impact the majority of the resource and its structures, would have a direct impact to this historical resource. More importantly, regardless of whether the Project or the MCP is constructed, there is an existing

master plan for development of the 207.2-ha (512-ac) San Jacinto Ranch that would completely destroy the CBJ Dairy.

When considered together, all three projects discussed above (the Project plus the MCP and San Jacinto Ranch) would contribute to a cumulative impact on the CBJ Dairy. Therefore, those projects would contribute to a decline in the overall health of cultural resources. However, the incremental effect of the Project is not "cumulatively considerable." Cumulatively considerable means that the incremental effects of an individual project are significant when viewed in connection with the effects of past, current projects, and probable future projects.

As discussed above, the Project would only affect the eastern edge of the property and would not have a direct impact on the property in a manner that would compromise its significance or integrity as a historical resource. The Project would directly impact approximately 20 percent of the three-parcel, 93.5-ha (231-ac) property. The Project impacts would be almost entirely restricted to the easternmost parcel, which does not contain any features that contribute to the significance of the dairy; the contributing features are located on the central 31.4-ha (77.5-ac) parcel, which would generally remain intact. The Project would also have an indirect impact to the setting of the property due to incorporation of its southeastern corner into the Project as a result of grading associated with the construction of a grade-separated interchange (7.9 m [26 ft] high) immediately adjacent to the property. As noted above, the potential indirect impact does not rise to the level of being considered adverse. The Project in this location requires that these modifications be made to an existing transportation corridor.

The MCP would impact a substantially larger portion of the north-center and eastern edge of the property and possibly (depending on the alternative chosen) would directly impact its structures. Based on review of the MCP APE map prepared for that project, the San Jacinto North Design Variation (preferred alternative identified by the City of San Jacinto) would cut a swath through the center of all three parcels that compose the dairy, thereby separating the northern portion of the property from the southern portion, which is occupied by the historic-period structures. As a result of the MCP San Jacinto North Design Variation, there is a greater impact to the CBJ Dairy. In addition, the MCP encompasses much of the same area of the easternmost parcel as the Project and would contribute to the indirect impacts associated with the grade-separated interchange between SR 79 and the MCP.

As noted above, the San Jacinto Gateway master planned development would likely destroy all of the character-defining elements of this historical resource. The Gateway Specific Plan encompasses the entire dairy and its environs. The San Jacinto Ranch proposes to develop 207.2 ha (512 ac), which now comprise the CBJ Dairy, including all of its buildings. This master-planned community -would include single- and multiple-family residences, as well as office, retail, restaurant, and entertainment facilities. The Gateway Plaza would occupy land across Ramona Expressway from the dairy. A 31,438.4-square-meter (338,400-square-foot) shopping center is planned on 35 acres.

Assessment of the need for mitigation and/or recommendations for actions by other agencies to address a cumulative impact

Based on the current analysis, and pending project-level cumulative impact analyses for future projects, mitigation would likely be required for the overall cumulative impact of the three discussed projects because the end result would likely be the destruction of all or a large portion of the resource. However, the Project's contribution to a

significant cumulative impact on the CBJ Dairy would be less than cumulatively considerable as a result of mitigation measures designed to alleviate the Project's contribution to the cumulative impact of the resource (see below) and thus is not significant. Because the Project would not contribute significantly to a cumulative impact on any individual built-environment historic property or historical resource, the Project would not significantly contribute to a cumulative impact on built-environment cultural resources overall.

As part of the Section 106/CEQA process, the property has already been recorded on DPR 523 forms (see the Historical Properties Survey Report of March 2010), which are on file at the California Historical Resources Information System center. Recordation is a typical form of mitigation and is intended to document the existing condition of a historic property/historical resource to establish, for posterity, a record prior to the property's alteration, relocation, or demolition. The level of mitigation documentation can range from minimal photo documentation to a formal and extremely detailed process (e.g., National Park Service Heritage Documentation). Existing Project-level recordation includes photographs, property description, and history. This treatment is commensurate with the level of indirect impacts to the property in this case.

In addition, several mitigation measures for visual impacts have been proposed that would incidentally lessen the indirect impact of the Project on the CBJ Dairy. These include provisions for treating cut slopes and fill slopes (VIS-12, VIS-22), revegetation (VIS-18, VIS-20), and overcrossing design (VIS-25). These measures would reduce the visual/indirect impact of the Project on the CBJ Dairy and would minimize the direct impact to the vacant agricultural fields that constitute the eastern edge of the property.

Because the Project's contribution would be minimal in consideration of the whole, no additional mitigation or contribution to mitigation measures specific to cumulative impacts are proposed with this Project. The burden of analyzing appropriate mitigation for any cumulative impact would lie with the future projects, which would have a larger contribution to the cumulative impact.

Because the evaluation of impacts to cultural resources under CEQA is being conducted in conjunction with the Section 106 process under the National Historic Preservation Act, and that process is being phased, evaluations are not complete. Thus, findings presented here are considered preliminary. Additional historic properties/historical resources could be identified during subsequent evaluations, in which case, those would be addressed in the Final EIR/EIS (see Section 3.1.8.2 [Volume 1, page 3-251] for an explanation of the phased approach being utilized for the Project).

3.6.3.5 Air Quality

Current Health and the Historical Context

The assessment of air quality considers the regional air basin where the cumulative Project study area is, South Coast Air Basin.

The Project is located in a federal nonattainment area for O_3, $PM_{2.5}$, and PM_{10} and a federal maintenance area for CO and must demonstrate regional conformity for these pollutants. The Project is included in the state highways

project list of the 2011 SCAG FTIP as project ID RIV62024. The 2011 FTIP was adopted by SCAG on September 2, 2010, and was approved by federal agencies on December 14, 2010.

Inclusion in the FTIP demonstrates that the Project was evaluated for regional impacts, meets the planning and regional requirements for demonstration of federal conformity, and is consistent with local air quality planning efforts.

Direct and indirect impacts of the proposed Project that might contribute to a cumulative impact

The Project demonstrates conformity with localized PM_{10} and $PM_{2.5}$ requirements. It would not cause or contribute to any new localized PM_{10} or $PM_{2.5}$ violations, would not increase the frequency or severity of any existing violations of the PM_{10} or $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS), and would not delay timely attainment of the PM_{10} or $PM_{2.5}$ NAAQS. Regional MSAT emissions will improve by 2035 because of United States Environmental Protection Agency (USEPA) national control programs.

The air quality analysis of cumulative effects considers construction activities and traffic emissions generated by planned land uses, including the Project, and other planned transportation improvements. For construction, because ozone is a regional pollutant and has short-term air quality standards (e.g., 8 hours), ozone precursors (nitrogen oxides [NO_X] and reactive organic gases [ROG]) were considered for cumulative effects. According to the Southern California Air Quality Management District (SCAQMD) white paper, "Potential Control Strategies to Address Cumulative Impacts from Air Pollution, Appendix D Cumulative Impact Analysis Requirements Pursuant to CEQA" (SCAQMD 2003), projects that do not exceed the SCAQMD's project-specific thresholds are generally not considered by SCAQMD to be cumulatively significant. Conversely, projects that exceed the SCAQMD's project-specific thresholds are considered cumulatively considerable by SCAQMD. The Department does not adopt thresholds of significance for projects. However, based on the analysis in the SCAQMD white paper, these levels are justified for this Project. The Department is not adopting these as thresholds of significance for the purposes of CEQA. Therefore, based on the assessment in Section 3.2.6 (page 3-353), ROG emissions would not have a cumulative impact on air quality because the emissions are below the levels of concern to SCAQMD. However, NO_X emissions during construction with implementation of the minimization measures would exceed the SCAQMD level of concern of 100 pounds per day. NO_X emissions would be expected to contribute to an adverse cumulative effect on air quality.

Assessment of the potential cumulative impacts

The proposed Project is located in an area designated as nonattainment of the California ozone air quality standards.

Construction of the Project would result in elevated NO_X emissions exceeding SCAQMD's level of concern, even with minimization measures. Construction emissions of NO_X would contribute to a cumulative adverse effect on air quality. Therefore, construction of the Project is expected to contribute to existing violations of the ozone standards. This impact would be temporary because it would only occur during construction. However, the

proposed construction schedule of the Project is expected to require several years. The Project would incorporate both standard practices and mitigation measures during construction to lessen the impact on air quality.

During this timeframe, it is expected that other reasonably foreseeable projects would also be constructed in the San Jacinto Valley. Based on the size and number of the development projects (commercial, residential, and industrial) shown in Figure 3.6-1 and listed in Appendix H and the infrastructure projects listed in Table 3.6-2 (page 3-704), several of them could be in construction at the same time as the Project and also be contributing to this cumulative impact. When considering the other large infrastructure projects, based on the anticipated schedule, only the Mid County Parkway Project may overlap in construction schedules in the vicinity of the proposed Project. If these circumstances were to occur, the impacts of all these projects when combined would result in an adverse cumulative impact to air quality.

Assessment of the need for mitigation and/or recommendations for actions by other agencies to address a cumulative impact

The Project would incorporate minimization measures during construction to lessen the effect of NO_X emissions from construction activities. Key measures include, to the extent feasible, suspending all construction equipment operations during second-stage smog alerts, using electricity from power poles rather than temporary diesel- or gasoline-powered generators, minimizing traffic interference on local streets and maintaining smooth traffic flow on and near construction site, rerouting construction trucks from congested streets or sensitive receptor areas, and limiting vehicle idling time (see AQ-1 through AQ-9 in Section 3.2.6.4 [page 3-376] for details).

Other projects proposed in the San Jacinto Valley would be expected also to incorporate minimization measures during construction to lessen the effect of NO_X emissions from their construction activities due to the ozone nonattainment designation of the region.

3.6.3.6 Biological Environment

The Project cumulative impact analysis for the biological environment recognizes and incorporates the results of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP is a Habitat Conservation Plan and Natural Communities Conservation Plan for western Riverside County that mitigates for the direct, indirect, and cumulative impact to 146 Covered Species and their associated habitats (RCIP 2003). Implementation of the MSHCP supports the land use changes and projects adopted in the Riverside County General Plan and the Cities of Hemet and San Jacinto General Plans. Those changes or projects included in these general plans are considered Covered Projects, which includes the proposed Project, with conditions. Future projects are also shown in Figure 3.6-2 and listed in Table 3.6-2 (page 3-704) and Appendix H. Figure 7-1 in the MSHCP shows Covered Projects in the MSHCP Criteria Area. These are circulation element roads, which include a composite of County and City General Plan Circulation Elements. As such, the analysis provided below recognizes and incorporates, by reference, the analysis and agreements completed for the MSHCP. These previous actions benefit the proposed Project because cumulative impacts for Covered Species that would be impacted by the Project have already been analyzed and addressed. Because of this, the following analysis is divided into two sections, MSCHP Covered Species/Resources and Other Species Not Covered by the MSCHP. This latter section

includes impacts to species not included in the analysis completed for the MSHCP. A section on Wetlands and Other Waters is also included.

MSHCP Covered Species/Resources

The MSHCP is a comprehensive, multijurisdictional habitat conservation plan focusing on the conservation of species and their associated habitats in western Riverside County (see Section 3.3.1.3 [page 3-459] for a complete description). This plan is one of several large, multijurisdictional habitat planning efforts in Southern California with the overall goal of maintaining biological and ecological diversity within a rapidly urbanizing region. The MSHCP allows for the Permittees to manage and implement local land use decisions while addressing the requirements of the state and federal Endangered Species Acts.

The MSHCP includes a cumulative impact analysis of biological resources covered in the plan, including species, vegetation communities, wildlife movement, and habitat conservation plans and natural community conservation plans. That analysis was designed to cover, and is applicable to, projects such as the proposed Project.

The result of the cumulative impacts analysis completed for the MSHCP determined that Covered Projects would not result in a cumulative adverse effect, either directly or through habitat modifications, on any of the 146 Covered Species.

According to the MSHCP cumulative analysis,

> *Implementation of the MSHCP and Covered Projects will not result in a cumulative adverse effect, either directly or through habitat modifications, on any of the Covered Species, including the 31 species that are currently listed as threatened or endangered and the one species that is currently proposed for listing. Implementation of the MSHCP will benefit the Covered Species by preserving habitat to address their life cycle needs* (RCIP 2003).

Other Species Not Covered by the MSHCP

Plant Species

Current Health and the Historical Context

Two plant species are included in this analysis because they would be impacted by the Project and are not MSHCP Covered Species—paniculate tarplant and Robinson's peppergrass.

Paniculate tarplant is a California Native Plant Society (CNPS) List 4 species, with 21 to 80 documented occurrences representing 3,000 to 10,000 individuals over 10,000 to 50,000 acres (CNPS 2012) in California. It is limited in its distribution to coastal scrub, valley and foothill grassland, and vernal pools. It occurs in southwestern Riverside county (e.g., around Murrieta and Menifee north and east to the Hemet area). It is currently threatened by development.

Robinson's peppergrass is a CNPS List 1B species that is uncommon to locally common on dry soils and shrubland habitats in Southern California from Santa Barbara County to Baja California, Mexico, including the

Channel Islands (Consortium 2007). The California Natural Diversity Database (CNDDB) (2007) includes 53 occurrences. The Consortium (2007) includes an additional 44 locations. Of the 97 total occurrences, Robinson's pepper-grass is believed to be at about 75 (or 80 percent) of them. In Riverside County, it occurs near the Shipley Reserve/Lake Skinner area, North of Domenigoni Hills, and in the eastern portions of Diamond Valley.

Direct and indirect impacts of the proposed Project that might contribute to a cumulative impact

All areas that support sensitive natural plant communities and special-status plants in the PIA were considered in this analysis to be directly and permanently lost as a result of construction and operation of the roadway. Permanent indirect impacts could occur within the 30.5 m (100 ft) indirect impact area adjacent to each Build alternative or in Additional Indirect Impact Study Area 1.

Permanent direct and indirect impacts are expected to paniculate tarplant (CNPS List 4) and Robinson's peppergrass (CNPS List 1B). Neither is an MSHCP Covered Species.

Paniculate Tarplant

Depending on the Build alternative selected, 14 to 20 populations of paniculate tarplant would be permanently and directly impacted, and an additional 15 to 19 populations would be permanently and indirectly impacted. More than 100 populations of paniculate tarplant were identified within the study area. Because this species is a CNPS List 4 plant (California Native Plant Society watch list species), and several populations occur in the Project study area, but outside the PIA, it is not expected that permanent impacts to paniculate tarplant would be substantial. Therefore, the Project is not expected to contribute to cumulative impacts to paniculate tarplant.

Robinson's peppergrass

Surveys identified 14 to 16 populations of Robinson's peppergrass that could be permanently and directly impacted within the right-of-way and another 2 or 3 populations that could be permanently and indirectly impacted, depending on the alternative selected. The largest concentration of Robinson's peppergrass known in western Riverside County is within the right-of-way for Roadway Segment G, which is a component of Build Alternatives 1a and 1b. However, permanent impacts to Robinson's peppergrass due to construction of Build Alternative 2a or 2b would also be substantial. The populations in the West Hemet Hills are the largest population complex currently known in western Riverside County, and this location represents the easternmost known distribution of the species. However, this species is taxonomically difficult, and the geographic distribution of this species may be incomplete.

Assessment of the potential cumulative impacts

Paniculate Tarplant

Although the Project is not expected to substantially contribute to a cumulative impact to paniculate tarplant, one could occur if the other projects in the San Jacinto Valley are implemented. The distribution of this species is

shown in reference to the Project and the proposed development projects in Figure 3.6-2. Development and infrastructure projects are also listed in Appendix H and Table 3.6-2 (page 3-704), respectively.

Robinson's peppergrass

In western Riverside County, Robinson's peppergrass occurs on rocky slopes or among shrubs in the Santa Ana Mountains, Box Springs Mountains, Perris Basin, Sedco Hills, Gavilan Hills, Diamond Valley, Lake Skinner region, north Domenigoni Hills, the vicinity of Vail Lake, and the foothills of the Agua Tibia Mountains (Consortium 2007, Roberts 2004a).

Because the populations in the PIA are of regional significance (largest population complex currently known and representing its easternmost distribution), the contribution of the Project-related impacts in combination with the potential impacts from other projects planned in the area (although the presence of populations is not known) could be cumulatively considerable. In the West Hemet Hills, other development projects (primarily residential) are proposed, as shown in Figure 3.6-1, Map 3. The distribution of this important population is shown in reference to the Project and the proposed development projects in Figure 3.6-2.

Assessment of the need for mitigation and/or recommendations for actions by other agencies to address a cumulative impact

Applicable mitigation will be determined through coordination with the resource agencies once the Preferred Alternative has been identified.

Animal Species

Two animal species, red-tailed hawk and bats, are included in this analysis because they would be impacted by the Project and are not MSHCP Covered Species.

Red-Tailed Hawk

Current Health and the Historical Context

The red-tailed hawk is one of the more common raptors that occur in Riverside County. However, as land uses change with the increase in residential and commercial development, habitat for the red-tailed hawk would be expected to decline.

Direct and indirect impacts of the proposed Project that might contribute to a cumulative impact

Each Build alternative would permanently impact (either directly or indirectly) up to 10 pairs of red-tailed hawks), as described in Section 3.3.4.3 (page 3-606). The observed locations of the red-tailed hawk nesting sites are shown in Figure 3.3-49. Specifically, up to four pairs would be directly impacted by construction activities, and six pairs may be indirectly impacted by operational noise, habitat fragmentation, and increased mortality from collisions with vehicles. Direct, permanent impacts to occupied raptor habitat, including the red-tailed hawk, could range from 107.01 ha (264.42 ac) to 142.33 ha (351.70 ac), depending on which Build alternative is selected.

Assessment of the potential cumulative impacts

In addition to the Project, other development or infrastructure projects could also impact the red-tailed hawk pairs. The locations of these developments in relation to the known nesting sites are shown in Figure 3.6-2.

Because the Project will incorporate measures to minimize impacts to the red-tailed hawk, such as preconstruction surveys and nest exclusion, the Project would have only a small contribution to the cumulative impact on the red-tailed hawk nesting populations and reproductive success in the region.

Assessment of the need for mitigation and/or recommendations for actions by other agencies to address a cumulative impact

Applicable mitigation will be determined through coordination with the resource agencies once the Preferred Alternative has been identified. Mitigation Measure BIO-44, conducting preconstruction surveys for nesting raptors and implementing nest exclusion as appropriate, has been proposed for the Project for nesting raptors, and will be applied to the red-tailed hawk.

Other projects with the potential to impact the red-tailed hawk in the San Jacinto Valley would also be expected to comply with the pertinent regulations and identify and implement appropriate mitigation measures with the applicable resource agencies as warranted.

Bats

Current Health and the Historical Context

No federally listed bat species are in the Project study area, but several bats listed as California Species of Special Concern could be present. Consequently, bat surveys were conducted to determine the presence of these Species of Special Concern.

Although some bat species were considered during the initial wildlife status review for the MSHCP in March 1999, they were removed from the list of species that were initially considered for conservation because of insufficient data. The amount of data available about bat species was not adequate for conservation planning (RCIP 2003). Therefore, no bats are designated as Covered Species in the MSHCP.

Direct and indirect impacts of the proposed Project that might contribute to a cumulative impact

Habitat suitability assessments and visual (presence evidence, outflights) or acoustic surveys for bats were conducted in the Project study area. Bat habitat was classified by type, location, and qualitative value as they relate to roosting and foraging potential. Roosting habitat in the study area includes bridges, buildings, and other man-made structures, as well as trees, cliffs, rocks, and boulder outcrops. High-quality foraging areas include open space with natural vegetation that created habitat edges (or ecotones), open water areas with some emergent vegetation, and other riparian habitat.

Several bat species can be found in the study area, as summarized in Table 3.3-11 (page 3-598). Potential bat roost habitat in the study area is summarized in Table 3.3-12 (page 3-599).

Removal of rock outcrops would permanently reduce available roosting habitat for bat species dependent on this limited resource in the Project vicinity. Additional permanent impacts to roosting habitat could also include removal of mature trees that may offer roosts for sensitive bat species (e.g., trees that contain cavities, exfoliating bark, suitable foliage, or well-developed frond skirts). Additionally, established building roosts may be permanently lost with demolition of building structures.

Temporary impacts to bats as a result of construction may include disturbance to roost sites and disruptions of foraging areas due to increased vehicular traffic, night illumination, pile driving for bridges, tree cutting, building demolition, grubbing, and other construction-related noise in all Build alternatives, as well as blasting, drilling, rock hammering, and grading in roadway segments containing rock outcrops or hills. Bats may abandon roost sites as a result of local disturbances and would alter their foraging behavior near lights, which could benefit them by attracting insects or repel them from an area as a result of predator avoidance.

Assessment of the potential cumulative impacts

The proposed Project, infrastructure projects listed in Table 3.6-2 (page 3-704), and the development projects identified in Appendix H would contribute collectively to the cumulative impacts to bat species in this region, including loss of foraging and roosting habitat. However, with the minimization measures incorporated into the Project (see below), the contribution of the Project to any cumulative impacts to bat species is considered minimal.

Assessment of the need for mitigation and/or recommendations for actions by other agencies to address a cumulative impact

Applicable mitigation will be determined through coordination with the resource agencies once the Preferred Alternative has been identified. Mitigation Measures BIO-45, 46, and 47 have been proposed for the Project. These measures call for inspection of potential roosting sites for roosting bats prior to demolition, installation of a bat-friendly gate on a mine adit entrance adjacent to Roadway Segments A, B, and C, and consideration of planting mature native deciduous trees to provide suitable habitat for vegetation roosting bats.

Other projects with the potential to impact bats in the San Jacinto Valley would also be expected comply with the pertinent regulations and identify and implement appropriate mitigation measures with the applicable resource agencies as warranted.

Wetlands and Other Waters

Potential cumulative impacts to wetlands and other waters include hydrologic alteration, fragmentation, and habitat loss. It is estimated that approximately 95 percent of the historical vernal pools and seasonal wetlands in Southern California have been lost or significantly degraded as a result of these types of impacts (USFWS 1998, 2003).

The Project could result in direct loss of 4.73 ha (11.69 ac) to 5.15 ha (12.73 ac) of wetlands and 3.09 ha (7.64 ac) to 3.25 ha (8.03 ac) of other waters, depending on the selected Build alternative. Additional impacts would occur from bridge piles in Salt Creek Channel, which is not considered a wetland. However, these impacts would be offset through replacement, creation, enhancement, and preservation of wetlands or other areas deemed suitable by the permitting agencies, as required by state and federal laws and regulations.

In addition, the Project has been planned to avoid and minimize impacts to wetlands and other water resources as much as possible by determining a reasonable range of alternatives that would avoid areas with high concentrations of vernal pool and seasonal wetland habitats, such as those found east of the San Diego Canal. Project engineering controls and best management practices, such as culvert design and placement and erosion control measures (silt fencing, for example), would be implemented during construction and operation to minimize potential impacts from altered hydrology and roadway runoff. Although the impacts from the Project have been minimized, these impacts would be expected to contribute to the cumulative effect on wetlands and other waters. However, with regard to federal wetlands, the Department is required to completely offset the loss of wetlands functions and values caused by the Project through mitigation, following the "no net loss" policies of the United States Army Corps of Engineers (USACE). Therefore, with mitigation, the Department's wetlands impacts are not considered a considerable contribution to any wetlands cumulative impact that may occur.

Furthermore, under Section 404 of the Clean Water Act (USACE), Section 401 of the Clean Water Act (RWQCB), and CDFG 1602 permit programs, mitigation for impacts to other waters of the United States/State would offset Project impacts. Therefore, with mitigation, the Department's impacts to other waters (non-federal wetlands) are not considered a considerable contribution to any cumulative impact that may occur. Additionally, the USACE would regulate any potential loss of wetlands that could be impacted by other reasonably foreseeable projects. Each of these projects would be required to comply with the USACE's "no net loss" policies and other permitting laws regulated by RWQCB and CDFG.

Other development and infrastructure projects, as shown in Figure 3.6-1, would be expected to have similar impacts to wetlands and other waters as they are implemented. The most critical (rare) wetland/water resource in the San Jacinto Valley is the vernal pool complex in the City of Hemet. Potential impacts could occur in that area as the development projects that are shown in Figure 3.6-1, Map 3, are approved. The vernal pool complex is located in the MSCHP Criteria Cells shown on Map 3. However, it is expected that this regulatory requirement would be applied to maintain the health of this system.

The future health of this resource is dependent on the choices and actions of land use practices, the outcome of future reasonably foreseeable projects, and regulatory decisions made by the USACE.

3.6.4 Summary

In summary, the Project would not contribute considerably to cumulative adverse impacts related to farmlands, relocations, cultural resources, MSHCP Covered Species/Resources, or wetlands and other waters. The Project would incorporate measures to minimize and mitigate Project-related impacts and to fully offset the potential cumulative effects to these resources.

The Project would contribute to a cumulative loss of visual resources/aesthetics, air quality, and some species not covered by the MSHCP when combined with the effects of the reasonably foreseeable projects in the cumulative impact study area. The Project would incorporate measures to minimize and mitigate Project-related impacts and to lessen the potential cumulative effects to these resources. These conclusions are discussed in more detail below.

3.6.4.1 Visual/Aesthetics

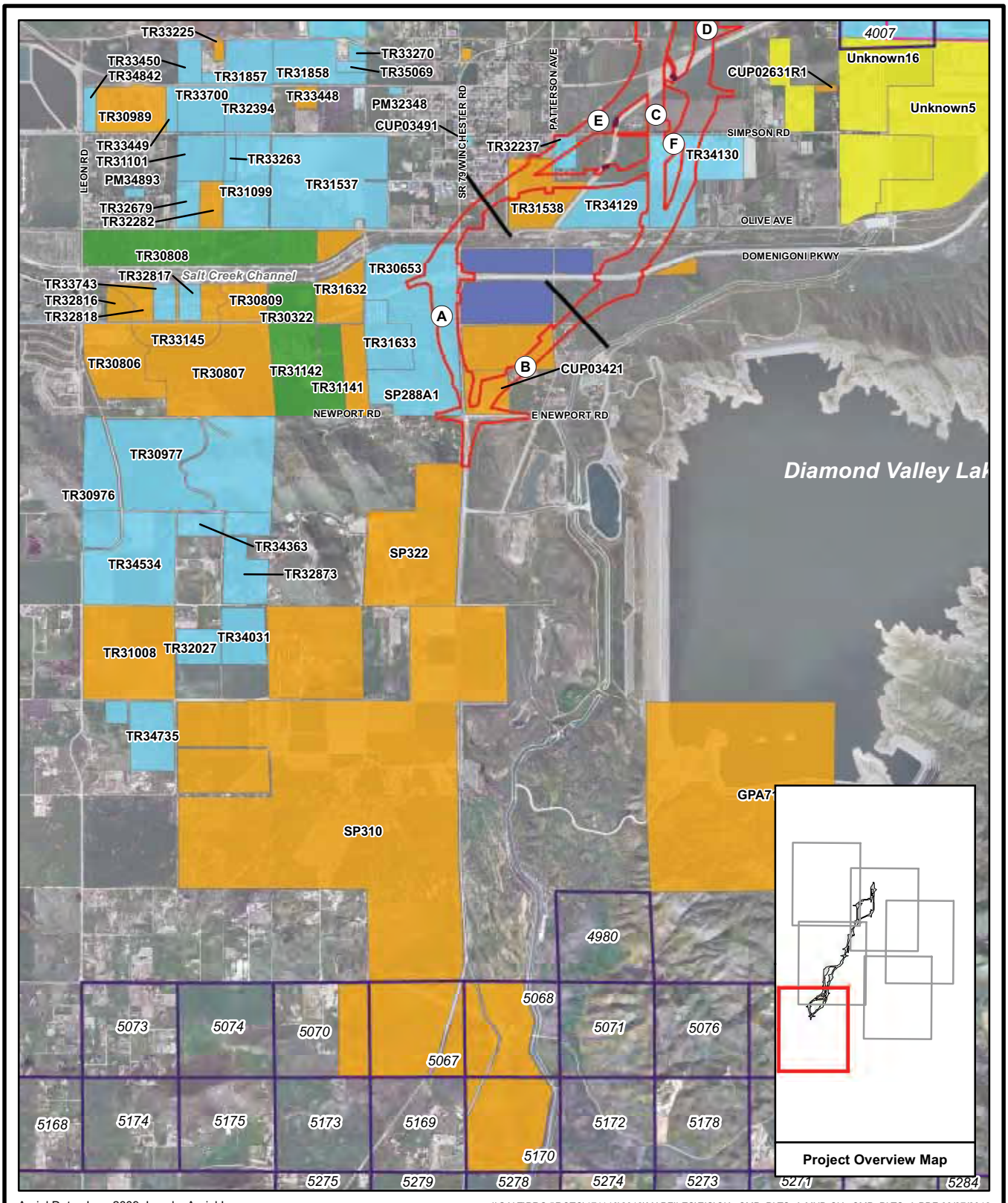
The Project would incorporate specific components into the Project design to lessen the effect of the Project on its surroundings, including grading to mimic the natural conditions in the area and the inclusion of site treatments, including embankment development and design, rock weathering, other hardscape and landscape, to improve the visual character and aesthetics of the local setting. However, due to the ongoing change to visual character in the San Jacinto Valley, the Project would contribute to the cumulative effect of declining rural and agricultural aesthetic values in the San Jacinto Valley, which are directly associated with the visual character and quality of the area.

3.6.4.2 Air Quality

The Project would incorporate minimization measures during construction to lessen the effect of NO_X emissions from construction activities. However, due to the ozone nonattainment designation of the region and short-term elevated NO_X emissions, Project construction would temporarily result in the cumulative effect of contributing to ozone formation.

3.6.4.3 Species Not Covered by the MSHCP

The Project would coordinate with appropriate resource agencies to identify appropriate minimization measures for impacts to the regionally significant Robinson's peppergrass, based on the identification of the Preferred Alternative for the Project. The Project-specific mitigation would address the Project's potential contribution to cumulative effects on Robinson's peppergrass.



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- City of Hemet[CR]
- City of San Jacinto[CR]

Development Status

- Pre-Application[CR, HT, SJ]
- Application Submitted[CR, HT, SJ]
- Project Approved[CR, HT, SJ]
- Under Construction[CR, HT, SJ]
- Operational[CR, HT, SJ]
- MSHCP Criteria Cells[CR]
- Pechanga Band of Luiseño Mission Indians

0 4,000 Feet

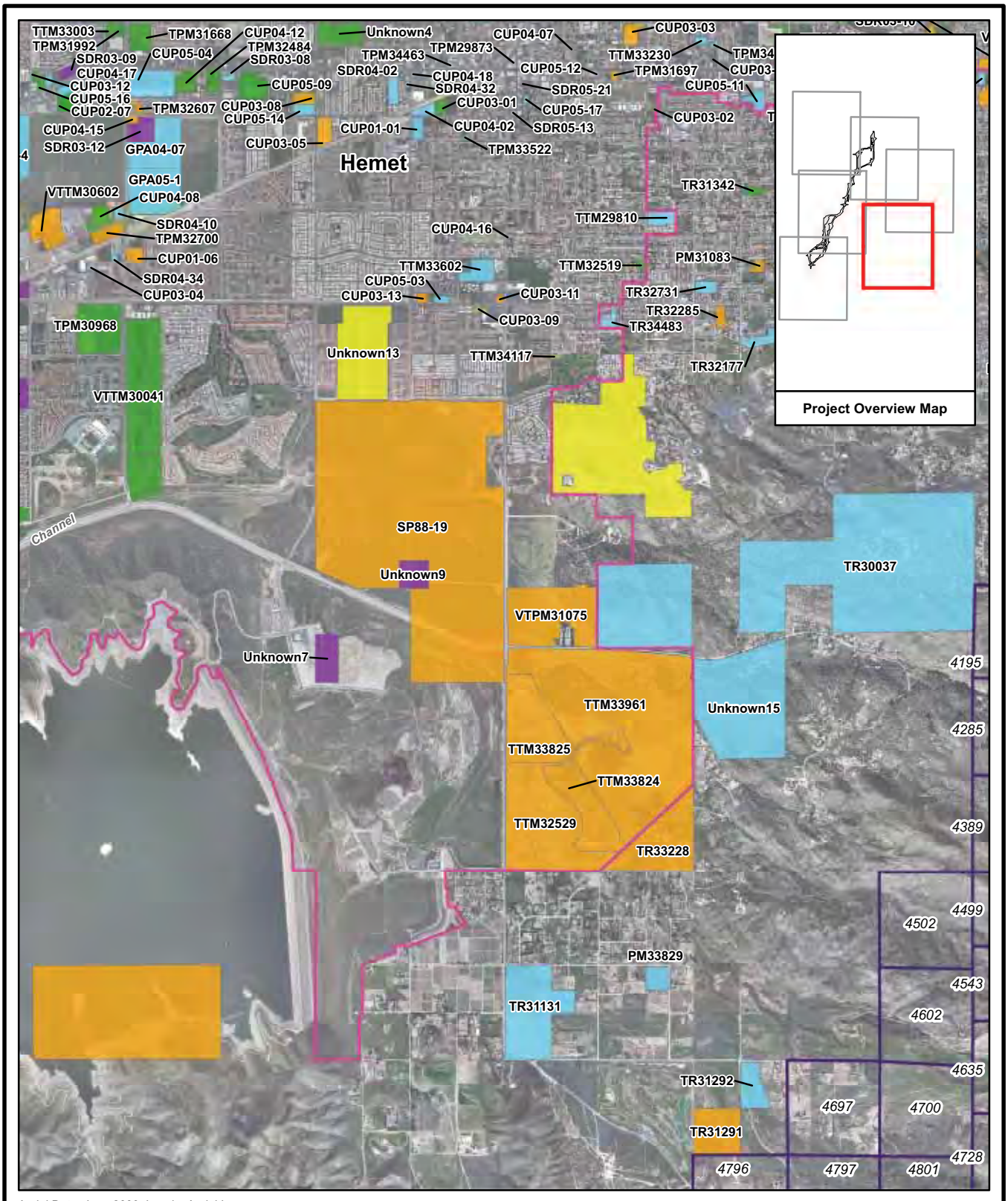
0 900 Meters

1:48,000

Sources: CR - County of Riverside, 2007; HT - City of Hemet, 2007; SJ - City of San Jacinto, 2007

Figure 3.6-1 Map 1 of 6 Status of Developments Considered in Cumulative Impact Analysis

Draft Environmental Impact Report/ Environmental Impact Statement State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
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- Project Impact Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- City of Hemet[CR]
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Development Status

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- Application Submitted[CR, HT, SJ]
- Project Approved[CR, HT, SJ]
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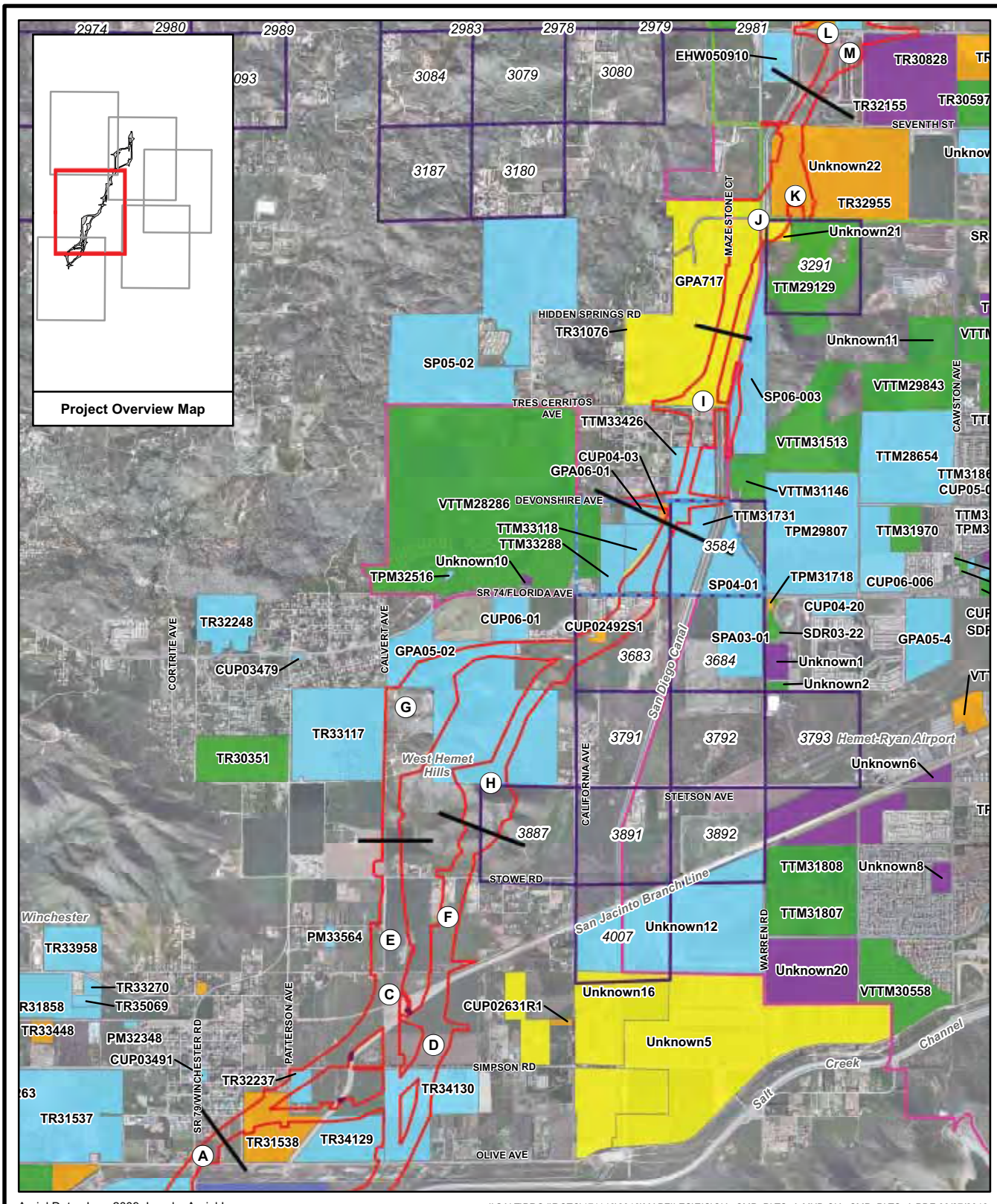
Sources: CR - County of Riverside, 2007; HT - City of Hemet, 2007; SJ - City of San Jacinto, 2007

Figure 3.6-1 Map 2 of 6
Status of Developments Considered in Cumulative Impact Analysis
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- City of Hemet[CR]
- City of San Jacinto[CR]

Development Status

- Pre-Application[CR, HT, SJ]
- Application Submitted[CR, HT, SJ]
- Project Approved[CR, HT, SJ]
- Under Construction[CR, HT, SJ]
- Operational[CR, HT, SJ]

- MSHCP Criteria Cells[CR]
- Pechanga Band of Luiseño Mission Indians

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Sources: CR - County of Riverside, 2007; HT - City of Hemet, 2007; SJ - City of San Jacinto, 2007

Figure 3.6-1 Map 3 of 6
Status of Developments Considered in Cumulative Impact Analysis
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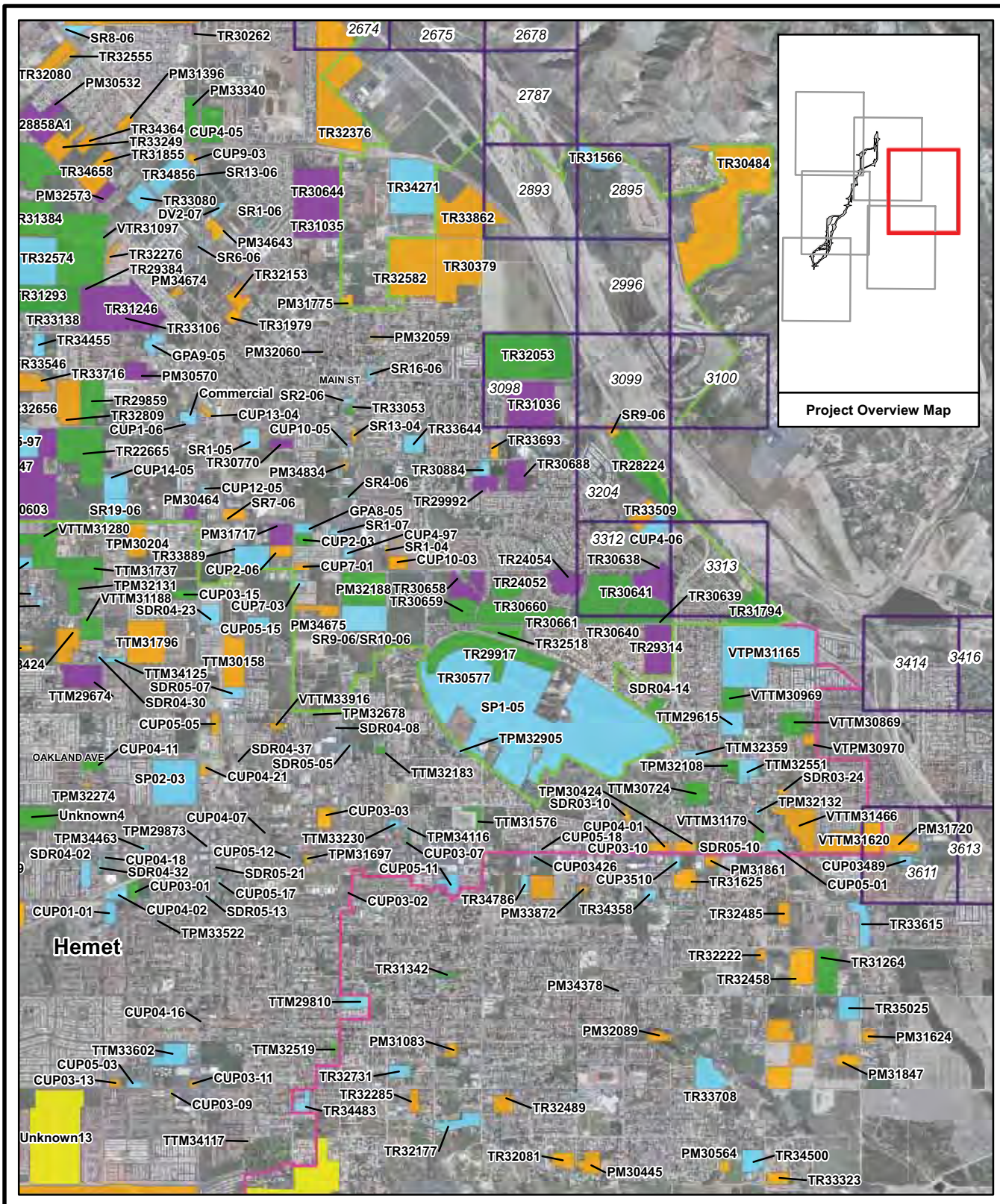
State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- City of Hemet[CR]
- City of San Jacinto[CR]

Development Status

- Pre-Application[CR, HT, SJ]
- Application Submitted[CR, HT, SJ]
- Project Approved[CR, HT, SJ]
- Under Construction[CR, HT, SJ]
- Operational[CR, HT, SJ]
- MSHCP Criteria Cells[CR]
- Pechanga Band of Luiseño Mission Indians

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Sources: CR - County of Riverside, 2007; HT - City of Hemet, 2007; SJ - City of San Jacinto, 2007

Figure 3.6-1 Map 4 of 6
Status of Developments Considered in Cumulative Impact Analysis
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project

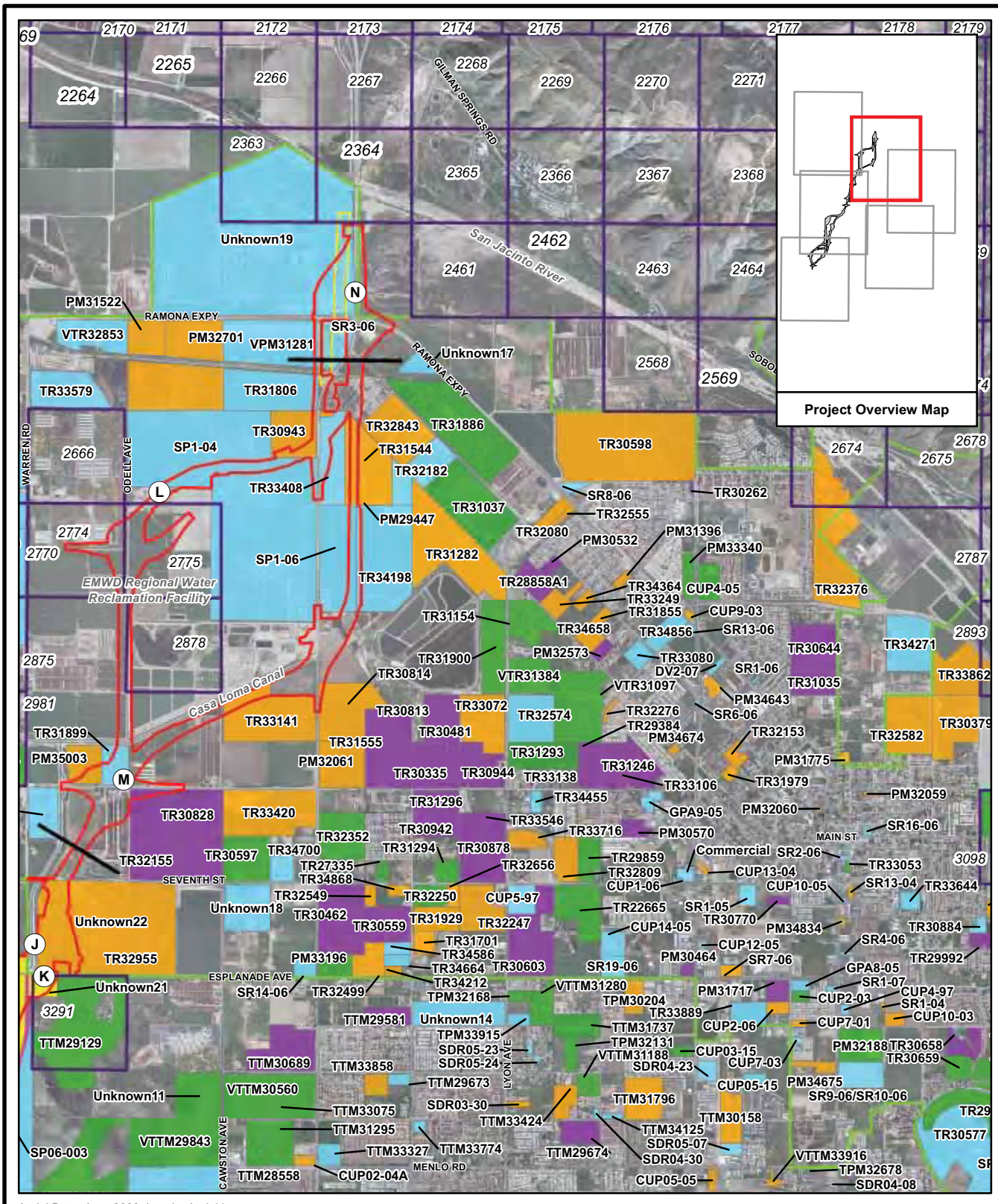
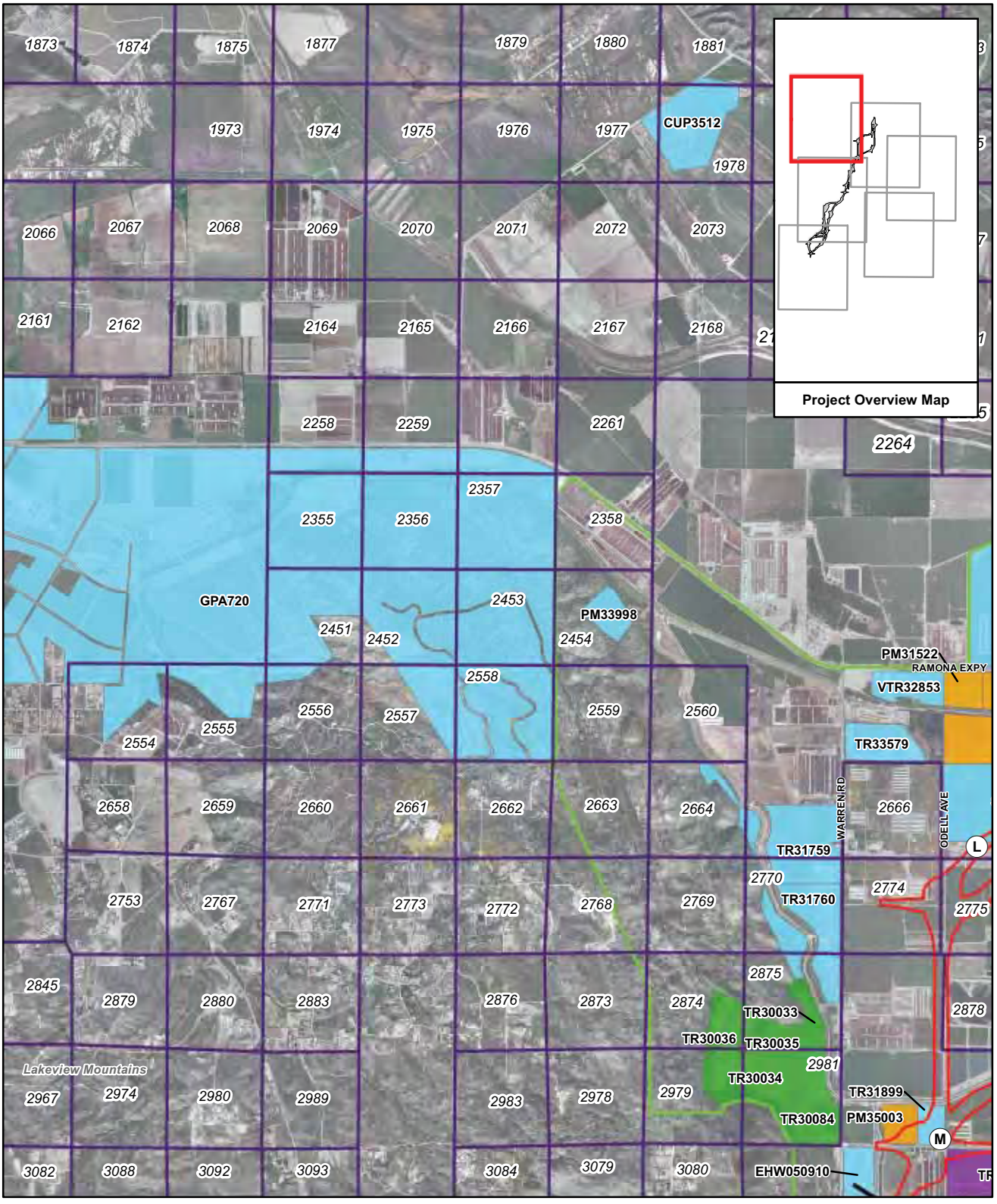


Figure 3.6-1 Map 5 of 6
Status of Developments Considered in Cumulative Impact Analysis
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way
- City of Hemet[CR]
- City of San Jacinto[CR]

Development Status

- Pre-Application[CR, HT, SJ]
- Application Submitted[CR, HT, SJ]
- Project Approved[CR, HT, SJ]
- Under Construction[CR, HT, SJ]
- Operational[CR, HT, SJ]
- MSHCP Criteria Cells[CR]
- Pechanga Band of Luiseño Mission Indians

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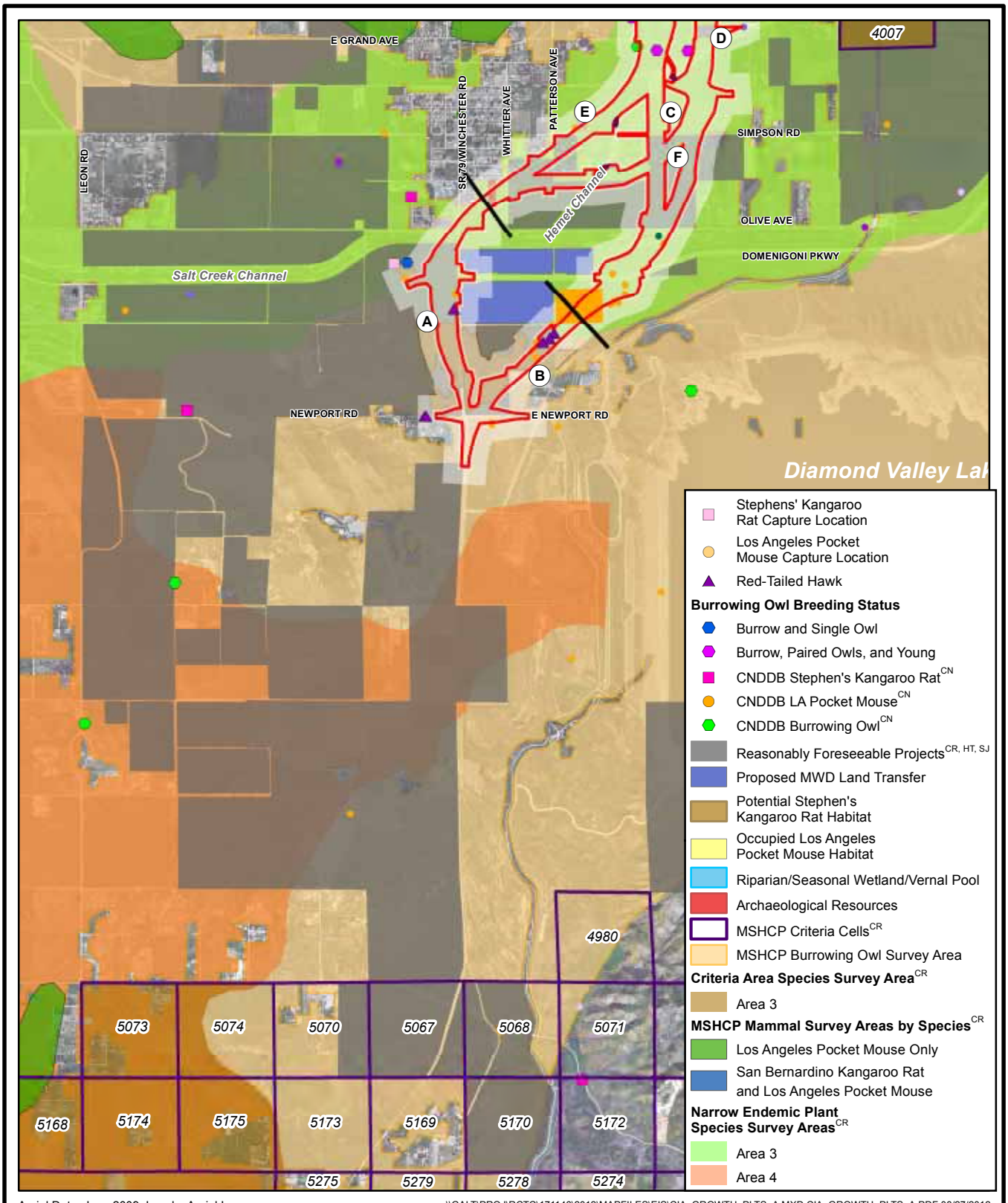
Figure 3.6-1 Map 6 of 6
Status of Developments Considered in Cumulative Impact Analysis
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plants

- Atriplex coronata var. notatior
- Atriplex parishii
- Atriplex serenana var. davidsonii
- Brodiaea filifolia
- Centromadia pungens ssp. laevis
- Lasthenia glabrata ssp. coulteri
- Lepidium virginicum var. robinsonii
- Myosurus minimus ssp. apus
- Navarretia fossalis
- Orcuttia californica

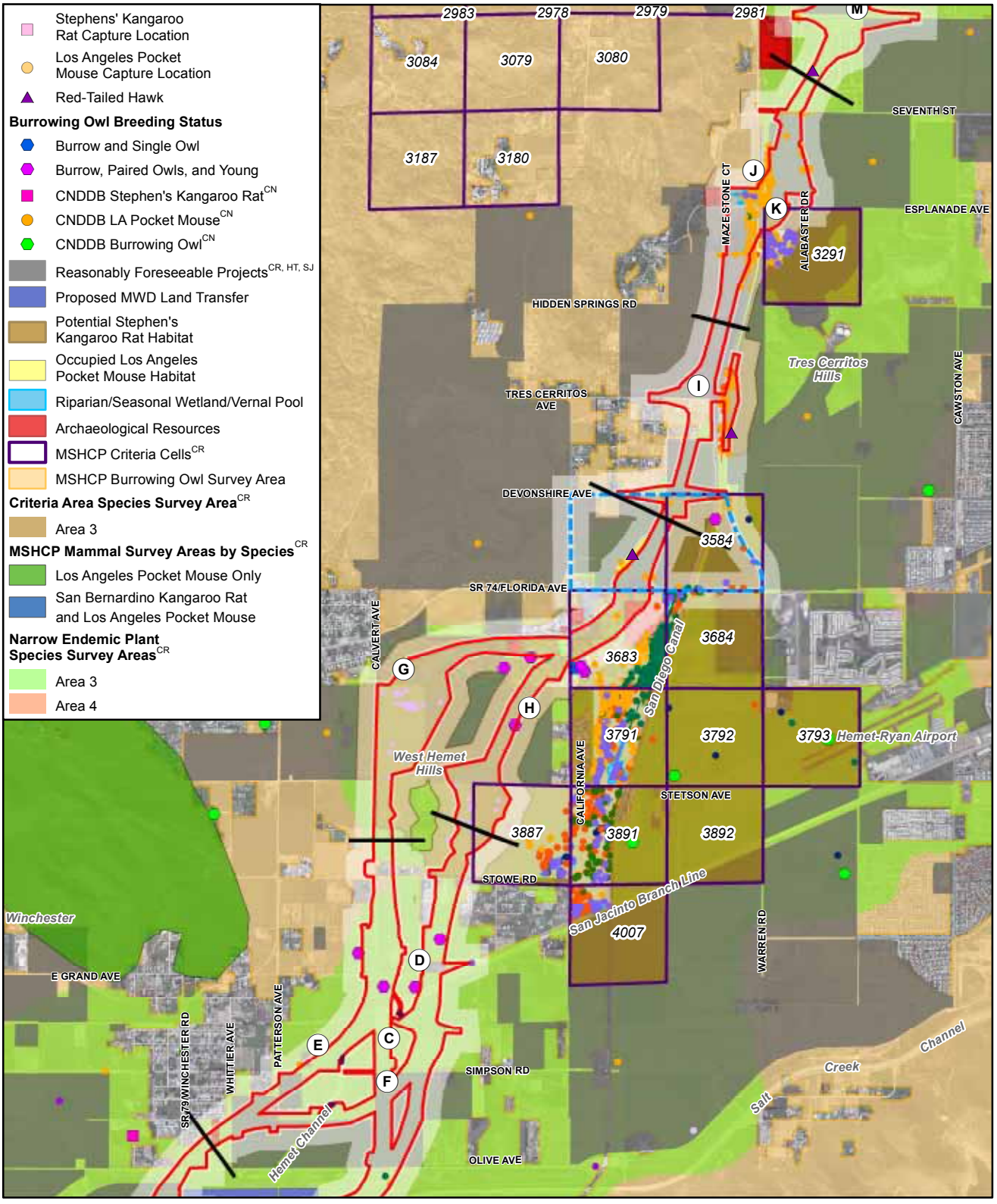
0 4,000 Feet

0 900 Meters

1:48,000

Sources: CN - CNDDB, January 2012; CR - County of Riverside, 2007; HT - City of Hemet, 2007; SJ - City of San Jacinto, 2007

Figure 3.6-2 Map 1 of 3
Resources of Concern Considered in Cumulative Impact Analysis
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
- Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

Rare Plants

- Atriplex coronata var. notatior
- Atriplex parishii
- Atriplex serenana var. davidsonii
- Brodiaea filifolia
- Centromadia pungens ssp. laevis
- Lasthenia glabrata ssp. coulteri
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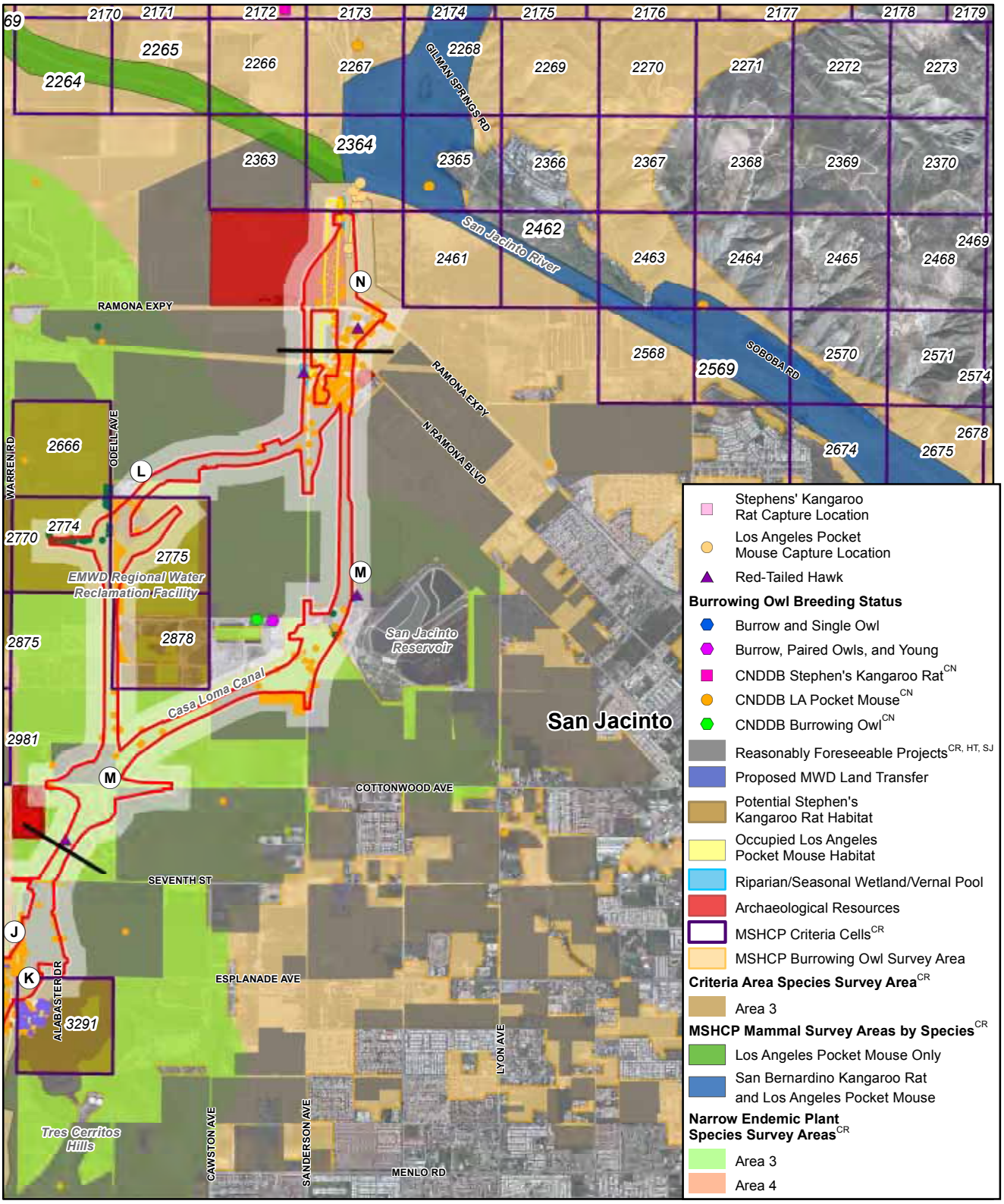
Figure 3.6-2 Map 2 of 3
Resources of Concern Considered in Cumulative Impact Analysis
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment
- Match Line
- Long-Term Traffic Detour
- Project Impact Area
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Figure 3.6-2 Map 3 of 3
Resources of Concern Considered in Cumulative Impact Analysis
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project

Chapter 4 California Environmental Quality Act Evaluation

4.1 Determining Significance under CEQA

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

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or some lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) as a *whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require the Department to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of mandatory findings of significance, which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

4.2 Discussion of Significance of Impacts

The significance of the potential impacts of the proposed Build alternatives under CEQA was assessed based on the information and conclusions drawn in the CEQA Checklist in Appendix A, as supported by the analysis of Project impacts presented in Chapter 3. The questions, as provided in the CEQA Checklist, are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance. The conclusions of the impact analysis conducted for the Project are summarized in the following sections, specific to the level of significance determined under CEQA.

Because the evaluation of impacts to cultural resources under CEQA is being conducted in conjunction with the Section 106 process under the National Historic Preservation Act, and that process is being phased, CEQA evaluations of cultural resources are not complete. Thus, findings for cultural resources presented in the CEQA Checklist (Appendix A) are considered preliminary. Additional historical resources could be identified during subsequent evaluations, in which case those would be addressed in a revised CEQA Checklist and the Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS).

No impacts to mineral resources would occur in association with the Project because it is not located within the boundaries of a mineral resource zone. Therefore, mineral resources are not discussed further.

4.2.1 Less than Significant Effects of the Proposed Project

4.2.1.1 Agriculture Resources (CEQA Checklist Questions II.a, II.b, and II.c)

Conclusions for CEQA questions II.a, II.b, and II.c are "less than significant" and are explained in detail below. Table 3.1-15 (Volume 1, page 3-97) includes a summary of impacts to all farmland types.

Question II.a

The direct impacts to prime farmlands, unique farmlands, farmlands of statewide importance and farmlands of local importance would vary modestly among the Build alternatives (Table 3.1-15 [Volume 1, page 3-97]). Direct impacts to prime farmlands would range from about 40 to 50 hectares (ha) (100 to 125 acres [ac]). Direct impacts to unique farmlands would range from 8.6 to 15 ha (21 to 37 ac); farmlands of statewide importance, 40 to 44 ha (100 to 109 ac); and farmlands of local importance, 207 to 211 ha (511 to 523 ac).

Potential indirect impacts would be relatively small compared to direct impacts and would not vary greatly from one Build alternative to another. A large proportion of the farmlands that would be affected by the Project are croplands. Primarily, the indirect impact to croplands adjacent to a new highway is loss of access caused by the project. Modifications to driveways and farm lanes made in cooperation with the landowners would facilitate access to remaining parcels and would minimize indirect impacts. The same would be true with most livestock operations, where the impacts to the parcels would be peripheral and would not affect the use of the remainder of the property.

The combined direct and indirect impacts from each of the Build alternatives or design options would amount to less than 1 percent of the combined important farmlands in Riverside County (Table 3.1-15 [Volume 1, page 3-97]). Assuming that indirect impacts would be minimized, the Build alternatives would affect less than 0.2 percent of the total important farmlands in the county.

Further, these impacts must be considered in the context of the changes in land use in the Project area. In the general plans of the City of San Jacinto, City of Hemet, and the County of Riverside (San Jacinto 2006, Hemet 1992, County 2003), there is a consensus that development pressure will continue to convert farmlands to nonagricultural uses. Consequently, a substantial proportion of existing farmlands have been designated for conversion to nonagricultural uses (Figure 3.1-9 [Volume 1]). The conversion of these farmlands to a nonagricultural use is addressed under CEQA in the environmental impact reports prepared for all of the general

plans. Roughly 90 to 95 percent of the existing farmlands that would be in each Build alternative is in planned farmland conversion areas. Thus, most of the existing farmlands that would be directly or indirectly affected by one of the Build alternatives or design options are expected to be converted to a nonagricultural use in time, based on population growth and development pressure in the area, regardless of the Project.

The Project would have a minor effect on prime, unique, and other important farmlands on parcels that are zoned to remain agricultural (Table 3.1-13 [Volume 1, page 3-94]). The Build alternatives and design options would have impacts ranging from 29 to 31 ha (66 to 72 ac) on zoned agricultural lands, less than 0.01percent of the total prime, unique, and important farmland in Riverside County (which totals about 173,600 ha [428,990 ac]).

Given the relatively small amount of farmland that would be affected by the Project beyond the impacts accounted for in the general plans, the impact to farmlands as a result of any of the Build alternatives or design options is considered less than significant.

Question II.b

Zoning

All Build alternatives are located among the different jurisdictions of the City of Hemet, the City of San Jacinto, and the County of Riverside. The Project has been sited to minimize impacts to lands zoned or planned to remain as agricultural in each jurisdiction.

In City of Hemet jurisdiction, the Build alternatives would permanently impact about 7 ha (17 ac) of zoned farmlands. According to the Hemet General Plan, the total amount of zoned farmlands in the city of Hemet is 743 ha (1,837 ac). Therefore, the amount of zoned farmlands that would be impacted by the Project represents less than 1 percent of the total zoned farmland in the city of Hemet. The Project is also included in the Transportation Element of the City of Hemet 1992 General Plan.

The City of San Jacinto does not contain zoned farmlands in its current general plan.

In Riverside County jurisdiction, Roadway Segments I, J, and K would permanently impact 22 to 24 ha (55 to 60 ac) of zoned farmlands. The total amount of zoned farmlands in the county is 72,915 ha (180,178 ac). Therefore, the amount of zoned farmlands impacted by the Project represents less than 0.01 percent of the total zoned farmland in Riverside County. Additionally, the Project is included in the Circulation Element of the Riverside County General Plan.

While the County and City general plans and zoning recognize the transition of agricultural lands to more urbanized uses, they include policies that encourage conservation of productive farmlands and minimize the impact of adjacent land uses on agricultural operations beyond those lands specified as agricultural (discussed in Section 3.1.3.4 [Volume 1, page 3-106]). Most of these policies are implemented at the owner's discretion. Consistent with these policies, the Project has been designed to minimize the footprint and minimize impacts to farm buildings. On properties affected by the Project, access will be maintained or modified so that the remainder of the property can continue to be used for agriculture. The City of Hemet, City of San Jacinto, and Riverside

County will continue to be involved in reviewing the design of the Project for opportunities to minimize impacts to farmlands.

Because of the relatively small area of zoned farmlands that would be affected and design efforts to minimize direct and indirect impacts to all farmlands consistent with local and regional land use policies, the impact to zoned agricultural land is less than significant.

Williamson Act

All Build alternatives would impact Williamson Act lands, as shown in Tables 3.1-14 (page 3-95), 3.1-15 (page 3-97), and 3.1-17 (page 3-104), all in Volume 1. A full discussion of the impacts to Williamson Act lands is provided in Section 3.1.3.3 (Volume 1, page 3-95).

Although Williamson Act contracted land would be impacted by the Project, all of the Williamson Act parcels within the Agricultural Study Area (ASA) are zoned by the City of San Jacinto for nonagricultural purposes. Farmland parcels zoned for nonagricultural uses will be converted to a nonagricultural use in the future regardless of the impacts of the Project (Figure 3.1-9 [Volume 1]). It is not known when these lands will be converted from farmlands to their zoned use. These are private properties, and the timing in which these lands will be developed is at the discretion of each landowner.

Additionally, because the Project would be a new alignment, it must comply with the requirements of California Government Code (CGC) Section 51292, which states,

> *…no public agency or person shall locate a public improvement within an agricultural preserve unless the following findings are made:*
>
> *(a) The location is not based primarily on a consideration of the lower cost of acquiring land in an agricultural preserve.*
>
> *(b) If the land is agricultural land covered under a contract pursuant to this chapter for any public improvement, that there is no other land within or outside the preserve on which it is reasonably feasible to locate the public improvement.*

Several Project alternatives are being analyzed to minimize the effects on the environment, including effects on all types of farmlands. Each Project alternative would impact, to some degree, parcels under a Williamson Act contract. Depending on the Build alternative identified as the Preferred Alternative, the Project would impact between 10.1 ha (25.0 ac) over two parcels and 22.0 ha (54.4 ac) over six parcels of Williamson Act lands (see Table 3.1-17 [Volume 1, page 3-104]). Approximately 40 percent of the properties that would be affected by Alternatives 1a and 2a are nonrenewal status (meaning that the Williamson Act contract is in the process of being terminated). All of the properties that would be affected by Alternatives 1b and 2b are nonrenewal. The CEQA Guidelines consider cancellation of contracts for parcels exceeding 40.47 ha (100 ac) to be of statewide significance. Although each Build alternative would partially affect one Williamson Act parcel that is larger than 40.47 ha (100 ac), none of them would affect the entire parcel. None of the alternatives would completely cancel contracts for any of the Williamson Act parcels.

The locations of the alternatives are not based primarily on cost, nor are there other reasonably feasible alternatives. The Build alternatives were chosen based on various environmental studies, design restrictions, cost, and federal, state, and local agency feedback. (The extensive process that resulted in the alternatives being analyzed is summarized in Section 1.1.1.1 [Volume 1, page 1-1], and the alternatives are the subject of Chapter 2 [Volume 1, page 2-1].) It is not practicable to avoid locating this Project on land covered by a Williamson Act contract. Therefore, the Project is in compliance with the requirements of Government Code (GC) Section 51292. If properties restricted by Williamson Act contracts are acquired for the Project, the Department and Riverside County Transportation Commission (RCTC) will notify the California Department of Conservation (CDC) within 10 days.

The impact to Williamson Act lands would therefore be less than significant, and no mitigation is proposed. However, measure AG-3 would be implemented to ensure that the Project adheres to all applicable government codes regarding acquisition of Williamson Act lands.

Question II.c

The Project would realign and widen the existing SR 79 from two to four lanes, which would increase capacity and facilitate planned development. Additionally, some existing farmlands would be bisected by the Project, which could impact the viability of the individual farm and indirectly cause conversion of these farmlands to nonagricultural use. However, as a general rule, the agricultural use of remaining lands will be maintained by providing access as part of the Project, thereby minimizing these indirect impacts. Furthermore, based on available General Plan data from the City of San Jacinto and the County of Riverside, and current zoning data for the City of Hemet, many of the existing farmlands in the study area will be converted to nonagricultural lands as a result of other, separate projects, as discussed above. Therefore, the Project impact is considered to be less than significant.

4.2.1.2 Air Quality (CEQA Checklist Questions III.d and III.e)

Construction of the proposed Project may expose sensitive receptors in the vicinity of the Project area to short-term elevated diesel particulate matter less than 10 micrometers (PM_{10}) levels. However, the PM_{10} concentrations would be considered less than significant because the risk posed by diesel PM_{10} is based on long-term exposure, and Project construction would be a short-term activity. In addition, vehicle emissions are expected to decrease over time in compliance with United States Environmental Protection Agency (USEPA) and California Air Resources Board (ARB) regulations for cleaner fuels and cleaner engines (FHWA 2009). For these reasons, pollutant concentrations are expected to be lower in the future than the existing condition. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during construction or operation of the proposed Project.

During Project construction, objectionable odors could occur due to diesel-powered equipment and road-building activities, such as paving and asphalting. Such odors, however, would be short term and limited to the immediate vicinity of the activity. As much as possible, construction equipment and trucks would be located or rerouted away from local neighborhoods or sensitive receptor areas. Therefore, odor impacts during construction would be temporary and less than significant. During Project operation, odorous emissions from vehicle travel would

decrease from existing conditions because cleaner engines and cleaner fuels would be used in the future. Therefore, air quality impacts associated with odors during Project operation would be less than significant.

4.2.1.3 Biological Resources (CEQA Checklist Questions IV.e and IV.f)

Two local tree preservation policies are in effect in the Project study area. The first policy is discussed in Section 3.3.1.3, Natural Communities (page 3-459), and refers to the Riverside County Oak Tree Ordinance that protects native oak trees with diameters greater than 5.1 centimeters (2 inches) at breast height.

The second policy is from the Biological Resources component of the City of Hemet General Plan (Hemet 1992[17]), which contains onsite construction guidelines that specify "mature trees of 6 inches diameter or greater shall be protected from indiscriminate cutting or removal."

These policies do not apply to the Project (a state project); however, RCTC will consider the requirements of the policies during final design of the Project.

MSHCP

The Project study area is within the boundaries of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) and the Stephens' Kangaroo Rat Habitat Conservation Plan (HCP). The Project's consistency with these plans would be similar regardless of the Build alternative or design option that is identified as the Preferred Alternative. A detailed discussion of the Project's consistency with these plans is provided in Section 3.3 (page 3-437). Because the Project would be consistent with the criteria in these HCPs, the impact would be less than significant.

4.2.1.4 Geology and Soils (CEQA Checklist Question VI.e)

The proposed Project would not construct septic tanks, and the use of existing septic tanks during construction is not anticipated. Waste produced by the Project during construction would be collected by qualified contractors and disposed of in accordance with all applicable regulations and codes. Therefore, the Project would have a less than significant impact on alternative wastewater disposal systems.

4.2.1.5 Hazards and Hazardous Materials (CEQA Checklist Questions VIII.a and VIII.e)

Potential short-term hazards associated with the proposed Project involve the transportation of fuels, lubricating fluids, solvents, aerially deposited lead removal, potential removal of total petroleum hydrocarbons from the former Mobil gasoline station, and other potentially hazardous materials during construction. However, construction would not involve handling significant amounts of these substances beyond what is typically required for a project of this nature. Additionally, all storage, handling, and disposal of hazardous materials is regulated by the USEPA, California Department of Toxic Substances Control (DTSC), Occupational Safety and Health Administration (OSHA), and county and city fire departments. As such, all chemicals used during construction of the proposed Project would be used and stored in compliance with applicable requirements. Compliance with applicable laws and regulations governing the use, storage, and transportation of hazardous materials would

[17]Complete references for all citations are in Chapter 8.

minimize the potential for significant safety impacts to occur. Therefore, impacts to the public through transport, use, or disposal of hazardous materials would be less than significant.

The Project is located within the Hemet-Ryan Airport Influence Area and, therefore, is subject to regulations governing issues such as development intensity, density, height of structures, and noise. SR 79 and the airport already exist, and the proposed Project would not result in any additional safety hazards for people residing or working in the area.

The design of the Project would ensure that no structures would be in conflict with safety zones in the Hemet-Ryan Airport Influence Area. Therefore, the impact is less than significant.

4.2.1.6 Hydrology and Water Quality (CEQA Checklist Questions VIX.b, VVIX.d, VIX.f, and VIX.h)

Construction of the proposed Project would not result in a depletion of groundwater supplies, and the proposed Project would not interfere with groundwater recharge. Even though the Project proposes to increase impervious surface area, the amount of impervious surface area compared to the area of the groundwater basin results in a negligible impact to groundwater recharge. Therefore, impacts to groundwater supplies would be less than significant.

The proposed Project would not substantially alter the existing drainage pattern of the site or area. Storm water conveyance facilities are required as part of the Project to ensure proper onsite drainage for the Project and maintain existing offsite water flows in the Project area. The existing drainage patterns would be maintained by the storm water conveyance facilities. Therefore, the proposed Project is not expected to have a significant impact associated with altering the existing drainage pattern of the area and would not result in flooding onsite or offsite.

The proposed Project would include the construction of a new roadway alignment within a 100-year floodplain, but the existing flow would be maintained by the proposed drainage conveyance facilities. The proposed Project would not substantially alter the existing drainage pattern of the site or area. Storm water conveyance facilities are required as part of the Project to ensure proper onsite drainage for the Project and maintain existing offsite water flows in the Project area. The existing drainage patterns would be maintained by the storm water conveyance facilities. Therefore, the proposed Project is not expected to have a significant impact associated with impeding or redirecting flood flows within a 100-year flood hazard area.

4.2.1.7 Land Use and Planning (CEQA Checklist Question X.c)

The proposed Project would be within the boundaries of the MSHCP and the Stephens' Kangaroo Rat HCP. These plans are described in Section 3.1.1.2 (Volume 1, page 3-27), and a discussion of the Project's consistency with these plans is provided in Section 3.3 (page 3-437). Because the Project would be consistent with the criteria in these HCPs, the impact would be less than significant.

4.2.1.8 Transportation/Traffic (CEQA Checklist Questions XVI.a, XVI.b, XVI.c, XVI.d, and XVI.g)

Build Alternative Traffic Volume

The 2035 forecast daily volumes on SR 79 range from 41,500 to 68,800, which are consistent with a freeway facility with an LOS C capacity of 61,200. Realigned SR 79 is projected to operate at LOS C or better along the entire length of the Project in 2035, with two exceptions. The segments between Newport Road and Domenigoni Parkway and between Domenigoni Parkway and Stetson Avenue are projected to operate at LOS D. The projected SR 79 volumes substantially exceed the capacity of an expressway. The capacity for a four-lane expressway at LOS C is 32,700 average daily traffic (ADT). The new SR 79 alignment would exceed this capacity in 2035. Construction of the Project would improve the operations on parts of several arterial streets, Winchester Road, Florida Avenue, and Sanderson Avenue, from LOS F to LOS D or better. Therefore, impacts would be less than significant.

Build Alternative Intersection Analysis

With construction of the Build Alternative, 7 of the 12 deficient intersections would improve to an acceptable LOS (LOS C or better), and 4 are projected to operate at LOS D, E, or F in the 2035 Build Alternative. One deficient intersection would be eliminated under the Build Alternative (Sanderson/Ramona Expressway). The remaining intersections would operate at LOS C or better. The following intersections would operate at an unacceptable LOS under the 2035 Build Alternative traffic conditions:

- Sanderson Avenue and Stetson Avenue – AM and PM peak hours (LOS D)
- Sanderson Avenue and Florida Avenue – AM and PM peak hours (LOS D and E)
- San Jacinto Street and Florida Avenue – PM peak hour only (LOS D)
- San Jacinto Street and Main Street and Ramona Boulevard – AM and PM peak hours (LOS E and F)

Assuming the planned ramp configurations at each freeway/arterial interchange, the SR 79 ramp terminal intersections at each freeway/arterial interchange are projected to operate at LOS C or better in the peak hour at all locations; therefore, no mitigation measures are needed.

Design elements for the proposed Project to improve safety should separate local and regional traffic and reduce the volumes on the existing alignment, which is expected to decrease the total number of accidents. The Project would reduce the volumes on the existing alignment by approximately 30 percent on average (calculation based on a comparison of the 2035 No Build and 2035 Build average daily traffic volumes on existing SR 79 from Table 3.1-48 [Volume 1, page 3-187] and Table 3.1-50 [Volume 1, page 3-191]). Also, keeping truck traffic and oversize vehicles off local roads would improve the safety and preserve the pavement structure of these local roads. Under Build Alternatives 1a and 1b, the Project would improve circulation on several arterial streets, along Winchester Road, Florida Avenue, and Sanderson Avenue, from level of service (LOS) F to LOS D or better. Build Alternatives 2a and 2b would show the same LOS and traffic volume improvements, except on Florida Avenue. The relocation of the Esplanade Avenue interchange would change operations at Florida Avenue, and the southbound ramps would remain at LOS D during the morning peak hour. However, as a result of the Traffic

Analysis of 2009, the Project would include construction of ramp configurations at the ramp terminal intersections at each freeway/arterial interchange that are projected to operate at LOS C or better in the peak hour. Therefore, impacts to traffic load and capacity would be less than significant.

The Project would result in an overall improvement of the LOS in the Project area. Without the Project, this area would operate at LOS D or worse with the projected daily volumes for 2035. Construction of the Project would improve operations on SR 79 by relieving congestion and improving intersection operations. Therefore, impacts to LOS and overall congestion during Project construction and operations would be beneficial and a less than significant impact.

The Project would not constitute a new obstruction to navigable air space and would not create potentially significant air-traffic-related impacts. Design features identified for the Project are not expected to increase hazards, and all are compatible with current highway standards. The overall improvement to congestion and intersection operations is expected to decrease the number of accidents. In addition, to avoid potential roadway hazards during construction, the work area would be delineated with lane closure devices approved by Department traffic standards or other approved traffic control standards following the governing agency request, using such guidance as necessary from the *Manual of Uniform Traffic Control Devices* and *Work Area Traffic Control Handbook.* Therefore, impacts to vehicle, pedestrian, and bicycle safety as a result of construction and operation of the proposed Project would be less than significant.

The Project would be constructed as a limited access expressway with a State Route designation. Alternative transportation facilities typical of local roadways, such as bus routes, turnouts, and bicycle racks, would not be associated with the Project. Therefore, impacts would be less than significant.

4.2.1.9 Utilities and Service Systems (CEQA Checklist Question XVII.d)

Limited quantities of water are anticipated to be needed for dust control during construction and for irrigation during operation. Sufficient water supplies are expected to be available for these activities. Potable water is not required for irrigation or dust control activities, and several sources of gray water (nonpotable) are available in the Project vicinity, such as from the Eastern Municipal Water District facilities. The Project would not require a permanent, municipal water supply and would not require new or expanded water entitlements. Therefore, impacts to water supplies would be less than significant.

4.2.2 Significant Environmental Effects of the Proposed Project

Most of the significant environmental effects of the proposed Project can be avoided, minimized, and/or mitigated to below a level of significance based on the measures identified throughout Chapter 3. Those measures are itemized in the Environmental Commitments Record (ECR) in Appendix E. Specific avoidance, minimization, and mitigation measures are discussed briefly in this section and in Section 4.3 (page 4-89). This section presents impacts that are less than significant with mitigation incorporated. Significant adverse impacts that cannot be mitigated to below a level of significance are discussed in Section 4.2.3 (page 4-32).

4.2.2.1 Aesthetics (CEQA Checklist Question I.d)

Glare associated with windshields and reflective construction equipment and materials would be present during Project construction. However, this impact would be temporary in nature and would be limited to the local Project area.

The Project is within the area of light pollution influence of Mount Palomar Observatory, located approximately 35 kilometers (km) (22 miles [mi]) to the south. Light leakage and spillage from nighttime operation of the Project could interfere with the operations of the observatory. However, impacts would be less than significant after the implementation of mitigation measure VIS-29.

4.2.2.2 Biological Resources (CEQA Checklist Question IV.b)

Sensitive Natural Communities and Critical Habitat

Permanent Impacts

The Project would result in permanent direct and indirect impacts to nine sensitive natural community types—alkali grassland, alkali playa, cottonwood-willow riparian forest, emergent wetland, mulefat scrub, Riversidian sage scrub, seasonal wetland, vernal pool, and willow riparian scrub and forest. Sensitive natural plant communities are limited within the PIA. Sensitive natural plant communities are infrequent in the 30.5-m (100-ft) indirect impact area, but they are present in Additional Indirect Impact Study Area 1, which includes the Metropolitan Water District of Southern California (MWD) Upper Salt Creek Reserve and the Stowe Road Vernal Pool Complex, as well as Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve.

For this analysis, all areas that support natural communities inside the PIA were considered to be permanently lost as a result of building and operating the roadway. Direct impacts to natural communities, such as permanent loss of habitat, are those impacts that can be expected from the removal and disturbance of the land that are associated with construction and operation. Indirect impacts would result from the Project, be reasonably foreseeable, and could occur later or would be farther away from the Project than direct impacts. For this analysis, permanent indirect impacts could include alteration of wetland hydrology or the establishment or encroachment of invasive plants that eventually outcompete native species or degrade habitat quality. Permanent indirect impacts could occur within the 30.5-m (100-ft) indirect impact area adjacent to the PIA or within Additional Indirect Impact Study Areas 1 and 2.

In general, the number of sensitive natural communities impacted by Build Alternatives 2a and 2b would be larger than the same types of impacts associated with Build Alternatives 1a and 1b because Build Alternatives 2a and 2b would include Additional Indirect Impact Study Area 1, which encompasses the Stowe Road Vernal Pool Complex.

Final revised critical habitat for spreading navarretia (*Navarretia fossalis*) was issued by the USFWS on November 8, 2010. The boundary of the critical habitat encompasses portions of the Project. The proposed Project would result in permanent direct and indirect impacts to spreading navarretia critical habitat (Figure 3.3-50 [Section 3.3]).

No Build Alternative

No Project-related impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

Build Alternative 1a

Build Alternative 1a would cause permanent impacts, both direct and indirect, to eight types of sensitive natural communities. Permanent direct impacts to alkali grassland from Build Alternative 1a would total 9.8 ha (24.3 ac). Another 4.9 ha (12.0 ac) of alkali grassland in the 30.5-m (100 ft) indirect impact area adjacent to the PIA could also be affected.

Permanent direct impacts to natural communities that are typically found in mesic areas (areas characterized by a moderate amount of moisture) would include 0.002 ha (0.01 ac) of alkali playa, 2.9 ha (7.2 ac) of seasonal wetland, and 0.8 ha (2.0 ac) of vernal pool. Another 0.03 ha (0.07 ac) of alkali playa, 2.1 ha (5.2 ac) of seasonal wetlands, and 0.3 ha (0.6 ac) of vernal pool in the 30.5-m (100-ft) indirect impact area could be permanently affected. Permanent indirect impacts could also occur to 0.2 ha (0.5 ac) of emergent wetland vegetation just west of the EMWD Regional Water Reclamation Facility.

Riparian plant communities (willow riparian scrub and forest, cottonwood-willow riparian forest, and mulefat scrub) would be limited to the northern extent of the Build alternative, near North Ramona Boulevard and south of the San Jacinto River. In this area, permanent direct impacts could occur to 0.5 ha (1.3 ac) of cottonwood-willow riparian forest, 0.004 ha (0.01 ac) of mulefat scrub, and 1.0 ha (2.4 ac) of willow riparian habitat. Another 0.2 ha (0.6 ac) of cottonwood-willow riparian forest and 0.6 ha (1.4 ac) of willow riparian habitat could be permanently, indirectly impacted by Build Alternative 1a. A total of 50.5 ha (124.8 ac) of Riversidian sage scrub in the hills south of Domenigoni Parkway, the West Hemet Hills, and along the base of the Tres Cerritos Hills could be permanently and directly impacted. Another 9.2 ha (22.7 ac) of Riversidian sage scrub in these areas could be permanently, indirectly impacted as well.

Permanent, direct impacts to spreading navarretia critical habitat in USFWS Unit 6: Riverside Management Area, Subunit 6B. Salt Creek Seasonally Flooded Alkali Plain would total 0.9 ha (2.3 ac), and indirect impacts would total 1.0 ha (2.4 ac) from Build Alternative 1a. As described in Section 3.3.5.2 (page 3-635), the spreading navarretia critical habitat in the impact area of Build Alternative 1a does contain primary constituent elements as defined in the Federal Register. However, the portion of critical habitat in Build Alternative 1a is unoccupied. Based on the absence of spreading navarretia, the functions and values of this portion of critical habitat is low.

Build Alternative 1b and Design Option 1b1

Build Alternative 1b (and Design Option 1b1) would have permanent direct impacts to seven sensitive natural community types and permanent indirect impacts to nine sensitive natural community types. Permanent direct impacts to the alkali grassland natural community would total 6.5 ha (16.1 ac). Permanent indirect impacts could occur to another 3.6 ha (8.8 ac) of alkali grassland in the 30.5 m (100 ft) indirect impact area. Because the design option would differ only in impacts to nonsensitive communities (annual grassland, developed, and ruderal), those impacts are presented in Table 3.3-3 (page 3-471).

A total of 0.002 ha (0.01 ac) of alkali playa, 3.3 ha (8.2 ac) of seasonal wetland, and 0.004 ha (0.01 ac) of vernal pool could be permanently and directly impacted by this Build alternative. Permanent indirect impacts could occur to another 0.06 ha (0.2 ac) of alkali playa, 1.9 ha (4.8 ac) of seasonal wetlands, and 0.3 ha (0.8 ac) of vernal pool in the 30.5-m (100-ft) indirect impact area. Permanent indirect impacts to 0.1 ha (0.2 ac) of emergent wetland vegetation could occur in the 30.5-m (100-ft) indirect impact area east of Sanderson Avenue and north and south of Scott Street.

Riparian habitats would be present in the northern part of this Build alternative. Permanent direct impacts to 0.5 ha (1.2 ac) of cottonwood willow riparian forest and 1.0 ha (2.4 ac) of willow riparian habitat would occur from construction. Another 0.3 ha (0.7 ac) of cottonwood willow riparian forest, 0.004 ha (0.01 ac) of mulefat scrub, and 0.9 ha (2.2 ac) of willow riparian habitat could be permanently and indirectly impacted.

Large stands of Riversidian sage scrub are present in the hills south of Domenigoni Parkway, West Hemet Hills, and along the base of Tres Cerritos Hills. Permanent direct impacts to 47.9 ha (118.3 ac) of Riversidian sage scrub and permanent indirect impacts to 9.3 ha (22.9 ac) could occur in these areas.

Permanent, direct and indirect impacts to spreading navarretia critical habitat would be the same for Build Alternative 1b (and Design Option 1b1) as shown for Build Alternative 1a.

Build Alternative 2a

Build Alternative 2a would have direct and indirect impacts to nine types of sensitive natural communities. Permanent direct impacts to alkali grassland from Build Alternative 2a would total 10.0 ha (24.7 ac). Another 12.9 ha (31.8 ac) of alkali grassland in the 30.5-m (100-ft) indirect impact area and in Additional Indirect Impact Study Area 1 could be permanently and indirectly impacted as well.

A total of 0.002 ha (0.01 ac) of alkali playa, 3.0 ha (7.3 ac) of seasonal wetland, and 0.004 ha (0.01 ac) of vernal pool could be permanently and directly impacted by construction. Permanent indirect impacts to another 0.1 ha (0.2 ac) of alkali playa, 2.0 ha (5.0 ac) of seasonal wetlands, and 1.3 ha (3.3 ac) of vernal pool in the 30.5-m (100-ft) indirect impact area and in Additional Indirect Impact Study Area 1 could occur if supporting wetland hydrology is altered from existing conditions. Permanent indirect impacts to 0.2 ha (0.5 ac) of emergent wetland vegetation could also occur in the 30.5 m (100-ft) indirect impact area, just west of the EMWD Regional Water Reclamation Facility.

Riparian plant communities that would be permanently, directly impacted include 0.5 ha (1.3 ac) of cottonwood-willow riparian forest, 0.004 ha (0.01 ac) of mulefat scrub, and 1.0 ha (2.4 ac) of willow riparian habitat. Another 0.2 ha (0.6 ac) of cottonwood-willow riparian forest habitat and 0.6 ha (1.4 ac) of willow riparian vegetation could be permanently, indirectly impacted.

Riversidian sage scrub is present in the hills south of Domenigoni Parkway, West Hemet Hills, and along the base of Tres Cerritos Hills. A total of 40.9 ha (101.0 ac) of Riversidian sage scrub in these areas would be permanently and directly impacted, and 25.4 ha (62.7 ac) could be permanently and indirectly impacted.

Permanent, direct impacts to spreading navarretia critical habitat in Subunit 6B. Salt Creek Seasonally Flooded Alkali Plain would total 1.0 ha (2.4 ac), and permanent, indirect impacts would be 134.1 ha (331.3 ac) from Build Alternative 2a. As described in Section 3.3.5.2 (page 3-635), the spreading navarretia critical habitat located in the impact area of Build Alternative 2a does contain primary constituent elements as defined in the Federal Register. The critical habitat in Additional Indirect Impact Area 1 of Build Alternative 2a is occupied (see Figure 3.3-38 [Section 3.3]) and, therefore, has high value. Consequently, Build Alternative 2a could significantly affect spreading navarretia critical habitat through indirect impacts to existing hydrology. However, these indirect impacts to the spreading navarretia populations would be mitigated by measure BIO-34, which would maintain hydrology in the critical habitat area.

Build Alternative 2b and Design Option 2b1

Build Alternative 2b (and Design Option 2b1) would have permanent impacts, both direct and indirect, to nine sensitive natural community types. Build Alternative 2b would result in slightly fewer impacts to alkali grassland habitat than Build Alternative 2a. Aside from that difference, the amount of sensitive natural habitat permanently directly and indirectly impacted by Build Alternative 2b would be similar to Build Alternative 2a. A total of 6.4 ha (15.8 ac) of alkali grassland would be permanently and directly impacted, and another 11.2 ha (27.6 ac) of alkali grassland could be permanently and indirectly impacted by this Build alternative. Because the design option would differ only in impacts to nonsensitive communities (annual grassland, developed, and ruderal), those impacts are presented in Table 3.3-3 (page 3-471).

A total of 0.002 ha (0.01 ac) of alkali playa, 3.4 ha (8.4 ac) of seasonal wetland, and 0.8 ha (2.0 ac) of vernal pool could be permanently and directly impacted by construction. Another 0.03 ha (0.07 ac) of alkali playa, 2.0 ha (5.0 ac) of seasonal wetlands, and 1.3 ha (3.2 ac) of vernal pool in the 30.5 m (100-ft) indirect impact area and in Additional Indirect Impact Study Area 1 could be permanently and indirectly impacted if the supporting wetland hydrology is altered from the existing condition. Permanent indirect impacts to a small amount (0.09 ha [0.2 ac]) of emergent wetland vegetation could also occur.

Riversidian sage scrub is present in the hills south of Domenigoni Parkway, north of Stowe Road on the lower and upper slopes of the West Hemet Hills, and along the base of the Tres Cerritos Hills. A total of 38.3 ha (94.5 ac) of Riversidian sage scrub in these areas would be permanently and directly impacted, and 25.5 ha (62.9 ac) could be permanently and indirectly impacted.

Riparian plant communities that would be permanently, directly impacted include 0.5 ha (1.2 ac) of cottonwood-willow riparian forest and 1.0 ha (2.4 ac) of willow riparian habitat. Another 0.3 ha (0.7 ac) of cottonwood-willow riparian forest, 0.004 ha (0.01 ac) of mulefat scrub habitat, and 0.9 ha (2.2 ac) of willow riparian vegetation could be permanently, indirectly impacted as well.

Permanent, direct and indirect impacts to spreading navarretia critical habitat would be the same with Build Alternative 2b (and Design Option 2b1) as Build Alternative 2a.

Temporary Impacts

Potential temporary impacts to sensitive natural communities would be the same for all Build alternatives and design options. These temporary impacts could include hydrologic alternations, erosion, or sedimentation. Invasive plant species could also establish in the construction area and spread into sensitive areas outside the PIA. Best management practices (BMPs) would be implemented during construction to minimize the potential impacts to offsite natural plant communities. BMPs would include monitoring by qualified biologists during construction, as described in Section 3.3.1.4 (page 3-497).

Avoidance, Minimization, and Mitigation Measures

The following measures will be incorporated into the Project for impacts to sensitive natural communities and critical habitat for spreading navarretia.

Avoidance Measures

The Build alternatives and design options have been designed to avoid permanent direct and indirect impacts to sensitive natural communities as much as possible. During the initial scoping phase of the Project, input from resource agencies was solicited and incorporated into the Build alternatives siting process. Build alternatives were eliminated from further analysis if they were sited in prominent sensitive vernal pool, alkali playa, or alkali grassland habitats and would have resulted in considerable permanent direct and indirect impacts to natural plant communities and multiple species of special-status plants.

All construction activities, including hauling and storage, will take place within the ROW for all Build alternatives and design options; therefore, additional temporary, direct impacts to natural communities will be avoided.

Avoidance measure BIO-28, for special-status plant species and the federally listed vernal pool branchiopod, would also apply to spreading navarretia critical habitat. A contractor-supplied biological monitor with knowledge of wetland ecology and rare plants will demark the location of the ESA fence in the field and on construction drawings and plans and will supervise the ESA fence installation. The biological monitor will also inspect the ESA fencing regularly during construction and will coordinate with the Resident Engineer if fence repairs should be required.

Minimization Measures

All Build alternatives will incorporate measures BIO-1 through BIO-10 to comply with all MSHCP guidelines related to minimizing impacts to sensitive natural communities within or adjacent to the MSHCP Conservation Area.

Mitigation Measures

Mitigation ratios and measures will be defined after identification of the Preferred Alternative and during the permitting process for impacts to riparian habitat.

4.2.2.3 Cultural Resources (CEQA Checklist Questions V.a, V.b, and V.c)

Cultural resources impacts associated with the Project would be similar regardless of the Build alternative implemented. Therefore, unless otherwise noted, this discussion is presented for the collective Project, as opposed to a specific Build alternative. Because the evaluation of impacts to cultural resources under CEQA is being conducted in conjunction with the Section 106 process under the National Historic Preservation Act (NHPA), and that process is being phased, CEQA evaluations are not complete. Thus, findings presented in the CEQA Checklist (Appendix A) are considered preliminary. Additional historical resources could be identified during subsequent evaluations, in which case those would be addressed in the Final EIR/EIS and revised CEQA Checklist (see Section 3.1.8.2 [Volume 1, page 3-251] for an explanation of the phased approach being utilized for the Project).

In accordance with the plan for phasing cultural resource evaluations, 14 resources have thus far been evaluated for the Project for NHPA (Section 106) and CEQA purposes. Twelve of the 14 resources that were evaluated in the Historic Property Survey Report (June 2010), are not eligible for the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR). Because the resources were determined not to be historical resources, the Project would have no impact on them, and they are not discussed further in this section.

The remaining two resources, the CBJ Dairy and the Colorado River Aqueduct (CRA), are considered historical resources for the purposes of CEQA. Because it is also considered a historic resource in the context of Section 106, impacts to the CRA are discussed in Section 3.1.8.3 (Volume 1, page 3-262); only the CEQA determination for the CBJ Dairy is presented in this section, below.

An additional resource, historical archaeological site CA-RIV-6907/H, was not formally evaluated, but will be presumed NRHP/CRHR eligible and protected in place by an Environmentally Sensitive Area (ESA). Therefore, impacts to site CA-RIV-6907/H would be less than significant after mitigation. Site CA-RIV-6907/H is discussed further in Section 3.1.8 (Volume 1, page 3-249).

Twelve of the 14 resources that were evaluated in the Historic Property Survey Report (June 2010) are not eligible for the NRHP or the CRHR. Because the resources were determined not to be historical resources, the Project would have no impact on them, and they are not discussed further in this section.

Since the CRA is also a historic property in the context of the Section 106 process and because the Section 106 effect finding has been deferred until after identification of the Preferred Alternative, the CEQA determination for the CRA is also deferred and will be presented in the Supplemental Draft EIR/EIS. Evaluations for the remaining 28 archaeological resources have been deferred until a Preferred Alternative is identified. Therefore, CEQA impacts for these 28 cultural resources cannot be determined at this time. Per 23 CFR 774.13 (a)(1), the Department will evaluate and make its effect determination through consultation under 36 CFR 800.5 with the SHPO. This determination will be made after identification of the Preferred Alternative, in conjunction with SHPO concurrence with the other cultural resource consultation, prior to the Final EIR/EIS, and will be presented in the Supplemental Draft EIR/EIS.

The CBJ Dairy (P-33-15752)

The CBJ Dairy (P-33-15752) appears to meet the California Office of Historical Preservation (OHP) standards and will be considered a historical resource for the purposes of CEQA pursuant to Section 15064(a)(2)-(3) of the CEQA guidelines and 14 CCR 4852. The resource is associated with events that have made a significant contribution to the development of the San Jacinto Valley Dairy industry in the early 1960s, and is therefore eligible under Criterion 1 for the CRHR. The resource also meets 14 CCR 4852(d)(2) regarding special considerations for historical resources achieving significance within the past 50 years because the period of significance extends from 1959 to 1965.

According to CEQA guidelines 15064.5(b), a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. Substantial adverse change in the significance of an historical resource, also defined in PRC 5020.1(q), means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. The significance of a historical resource is materially impaired when a project would result in the destruction of a historical resource's characteristics when those characteristics justify the historical resource for inclusion in, or eligibility for, the CRHR, inclusion in a local register (if designated under local ordinance or resolution), or identification as significant in a local survey that meets OHP standards.

The CBJ Dairy is located on three contiguous parcels. Contributing elements, those elements of the resource that contribute to its significance, include the barn, three houses, elliptical driveway, landscaping, hay shelter, fields, and other ancillary dairy structures that were constructed during the resource's period of significance. Most of these structures are located in the west-center of the property. The easternmost portion of the property would be in the Project Impact Area (PIA). The easternmost portion of the property is in areas proposed for the construction of roadway segments, a grade separated interchange, and construction culvers/drainages where the depth of disturbance should not exceed 3 meters (m) (10 feet [ft]). The portion of the resource potentially impacted includes predominantly vacant agricultural fields, trench silos, storage stockpile areas, and a hay shed. Because none of these minor elements contribute to the eligibility of the site as a whole, the Project will not have a direct impact on the property that would constitute a substantial adverse change. The Project would have an impact to the setting of the property (i.e., its immediate surroundings) due to incorporation of its eastern edge into the Project as well as due to the construction of a grade-separated interchange (8 m [27 ft] high). Because the property is important for its association with important events and not for its architecture, such changes to the setting of the property would not constitute a substantial impairment of the integrity of the property that would be considered adverse. Therefore, the Department has determined that the Project would have a less than significant impact on the resource.

Resources that Remain To Be Evaluated

Twenty-eight archaeological sites in the Project Area of Potential Effects (APE), which include 22 prehistoric sites, three historical archaeological sites, and three mixed component sites, have not been evaluated for the NRHP or CRHR at the present time, and the evaluation and effect assessment will be presented in the Final EIR/EIS. Therefore, CEQA evaluations for these resources are incomplete. Table 4.2-1 (page 4-17) lists the

28 archaeological sites that remain to be evaluated and their relationship to the Build alternatives, roadway segments, and Project design features. These sites are fairly equal in their distribution among the four Build alternatives:

- Build Alternative 1a: 17 archaeological sites
- Build Alternative 1b (and Design Option 1b1): 14 archaeological sites
- Build Alternative 2a: 16 archaeological sites
- Build Alternative 2b (and Design Option 2b1): 15 archaeological sites

Table 4.2-1 Archaeological Resources Not Yet Evaluated for the California Register of Historical Resources

Site Number	Description	Build Alternative/Design Option	Roadway Segment	Project Design Feature
CA-RIV-5461	3 outcrops, 9 slicks, 1 milling slab	1a,1b, 2a, 2b (including Design Options 1b1 and 2b1)	A, B	
CA-RIV-5462	9 outcrops with 18 slicks.	1a, 1b, 2a, 2b (including Design Options 1b1 and 2b1)	near A, B	
CA-RIV-5786	Prehistoric burial and associated accoutrements. Data recovery undertaken (1995); impacts were mitigated	1a, 2a	A	Bridges, Hydrology features; Grade-separated interchange
CA-RIV-5790	2 outcrops with 2 slicks	1a, 2a	A	
CA-RIV-5791	5 outcrops/exposures with 9 slicks	1a, 2a	A	Roadway segment; Grade-separated interchange
CA-RIV-5829/H	3 bedrock outcrops/exposures with 5 milling surfaces (prehistoric component only)	1a, 2a	A	Roadway segment
CA-RIV-5830	2 outcrops with 2 slicks	1a, 2a	near A	
CA-RIV-7885	1 outcrop with 1 slick	1a	G	Roadway segment
CA-RIV-7887	1 outcrop with 1 slick	1a	G	Roadway segment
CA-RIV-7888	4 outcrops with 5 slicks	2a, 2b (including Design Option 2b1)	H	
CA-RIV-7891	2 outcrops with 3 slicks	2a, 2b (including Design Option 2b1)	H	
CA-RIV-7893	2 outcrops with 2 slicks	1a, 1b (including Design Option 1b1)	G	
CA-RIV-7894/H	2 outcrops with 2 slicks (prehistoric component only)	2a, 2b (including Design Option 2b1)	H	Bridges
CA-RIV-7907	8 outcrops with 13 slicks	1a, 2a	A	Roadway segment
CA-RIV-7908	6 outcrops with 8 slicks	1a, 2a	A	Roadway segment; Grade-separated interchange
CA-RIV-8140	2 outcrops with 4 slicks	1b, 2b (including Design Options 1b1 and 2b1)	B	
CA-RIV-8141	6 outcrops with 6 slicks	1b, 2b (including Design Options 1b1 and 2b1)	B	
CA-RIV-8142	2 outcrops and 1 granite exposure with 5 slicks	1b, 2b (including Design Options 1b1 and 2b1)	B	
CA-RIV-8143	3 outcrops with 4 slicks	1b, 2b (including Design Options 1b1 and 2b1)	Near B	
CA-RIV-8146	2 outcrops with 3 slicks	1a, 2a	Near A	
CA-RIV-8147	1 outcrop with 2 slicks	1b, 2b (including Design Options 1b1 and 2b1)	B	

Table 4.2-1 Archaeological Resources Not Yet Evaluated for the California Register of Historical Resources

Site Number	Description	Build Alternative/Design Option	Roadway Segment	Project Design Feature
CA-RIV-8148	1 outcrop with 15 slicks	1b, 2b (including Design Options 1b1 and 2b1)	Near B	
CA-RIV-8156H	Surficial deposit of glass and ceramics	1b, 2b (including Design Options 1b1 and 2b1)	B	Bridges; Hydrology facilities
CA-RIV-8157H	Potential remnants of 1901 structure, rock alignments, eucalyptus trees	1a, 2a	A	
CA-RIV-8158H	Structural remains, concrete stand pipe	1a, 1b (including Design Option 2b1)	I, G, H, N	
CA-RIV-8160	1 outcrop with 3 slicks	1b, 2b (including Design Option 2b1)	B	
CA-RIV-8162/H	ca. 1880s–1950s refuse scatter (Newly identified prehistoric component will be discussed in the Supplemental HPSR)	1a, 1b, 2a, 2b (including Design Options 1b1 and 2b1)	J, K	Roadway segment
CA-RIV-8169	10 outcrops with 31 slicks	1a, 1b, 2a, 2b (including Design Options 1b1 and 2b1)	N, I	Local street improvement

Source: Historic Property Survey Report, June 2010

If any of these archaeological sites are found to qualify as historical resources during evaluation after identification of a Preferred Alternative, specific avoidance, minimization, and/or mitigation measures for the Project will be included in the Final EIR/EIS and CEQA Checklist to address any impacts. At a minimum, these would include data recovery by qualified professionals, analysis, reporting, and curation to ensure that impacts are reduced to a level that is less than significant (see CR-1 through CR-4 in Section 3.1.8.4 [Volume 1, page 3-266]).

4.2.2.4 Geology and Soils (CEQA Checklist Questions VI.a.iv and VI.d)

The hills to the west and east of the Project may be subject to rock fall, rock slides, or other rock slope failures. Embankment fills would be constructed that may be subject to slope instability or landslides. Impacts would be less than significant after implementation of mitigation measures GEO-4 and GEO-5 to address the potential for landslides.

Expansive soils may be present in the alluvial deposits and in weathered portions of the Cretaceous rock along the roadway segments. Expansive soils may be reduced through mitigation. However, even with mitigation, expansive soils are still considered a potentially significant impact, but impacts would be less than significant after implementation of mitigation measure GEO-5 to address expansive soils.

4.2.2.5 Hazards and Hazardous Materials (CEQA Checklist Questions VIII.b, VIII.d, VIII.g, and VIII.h)

The Project vicinity contains areas of recognized environmental conditions that would be encountered. These sites include but are not limited to:

- Former Mobil gasoline station site located at 2070 North Sanderson Avenue
- Various agricultural areas

- Lands contaminated with aerially deposited lead
- Buildings identified for demolition that are constructed with asbestos-containing material or lead-based paint
- Lands with unknown or previously unidentified hazardous materials
- Areas of contaminated groundwater

Impacts associated with these hazardous sites would be less than significant after implementation of mitigation measures HAZMAT-1 through HAZMAT-5, which would address the potential release of hazardous materials into the environment.

Project construction could temporarily disrupt circulation patterns and affect the ability of fire and police to respond to emergency calls. Impacts would be less than significant after implementation of mitigation measure SERV-2. Permanent changes to circulation patterns would be addressed by measure SERV-1.

The Project would be located in a region surrounded by residences intermixed with naturally vegetated areas. The Project may expose people or structures to loss, injury, or death involving wildland fires because portions of the new roadway would be constructed in undeveloped areas adjacent to wildlands, where environmental conditions might present a high fire hazard. However, the risk of wildland fires would be less than significant after implementation of mitigation measure BIO-7.

4.2.2.6 Hydrology and Water Quality (CEQA Checklist Questions VIX.a, VIX.c, and VIX.e)

Temporary impacts could occur from the proposed Project during the construction phase. Temporary impacts would be associated with storm water quality and include the potential for increased sediment and pollutant loading to surface waters and groundwater from storm water surface runoff. Disturbance of soil from site grading, excavation, and modification to the landscape could increase the potential that storm water runoff could contribute sediments into receiving waters. Pollutant loading into receiving waters also could occur from accidental discharge of waste products during construction, such as petroleum byproducts from vehicles and equipment. These temporary impacts would be less than significant after incorporation of mitigation measure WQ-1.

Permanent impacts would result from increased storm water runoff from the Project site, due primarily to the increase in impervious ground cover. Potential water quality impacts include increased concentrations of any of the following types of pollutants entering surface waters or groundwater: total suspended solids, nutrients (nitrogen/phosphorus), pesticides, metals, pathogens, trash, biochemical oxygen demand, and total dissolved solids. However, implementation of mitigation measures WQ-1 through WQ-4 would protect water quality and reduce Project-related permanent impacts to less than significant.

The Project would not substantially alter the existing drainage pattern of the site or area. Storm water conveyance facilities are required as part of the Project to ensure proper onsite drainage for the Project and maintain existing offsite water flows in the Project area. The existing drainage patterns would be maintained by the storm water conveyance facilities. Mitigation measures WQ-1 through WQ-4 would further limit the movement of sediment onsite or offsite. Therefore, the proposed Project would have a less than significant impact associated with altering the existing drainage pattern of the area and would not result in substantial erosion or siltation onsite or offsite.

Runoff water could exceed the capacity of existing roadside ditches in the area. Even though existing roadside ditches already flood during current conditions, the Project could increase that flow even more. To mitigate potential runoff flow to less than significant, mitigation measure WQ-4 would be implemented. Specifically, detention basins and overflow risers would be designed such that pre-Project flow conditions would be maintained.

4.2.2.7 Land Use (CEQA Checklist Questions X.a and X.b)

CEQA Checklist Question X.a

The proposed SR 79 would be located in and adjacent to a number of communities defined for the Project: Winchester, Rural Winchester, Green Acres, Emerging Hemet, Tres Cerritos, Emerging San Jacinto, Emerging Sunrise, and Gateway Specific Plan/River.

The communities that would be traversed by the Project could be physically divided because the Project would require major overcrossing structures, for the Project roadway as it crosses over local streets and for local roads that cross over the Project roadway. In addition, noise barriers have been proposed as mitigation for noise impacts generated by the Project.

Winchester Community

Build Alternatives 1a and 2a would be located in agricultural, commercial/industrial, residential, rural residential, and services/facilities areas in the southeastern corner of the Winchester Community. Either of these Build alternatives would place a major transportation corridor in a small, rural community, but the roadway would be located along the eastern edge of residential development in the community. Therefore, the Project would not divide one part of the Winchester Community from another, and no impacts to community cohesion would occur.

Rural Winchester Community

The Build alternatives would traverse the central portion of the Rural Winchester Community, passing through agricultural, commercial/industrial, residential, rural residential, services/ facilities, and undeveloped areas. Build Alternatives 1a and 2a would require that access be terminated along SR 79/Winchester Road, north and south of Domenigoni Parkway. Build Alternative 1a would require that Connections 1 and 2 to Hemet Channel outside the Project ROW be established, and Build Alternative 2a would require that Connection 3 to Hemet Channel outside the Project ROW be established. All of the Build alternatives would require that access be terminated along East Grand Avenue and Milan Road, west of Stueber Lane. The Build alternatives would divide the community of Rural Winchester. However, the Project would not block any existing roadways that provide east-to-west vehicular access. In addition, to enhance nonvehicular community interaction, mitigation measure COM-1 would be implemented. Therefore, impacts would be less than significant.

Green Acres Community

All of the Build alternatives and design options would be located in the West Hemet Hills of Rural Winchester, which are east of the Green Acres Community. Therefore, none of the Build alternatives or design options would divide one part of the community from another, and no impacts would occur.

Emerging Hemet Community

The Build alternatives and design options would be located in the rural residential development of the Emerging Hemet Community, but along the edges of these existing developments. These residential areas are bordered on the east by existing geographic barriers to social interaction (Warren Road and the San Diego Canal). The Build alternatives would require the realignment of Warren Road and Tres Cerritos Avenue and modified local access from Warren Road to Maze Stone Court. They would also require Utility Relocation Area 1 to be established. However, the local street improvements would not impede access or mobility within the community. The utility relocations would occur in an area that is currently undeveloped and is geographically separated from residential development. Therefore, none of the Build alternatives or design options would divide one part of the community from another, and no impacts would occur.

Tres Cerritos Hills Community

The Build alternatives and design options would be located in a small area of agricultural land at the northwestern corner of the Tres Cerritos Hills Community and in undeveloped land along the western edge of the community. The Build alternatives would require the realignment of Warren Road and modified local access at Alabaster Drive/Esplanade Avenue. However, these local street improvements would not impede access or mobility within the community. In addition, none of the Build alternatives would be built in residential neighborhoods, but along the western edge of the community, which is surrounded by existing geographic barriers to social interaction, including Warren Road, Esplanade Avenue, and the Tres Cerritos Hills. Therefore, none of the Build alternatives or design options would divide one part of the community from another, and no impacts would occur.

Emerging San Jacinto Community

The Build alternatives would be located in a small area of agricultural land at the southeast corner of the Emerging San Jacinto Community. Immediately to the east, the Project would traverse the flat agricultural areas of the Emerging Sunrise Community and would be readily visible from the commercial area of Reflection Lake Recreational Vehicle Resort. Existing local access in the community would not be modified. Therefore, the Build alternatives would not divide one part of the community from another, and no impacts would occur.

Emerging Sunrise Community

Build Alternatives 1a and 2a would traverse the western portion of this community, and Build Alternatives 1b and 2b (including both design options) would traverse the eastern portion. The Build alternatives would require that access be modified at Alabaster Drive/Esplanade Avenue, the Casa Loma Canal, and Sanderson Avenue. However, these modifications would not impede access or mobility within the community. The Project would divide the community of Emerging Sunrise, but commercial and residential development, which is the most sensitive to the effects of dividing a community, is occurring away from the proposed alignments, east along Sanderson Avenue and south along Cottonwood Avenue. The closest residential development would be located immediately east of the Project, along Cottonwood Avenue, and is surrounded by agricultural lands that serve as barriers to social interaction with other residential parts of the Emerging Sunrise Community. Therefore, no significant impacts would occur.

Gateway Specific Plan/River Community

The Build alternatives would traverse the central portion of the Gateway Specific Plan/River Community in a north-to-south direction, through agricultural and undeveloped areas. The Project would require realignment of Sanderson Avenue and establishment of Utility Relocation Area 2.

The Build alternatives would divide the Gateway Specific Plan/River Community, but the new roadway would occur on an alignment similar to existing Sanderson Avenue, which serves as a barrier to community interaction. Rather than create a new barrier, the Project would effectively extend the width of existing Sanderson Avenue, which is currently over capacity and has only two travel lanes (one lane in each direction). Therefore, no significant impacts would occur.

CEQA Checklist Question X.b

Applicable land use plans include SCAG Regional Comprehensive Plan and Guide, SCAG Regional Transportation Plan, Riverside County General Plan, City of Hemet General Plan, and the City of San Jacinto General Plan.

Because the County of Riverside has not identified a Locally Preferred Alternative for the SR 79 Project in its General Plan or Area Plans, the Project would be inconsistent with Riverside County policies LU 6.1 and HVWAP 6.1 and 11.1. Implementation of mitigation measure LU-6 would reduce the impacts to less than significant.

The Project as currently defined is not addressed by the City of Hemet's 1992 General Plan; however, the Project has been closely coordinated with the City of Hemet in consideration of its ongoing growth and development. In 2008, the City adopted a Locally Preferred Alternative for the Project via City of Hemet Resolution No. 4216 (Hemet 2008). The portions of Build Alternatives 2a and 2b within City jurisdiction would be consistent with the Locally Preferred Alternative adopted by the City. Build Alternatives 2a and 2b would be generally consistent with the City of Hemet goals and policies that are applicable to the Project, but Build Alternatives 1a and 1b would not. Implementation of mitigation measures LU-1 and LU-3 would reduce the impacts from Build Alternatives 1a and 1b to less than significant.

The Project has been closely coordinated with the City of San Jacinto in consideration of its ongoing growth and development, and the portions of Build Alternatives 1b and 2b within City jurisdiction are identified in the City's general plan as its Locally Preferred Alternative. Build Alternatives 1b and 2b would be generally consistent with the City of San Jacinto goals and policies that are applicable to the Project, but Build Alternatives 1a and 2a would not. Implementation of mitigation measures LU-2 and LU-5 would reduce the impacts of Build Alternatives 1a and 2a to less than significant.

Although the Project has been closely coordinated with Riverside County, Design Option 2b1 would introduce a major highway into areas that are designated for uses that are generally incompatible with a major transportation facility. Building Design Option 2b1 would require the County to amend its general plan Land Use and Circulation elements to reflect the Project along this alignment.

Design Option 2b1 would include cul-de-sacs on Olive Avenue and Simpson Road. The access modifications to Olive Avenue and Simpson Road would permanently sever a County-designated "Collector" and "Major Roadway," respectively. This action would require coordination with Riverside County to assess appropriate actions related to the classification (or reclassification) of these roadways as part of the County's approved circulation system. Implementation of mitigation measure LU-6 would reduce the impacts to less than significant.

4.2.2.8 Noise and Vibration (CEQA Checklist Questions XII.a, XII.c, and XII.d)

All Project alternatives would realign SR 79 through corridors where there is currently no highway noise source. Consequently, both traffic noise impacts and construction noise impacts need to be investigated.

The appropriate CEQA noise threshold is the Caltrans definition for "substantial" – an increase in noise levels of 12 A-weighted decibels (dBA) or more above existing noise levels. Whether the substantial increase would result in a significant adverse effect is determined based on the context and intensity of the substantial noise increase, by comparing the existing noise level to the predicted noise level with the Project.

The CEQA noise analysis is independent of the Caltrans Traffic Noise Analysis Protocol/23 CFR 772 analysis discussed in Section 3.2.7, Noise and Vibration (Volume 1, page 3-378). Under the Caltrans Traffic Noise Analysis Protocol, traffic noise impacts were determined, feasible mitigation was developed, and a reasonability analysis was conducted. This process resulted in 22 barriers being recommended for further consideration.

- Noise Barriers 1A-E1 and 2A-F1
- Noise Barriers 1A-G1/1B-G2 and 2A-H1/2B-H1
- Noise Barriers 1A-L3/2A-L3
- Noise Barriers 1A-J2/2B-J2 and 1B-K3/2A-K3
- Noise Barriers 1B-M3/2B-M3 and 1A-L2/2A-L2
- Noise Barriers 1B-M4/2B-M4
- Noise Barriers 1B-N1/2B-N1
- Noise Barriers 1B-N2/2B-N2

Under CEQA, the assessment entails evaluating the setting of the noise impact, then estimating how large or perceptible any noise increase would be in the area. Key considerations include the uniqueness of the setting, the sensitive nature of the noise receivers, the magnitude of the noise increase, the number of residences affected, and the absolute noise level. As expected, the addition of a new highway would result in increases in ambient noise levels at many of the noise-sensitive locations along the various Build alternatives. The CEQA analysis of these increases is summarized below.

The appropriate CEQA threshold for construction noise is the limit established by the Caltrans Standard Specifications provision. Caltrans Standard Specifications, Section 14-8.02, Noise Control, establishes a noise level limit of 86 dBA at 50 feet from construction activities from 9:00 p.m. to 6:00 a.m. Other standards exist. The provisions established by Riverside County, Hemet, and San Jacinto are similar. Construction noise levels could exceed these thresholds intermittently and temporarily. However, with adherence to standard construction

procedures, the overall impact is expected to be less than significant. The CEQA analysis of these increases is summarized below.

CEQA Traffic Noise Analysis

Overall, the increases in traffic noise levels associated with the Build alternatives are considered to be substantial and would, therefore, result in significant permanent noise impacts. For mitigation under CEQA, each group of sensitive receivers was evaluated to determine whether mitigation is warranted. If a substantial increase in noise level (12 dBA above existing noise levels) was predicted, mitigation was considered. However, in accordance with CEQA, if any of the following metrics were present, CEQA-specific mitigation was not considered to be reasonable:

- A noise barrier is recommended for further consideration under the Caltrans Traffic Noise Analysis Protocol.
- The dwelling units potentially protected by mitigation do not exist; they are only in the planning process.
- Few affected dwelling units exist in the area.
- The affected dwelling units are in commercial or agricultural areas.
- The affected dwelling units are exposed to other substantial traffic noise sources.

Based on this evaluation, the only additional noise barrier recommended solely under CEQA is for the area associated with the private campground located in the southwestern quadrant of the Cottonwood Avenue/Warren Road intersection. Known as Reflection Lake or Cottonwood Lake, this is a private campground with recreational-vehicle storage and day-use picnic areas. Tent campers and recreational vehicles surround a small pond. Long-term residency may occur. The Caltrans Traffic Noise Analysis Protocol could not create a noise barrier that was both feasible (able to reduce noise levels) and reasonable (cost effective). CEQA is not constrained by these criteria. Under CEQA, Noise Barriers 1A-JL1, 1B-M2, 2A-L1, and 2B-M2 warrant further consideration. Consistent with CEQA, the setting is unique, the recreational nature of the site is sensitive to noise, the magnitude of the noise increase is large, and the number of affected users is substantial.

The rest of the impacted areas under CEQA either have a Caltrans Traffic Noise Analysis Protocol-recommended noise barrier or would not satisfy one or more of the CEQA criteria. For example, with Build Alternative 1a, several of the areas evaluated would not be expected to result in noise level increases of 12 dBA or more (1A-SCH1, 1A-G1, 1A-I2, and 1A-L2). Several of these areas have very few dwelling units (1A-SCH2, 1A-E2, 1A-E3, 1A-I1, 1A-J1, and 1A-J3). CEQA provides for the consideration of insulation of dwelling units where a low density of units makes a barrier unreasonable. This evaluation will be considered at the Preferred Alternative stage. Some areas would not be exceptionally sensitive because the current setting is commercial or agricultural (1A-E2, 1A-E3, and 1A-I1). Finally, several do not currently exist. They are in the planning stages and could be modified to mitigate noise within their own development plans (1A-J2, 1A-J3, and 1A-L3). The other Build alternatives and design options have similar outcomes. Table 4.2-2 (page 4-25) summarizes this analysis.

Table 4.2-2 Summary of CEQA Noise Analysis

Sensitive Receiver Area/ Noise Barrier	Critical Receiver	Total Number of Residences (Dwelling Units)	Location	Existing Noise Level Leq(h), dBA	Design Year Noise Level with Project Leq(h), dBA	Design Year Noise Level with Project Minus Existing Conditions Leq(h), dBA	CEQA Impact	CEQA Mitigation Requirement	Rationale
1A-SCH-1	1A-SCH.1*	1	Winchester Elementary School	67	73	6	No	–	–
1A-SCH-2	1A-SCH.2*	1	Private Daycare in Winchester	53	68	15	**Yes**	No	Few Affected Dwelling Units
1A-E1	1A-E3*	75	Winchester	50	71	21	**Yes**	No	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation
1A-E2	1A-E2.6*	7	Milan Road and Grand Avenue	40	68	28	**Yes**	No	Few Affected Dwelling Units/Commercial or Agricultural Setting
1A-E3	1A-E3.1*	2	Stowe Road	48	66	18	**Yes**	No	Few Affected Dwelling Units/Commercial or Agricultural Setting
1A-G1	1A-G1.9*	66	Roseland Mobile Home Estates at SR 74	76	77	1	No	–	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation
1A-I1	1A-I1.1*	4	Hyatt Avenue	41	71	30	**Yes**	No	Few Affected Dwelling Units/Commercial or Agricultural Setting
1A-I2	1A-I2.2*	21	Warren Road	62	65	3	No	No	Developer-built wall, added since NSR, reduces noise impacts
1A-J1	1A-J1.1*	3	Maze Stone Court	44	70	26	**Yes**	No	Few Affected Dwelling Units
1A-J2	1A-J2.1*	64	Seventh Street	44	71	27	**Yes**	No	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation/Development in Planning Stage (nonexistent)
1A-J3	1A-J3.1*	8	Esplanade Avenue	55	69	14	**Yes**	No	Few Affected Dwelling Units/Development in Planning Stage (nonexistent)
1A-JL1	1A-JL1.3*	23	Campground at Cottonwood Avenue	48	68	20	**Yes**	**Yes**	**Consideration of a Barrier under CEQA is Recommended for this Campground**
1A-L2	1A-L2.3*	43	Cottonwood Avenue	58	69	11	No	–	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation
1A-L3	1A-L3.8*	59	Ramona Boulevard	52	67	15	**Yes**	No	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation/Development in Planning Stage (nonexistent)
1B-B1	1B-B1.5*	6	Patterson Avenue	46	73	27	**Yes**	No	Few Affected Dwelling Units

Table 4.2-2 Summary of CEQA Noise Analysis

Sensitive Receiver Area/ Noise Barrier	Critical Receiver	Total Number of Residences (Dwelling Units)	Location	Existing Noise Level Leq(h), dBA	Design Year Noise Level with Project Leq(h), dBA	Design Year Noise Level with Project Minus Existing Conditions Leq(h), dBA	CEQA Impact	CEQA Mitigation Requirement	Rationale
1B-B2	1B-B2.2*	2	Winchester Road	72	76	4	No	–	–
1B-C1	1B-C1.5*	6	Milan Avenue	41	67	26	**Yes**	No	Few Affected Dwelling Units
1B-C2	1B-C2.1*	2	Stowe Road	48	66	18	**Yes**	No	Few Affected Dwelling Units
1B-G2	1B-G2.9*	66	Roseland Mobile Home Estates at SR 74	76	77	1	No	–	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation
1B-I1	1B-I1.1*	4	Hyatt Avenue	41	71	30	**Yes**	No	Few Affected Dwelling Units
1B-I2	1B-I2.2*	21	Warren Road	62	65	3	No	No	Developer-built wall, added since NSR, reduces noise impacts
1B-K2	1B-K2.4*	5	Maze Stone Court	49	68	19	**Yes**	No	Few Affected Dwelling Units
1B-K3	1B-K3.12*	64	Seventh Street	61	68	7	No	–	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation
1B-K4	1B-K4.1*	8	Esplanade Avenue	53	69	16	**Yes**	No	Few Affected Dwelling Units
1B-M2	1B-M2.3*	23	Campground at Cottonwood Avenue	48	68	20	**Yes**	**Yes**	**Consideration of a Barrier under CEQA is Recommended for this Campground**
1B-M3	1B-M3.3*	43	Cottonwood Avenue	58	69	11	No	–	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation
1B-M4	1B-M4.2*	84	Cawston Avenue	38	73	35	**Yes**	No	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation/Development in Planning Stage (nonexistent)
1B-M5	1B-M5.6*	18	Sanderson Avenue	66	74	8	No	–	–
1B-N1	1B-N1.6*	52	Ramona Boulevard	43	75	32	**Yes**	No	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation/Development in Planning Stage (nonexistent)
1B-N2	1B-N2.5*	60	Sanderson Avenue	46	75	29	**Yes**	No	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation/Development in Planning Stage (nonexistent)
2A-A3	2A-A3.1*	2	Winchester Road	72	75	3	No	–	–
2A-F1	2A-F1.8*	80	City of Winchester	50	69	19	**Yes**	No	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation

Table 4.2-2 Summary of CEQA Noise Analysis

Sensitive Receiver Area/ Noise Barrier	Critical Receiver	Total Number of Residences (Dwelling Units)	Location	Existing Noise Level Leq(h), dBA	Design Year Noise Level with Project Leq(h), dBA	Design Year Noise Level with Project Minus Existing Conditions Leq(h), dBA	CEQA Impact	CEQA Mitigation Requirement	Rationale
2A-SCH-1	2A-SCH.1*	1	Winchester Elementary School	67	73	6	No	–	–
2A-SCH-2	2A-SCH.2*	1	Private Daycare in Winchester	52	69	17	**Yes**	No	Few Affected Dwelling Units
2A-H1	2A-H1.9*	70	Roseland Mobile Home Estates at SR 74	76	77	1	No	–	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation
2A-I1	2A-I1.1*	4	Hyatt Avenue	41	71	30	**Yes**	No	Few Affected Dwelling Units
2A-I2	2A-I2.2*	21	Warren Road	62	65	3	No	–	Developer-built wall, added since NSR, reduces noise impacts
2A-J3	2A-J3.1*	8	Esplanade Avenue	55	70	15	**Yes**	No	Few Affected Dwelling Units
2A-K2	2A-K2.4*	5	Maze Stone Court	49	68	19	**Yes**	No	Few Affected Dwelling Units
2A-K3	2A-K3.2*	64	Seventh Street	43	65	22	**Yes**	No	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation
2A-L1	2A-L1.3*	23	Campground at Cottonwood Avenue	54	61	13	**Yes**	**Yes**	**Consideration of a Barrier under CEQA is Recommended for this Campground**
2A-L2	2A-L2.3*	43	Cottonwood Avenue	58	69	11	No	–	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation
2A-L3	2A-L3.8*	59	DeAnza Avenue	52	67	15	**Yes**	No	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation/Development in Planning Stage (nonexistent)
2B-B1	2B-B1.5*	6	Patterson Avenue	48	73	25	**Yes**	No	Few Affected Dwelling Units
2B-B2	2B-B2.2*	2	Winchester Road	72	76	4	No	–	–
2B-D2	2B-D2.1*	1	Simpson Road	59	68	9	No	–	–
2B-D4	2B-D4.1*	1	Simpson Road	67	70	3	No	–	–
2B-H1	2B-H1.9*	70	Roseland Mobile Home Estates at SR 74	76	77	1	No	–	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation
2B-I1	2B-I1.1*	4	Hyatt Avenue	41	71	30	**Yes**	No	Few Affected Dwelling Units
2B-I2	2B-I2.2*	21	Warren Road	62	65	3	No	–	Developer-built wall, added since NSR, reduces noise impacts

Table 4.2-2 Summary of CEQA Noise Analysis

Sensitive Receiver Area/ Noise Barrier	Critical Receiver	Total Number of Residences (Dwelling Units)	Location	Existing Noise Level Leq(h), dBA	Design Year Noise Level with Project Leq(h), dBA	Design Year Noise Level with Project Minus Existing Conditions Leq(h), dBA	CEQA Impact	CEQA Mitigation Requirement	Rationale
2B-J1	2B-J1.1*	3	Maze Stone Court	45	71	26	**Yes**	No	Few Affected Dwelling Units
2B-J2	2B-J2.1*	64	Seventh Avenue	43	71	28	**Yes**	No	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation/Development in Planning Stage (nonexistent)
2B-J3	2B-J3.1*	8	Esplanade Avenue	55	70	15	**Yes**	No	Few Affected Dwelling Units
2B-M2	2B-M2.3*	23	Campground at Cottonwood Avenue	48	68	20	**Yes**	**Yes**	**Consideration of a Barrier under CEQA is Recommended for this Campground**
2B-M3	2B-M3.7*	37	Cottonwood Avenue	58	69	11	No	–	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation
2B-M4	2B-M4.2*	84	Cawston Avenue	38	73	35	**Yes**	No	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation/Development in Planning Stage (nonexistent)
2B-M5	2B-M5.6*	18	Sanderson Avenue	66	74	8	No	–	–
2B-N1	2B-N1.10*	52	Ramona Avenue	45	75	30	**Yes**	No	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation/Development in Planning Stage (nonexistent)
2B-N2	2B-N2.5*	60	Sanderson Avenue	46	75	29	**Yes**	No	Caltrans Traffic Noise Analysis Protocol Barrier Recommendation/Development in Planning Stage (nonexistent)

Source: Noise Study Report, July 2010

Note: NSR = Noise Study Report

CEQA Construction Noise Analysis

Noise levels generated by construction activities and machinery during the construction phases of the Project would be expected to exceed the 86-dBA significance threshold.

Two types of construction noise impacts are expected during construction. First, construction crews will move equipment and materials to the construction site. This would incrementally increase noise levels on roads leading to the site. A relatively high level of exposure can be expected (i.e., up to 87 maximum sound level [L_{max}] dBA at 50 feet) from passing trucks. The second type of construction noise is generated during excavation, grading, and building operations. Construction involves a variety of equipment and, consequently, a variety of noise characteristics. Typical noise levels range up to 91 dBA L_{max} at 50 feet during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels because of the prevalence of earthmoving equipment. The highest volumes will be intermittent because the typical operating cycle for this type of equipment involves full-power operation followed by periods of lower power operation.

Compliance with existing noise control ordinances would reduce construction noise impacts. The noise control policies for the Project's construction activities include:

- Minimization of high-noise construction equipment adjacent to sensitive land uses
- Establishment of hours of operation
- Use of current noise suppression technology and equipment
- Location of noise equipment away from sensitive receptors
- Use of temporary noise attenuation fences, when applicable
- Route construction traffic to minimize disruption to residences and existing operations
- Construction scheduling limitations should depend on the sensitivity of the affected receptors

4.2.2.9 Population and Housing (CEQA Checklist Questions XIII.b and XIII.c)

The Project could displace some residences and businesses, as shown in Table A-4 (Appendix A, page 82) and summarized in Table 4.2-3 (page 4-30). However, sufficient resources would be available to provide satisfactory replacements for Project-related residential and business relocations (Department 2006). The Project would be located on the periphery of established communities, along the eastern boundary of Winchester and the western boundaries of the cities of Hemet and San Jacinto. It is recognized that any relocation would be a significant event in the life of any family or business that was required to move as a result of being within the Project right-of-way. Based on the locations of the Project alignments, the projected number of relocations, and implementation of mitigation measure RELOC-1, impacts related to the Project as a whole would be considered less than significant after mitigation. Construction of replacement housing would not be required (Department 2006).

Table 4.2-3 Summary of Displacements by Build Alternative

Displaced	Build Alternative 1a	Build Alternative 1b	Build Alternative 2a	Build Alternative 2b
Residential Units	42	37	39	29
Residents	134	106	107	75
Commercial Units	14	14	14	13
Employees	89	90	90	86

Source: Draft Relocation Impact Report, July 2010

A goal of the project is to reduce congestion and improve traffic flow. This will involve removal of some traffic from the principal commercial thoroughfares in Hemet and San Jacinto. This will improve conditions for pedestrians and local traffic, but may reduce the pass-by traffic on which some businesses depend. For businesses that do not depend on pass-by traffic, improved traffic conditions may increase patronage in local shops resulting in a net benefit. Also, the size of the Hemet and San Jacinto area would limit the potential for negative impacts on local businesses. The large commercial base will continue to draw people to the area to purchase goods and services. Substantial traffic will remain on Florida Avenue and San Jacinto Street that will provide a customer base for businesses that depend on pass-by traffic. Impacts of the Project considered as a whole are less than significant.

4.2.2.10 Public Services (CEQA Checklist Question XIV.a)

A detailed description of fire and police services is presented in Section 3.1.5 (Volume 1, page 3-156). Construction of the Project would be associated with traffic delays and detours that could affect emergency response times. Implementation of measures SERV-1 and SERV-2 would reduce the impacts to less than significant.

During Project operation, the completed SR 79 would provide an alternative transportation route, enabling traffic to travel longer distances at higher speeds. Although the Project also would attract higher traffic volumes, with the potential for increased fire and police response, mitigation measure SERV-1 is anticipated to reduce any potential impacts to emergency response to a less than significant level.

A detailed discussion on schools in the Project area is presented in Section 3.1.4.1 (Volume 1, page 3-119). The Project would bisect school attendance areas and could disrupt access to schools. Implementation of mitigation measures COM-2 and COM-3 would reduce potential access impacts to less than significant.

Existing parks are located adjacent to all the Build alternatives (Ambassador Street Sports Field and Tamarisk Park), and use of these parks during construction might not be desirable due to noise and aesthetics. However, use of the parks during construction would not be physically impeded. In addition, another neighborhood park is available within the same residential area, less than 300 m (984 ft) away from Ambassador Street Sports Field. Implementation of minimization measure LU-7 would reduce these temporary impacts to a less than significant level.

As detailed in Section 3.1.1.3 (Volume 1, page 3-60), there are no existing bike paths or trails in the study area. Some trails and bike paths have been designated in various planning documents, but none have been built nor are there any plans to build them. This was confirmed in a series of meetings with the responsible officials (meeting summaries are in Appendix I). A five-foot-wide sidewalk will be constructed on at least one side of every bridge that will accommodate any future trail or bike path that is built.

Project construction could temporarily disrupt traffic circulation patterns and adversely affect access to the various daycares, retirement/assisted living centers, hospitals, public service facilities, and waste disposal facilities presented in Section 3.1.4 (Volume 1, page 3-108). However, implementation of mitigation measure COM-3 would reduce these potential impacts to a less than significant level.

4.2.2.11 Recreation (CEQA Checklist Question XV.a)

Based on the nature of the Project, it would not introduce substantial numbers of new residents to the area that would increase the use of existing parks or recreation facilities.

The Project would be immediately west of a neighborhood park located along Cherry Laurel Lane (Tamarisk Park) and another adjacent to Cottonwood Avenue (Ambassador Street Sports Field), and use of these parks during construction might not be desirable due to noise and aesthetics. However, the Project would not encroach onto the park property and would not impact the continued use of the parks during construction or operation. In addition, another neighborhood park is available within the same residential area, less than 300 m (984 ft) away from Ambassador Street Sports Field. Implementation of mitigation measure LU-7 would reduce the impacts to Tamarisk Park and Ambassador Street Sports Field to less than significant.

4.2.2.12 Transportation/Traffic (CEQA Checklist Question XVI.e)

The Project would bisect the service areas for the Hemet Fire Department and Riverside County Fire Department. Because California Department of Forestry and Fire Protection (CAL FIRE) operations at Ryan Air Attack Base are aerial, the Project would not interfere with these emergency operations. The Project also would bisect the service areas for the California Highway Patrol (CHP), Hemet Police Department, and Riverside County Sheriff's Department. The CHP would be responsible for primary patrol of the realigned SR 79.

Construction of the Project would be associated with traffic delays and detours that could affect emergency response times. Implementation of mitigation measure SERV-2 would reduce the impacts to less than significant.

During Project operation, the completed SR 79 would provide an alternative transportation route, enabling traffic to travel longer distances at higher speeds. While it also would attract higher traffic volumes, with the potential for increased fire and police response, mitigation measure SERV-1 is anticipated to reduce any potential impacts to emergency response to a less than significant level.

4.2.2.13 Utilities and Service Systems (CEQA Checklist Questions XVII.c and XVII.f)

Storm water conveyance facilities are required as part of the Project to ensure proper drainage and maintain existing offsite water flows. The storm water conveyance facilities will maintain existing drainage patterns and

prevent erosion, siltation, and flooding. However, because construction of these facilities will be conducted in accordance with applicable Regional Water Quality Control Board (RWQCB) requirements, including the implementation of best management practices, this is not anticipated to result in substantial adverse impacts. Implementation of mitigation measure WQ-1 would reduce any impacts to less than significant.

Operation and maintenance of the Project is expected to produce a small amount of refuse, debris, and landscape trimmings over the life of the Project. This would not occur along the entire alignment at the same time, and the amount of material produced would represent a small contribution to the overall planned capacity at Lamb Canyon Landfill. The estimated closure date for the Lamb Canyon Landfill is the first quarter of 2023, which is 12 years before the 20-Year Design Horizon of the Project. Other disposal options would be available for the Project in the event Lamb Canyon Landfill is unavailable and/or the facility is closed before Project construction is completed. These options include disposal at other Riverside County Waste Management Department facilities or transport to a waste facility outside Riverside County. However, because the specific quantities of material requiring disposal are not known, implementation of mitigation measure COM-4 would reduce the impacts to less than significant.

4.2.2.14 Mandatory Findings of Significance (CEQA Checklist Questions XVIII.a and XVIII.c)

The Project would have direct and indirect effects. It would be associated with short-term construction related effects such as air pollutant emissions, noise, and temporary disruption to recreational uses, as well as potential long-term impacts to agricultural, biological, community cohesion, cultural, paleontological, and visual resources. However, the Project would incorporate avoidance, minimization, and mitigation measures to address these potential adverse environmental impacts. Therefore, impacts to sensitive biological species, habitats, and populations, and important prehistoric and historic resources would be less than significant.

In addition, the potential impacts and proposed mitigation measures should be considered in concert with the long-term transportation and safety benefits to human beings associated with the Project. The portion of SR 79 proposed for realignment also serves regional traffic, connecting the communities of Winchester, Hemet, and San Jacinto to Temecula and Murrieta in the south and Beaumont in the north. The use of SR 79 is changing because of widespread and rapid growth occurring in the area. The LOS during certain periods decreases to a point that traffic demand exceeds the capacity of the existing facility. In addition, fatal and injury accident rates on most of SR 79 between Domenigoni Parkway and Gilman Springs Road are higher than the comparable statewide average. The proposed Project would improve traffic conditions in the region by providing a direct and continuous north-south route with limited access between Domenigoni Parkway and Gilman Springs Road. This would allow efficient and safe movement of regional travel between these two locations. Therefore, and due to proposed avoidance, minimization, and mitigation measures, these potential direct and indirect environmental effects to human beings would be less than significant.

4.2.3 Unavoidable Significant Environmental Effects

As previously discussed, most of the significant adverse effects associated with the Project would be sufficiently avoided, minimized, and/or mitigated to a less than significant level, based on the measures identified in the

Environmental Commitments Record in Appendix E. However, some environmental effects cannot be reduced to a less than significant level. This section discusses those environmental effects that would remain significant even after mitigation measures are implemented.

4.2.3.1 Aesthetics (CEQA Checklist Questions I.a, I.b, and I.c)

The County of Riverside, City of Hemet, and City of San Jacinto have established policy goals to preserve natural ridgelines, the scenic quality of hills, and to avoid slope scarring. The proposed Project would alter the natural ridgelines and cause scarring and would require substantial removal of existing hillsides and the creation of visually prominent cut slopes, especially in the West Hemet Hills.

All Build alternatives and design options would alter the natural ridgelines and cause scarring. The Build alternatives would require substantial removal of existing hillsides and the creation of visually prominent cut slopes, especially in the West Hemet Hills. Design Options 1b1 and 2b1 would cause the least amount of alteration of the West Hemet Hills. Design Option 1b1 would cause less scarring than Build Alternative 1b. Design Option 2b1 would cause less ridgeline alteration than Build Alternative 2b. Mitigation measures VIS-11 through VIS-16, which commit to contouring, staggering the heights of steps required for benching, overexcavating slopes and back filling to allow vegetation to take root, creating artificial draws in cut slopes, artificially weathering the surfaces of the newly exposed rock, and hydroseeding with native vegetation, will be undertaken to mitigate these aesthetic impacts.

The analysis of the simulations created for the Project suggests that each of the Build alternatives and design options would result in a high level of adverse change in visual quality and that the overall differences among alternatives in terms of change in visual quality would be marginal. Cut slope impacts would occur in the ridge at the southern end of the Project area that would be cut through by all of the Build alternatives (Roadway Segments A and B). However, most of the adverse visual change due to cut slopes would occur in the West Hemet Hills (Roadway Segments D, G, and H). Build Alternatives 1a and 2a would require road cuts, resulting in scarring along the west and north sides of the West Hemet Hills. Build Alternatives 2a and 2b would require the removal of a substantial portion of the southern peak and would leave two pyramid-shaped cut slopes in its place.

Noise barriers have been proposed as abatement for noise impacts generated by the Project and were found to have the potential to create substantial visual impacts. Most Project noise barriers would exceed 0.8 kilometer (km) (0.5 mile [mi]) in length and 3.1 meters (m) (10 feet [ft]) in height. Where the addition of these barriers would contribute to making the Project substantially higher than surrounding buildings, the character and quality of views in the area could be substantially altered. Noise barriers on elevated roadways also have the potential to eliminate panoramic views that would otherwise be available to motorists.

No mitigation measures can be taken to fully reduce the impact of the removal of large segments of the existing hillsides, creation of high fill slopes, and construction of major overcrossing structures and noise barriers that would dominate local views and restrict views of distant landscape elements. Therefore, despite mitigation and minimization commitments VIS-1 through VIS-29, the impacts to visual character and visual impacts associated with removal of large segments of existing hillsides (particularly the West Hemet Hills), as viewed from Eligible

State Scenic Highway SR 74, and the Project's impact on views from Clayton A. Record, Jr. Viewpoint and the North Hills Trail would remain potentially significant.

4.2.3.2 Air Quality (CEQA Checklist Questions III.b and III.c)

The proposed Project would create short-term potentially significant air quality impacts from construction-related activities. Project construction would result in temporary emissions of carbon monoxide (CO), oxides of nitrogen (NO_X), reactive organic gas (ROG), and particulate matter with aerodynamic diameters of less than 2.5 micrometers ($PM_{2.5}$) and less than 10 micrometers (PM_{10}). These emissions would come from stationary or mobile-powered onsite construction equipment such as signal boards, excavators, backhoes, and graders. Construction activities are expected to occur during a 39 to 40-month period for 5 days per week and up to 24 hours per day for some activities. This intensive construction schedule, in addition to the hauling requirements, would be expected to result in elevated emissions of ozone (O_3) precursors (NO_X and ROG), PM_{10}, and $PM_{2.5}$. As discussed in Section 3.2.6, (Volume 1, page 3-353), minimization measures would be implemented to reduce PM_{10} and $PM_{2.5}$ emissions to a less than significant level. However, NO_X emissions would remain elevated after implementation of minimization measures. Therefore, the air quality impacts from construction NO_X emissions would be expected to be potentially significant.

Construction of the Project and other projects would occur in the area at the same time. According to the CEQA guidelines (California Code of Regulations Title 14, Chapter 3, Article 20, Section 15355), a cumulative impact is "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." For example, it would be expected that Project construction would overlap with construction activities of the Mid County Parkway Project. For construction, because ozone is a regional pollutant and has short-term air quality standards (e.g., 8 hours), ozone precursors (NO_X and ROG) were considered for cumulative impacts. Because NO_X emissions from Project construction would be expected to result in a potentially significant impact to air quality, when considered with construction of the Mid County Parkway project, the SR 79 Realignment Project would be expected to have a short-term potentially significant cumulative impact to air quality. NO_X emissions from construction of the Project may cause or contribute substantially to an exceedance of an air quality standard and may result in a short-term cumulatively substantial net increase in emissions of a nonattainment pollutant (ozone).

Minimization measures AQ-1 through AQ-9 would address reducing construction equipment exhaust emissions. However, after implementation of the minimization measures, impacts from construction NO_X emissions would be expected to remain temporarily adverse due to the magnitude of the construction duration and activities of the Project.

4.2.3.3 Biological Resources (CEQA Checklist Questions IV.a, IV.c, and IV.d)

The Project would impact special-status plant and animal species and/or their habitat. Plant species are presented first, followed by animal species. The impact would be potentially significant; however, measures are proposed to offset the impacts.

CEQA Checklist Question IV.a

Plant Species

Permanent Impacts

All Build alternatives would permanently impact sensitive plant species covered by the Riverside County Multiple Species Habitat Conservation Plan (MSHCP), as well as sensitive plant species not covered by the MSHCP. Details about the MSHCP are in Section 3.3.1.3 (page 3-459). This discussion about plant species presents these impacts and provides an assessment of long-term conservation value (LTCV) as defined in the MSHCP. LTCV populations are Narrow Endemic and Criteria Area plants that are located in Criteria Area Cells or required survey areas and that can contribute toward MSHCP conservation objectives and reserve assembly.

Build Alternatives 1a and 1b

Permanent direct or permanent indirect impacts to 11 special-status plant species would occur as a result of Build Alternatives 1a or 1b. Nine of these 11 species are MSHCP Covered Species, one of which, the San Jacinto Valley crownscale, is federally listed as endangered. Three of the nine Covered Species would have populations with LTCV in Build Alternative 1a, and two of these would also have LTCV in Build Alternative 1b.

Two special-status plants, paniculate tarplant and Robinson's peppergrass, are not included in the MSHCP.

The 11 special-status plant species that would be impacted by Build Alternatives 1a and 1b are listed below, followed by an assessment of their LTCV if applicable. Specific impacts to these plant populations and individuals are summarized in Table 3.3-3 (page 3-471).

- San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*) – Federally listed as endangered, California Native Plant Society (CNPS) List 1B.1
- Davidson's saltscale (*Atriplex serenana* var. *davidsonii*) – CNPS List 1B.2
- Plummer's mariposa lily (*Calochortus plummerae*) – CNPS List 1B.2
- Smooth tarplant (*Centromadia pungens* ssp. *laevis*) – CNPS List 1B.1
- Parry's spineflower (*Chorizanthe parryi* var. *parryi*) – CNPS List 3.2
- Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*) – CNPS List 1B.2
- Paniculate tarplant (*Deinandra paniculata*) – CNPS List 4.2
- Vernal barley (*Hordeum intercedens*) – CNPS List 3.2
- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) – CNPS List 1B.1
- Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*) – CNPS List 1B.2
- Little mousetail (*Myosurus minimus* ssp. *apus*) – CNPS List 3.1

Assessment of LTCV Populations in Build Alternative 1a

Some populations that would be impacted by Build Alternative 1a, including San Jacinto Valley crownscale, Davidson's saltscale, Plummer's mariposa lily, smooth tarplant, Parry's spineflower, long-spined spineflower, vernal barley, and little mousetail (the one population at the northwest corner of Warren Road and Esplanade Avenue), do not have LTCV. These populations would not require mitigation to comply with the MSHCP.

Permanent indirect impacts to the little mousetail and smooth tarplant LTCV populations in the indirect impact area and Additional Indirect Impact Study Area 2 could exceed the 90-percent avoidance threshold. If this occurs, it would be a substantial impact, but is not likely. Rainfall is the most important source of water for the little mousetail populations, but shallow seasonal surface runoff may also contribute to the local hydrology. This part of the Project area is relatively flat, and the populations would be up slope and southeast of the PIA. Runoff in this area flows principally from the south during storms, so it is unlikely that the hydrology at the Stoney Mountain Preserve or the Build Alternative 1a indirect impact area would be affected by construction. Therefore, permanent indirect impacts associated with changes in hydrology are not expected to the LTCV populations of little mousetail in the Roadway Segment J portion of the Build Alternative 1a indirect impact area or to the little mousetail and smooth tarplant populations with LTCV in Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve. The 90-percent LTCV population avoidance threshold can be attained by using minimization measures (see Section 3.3.3.4 [page 3-570]).

Direct impacts to the 20 LTCV populations of Coulter's goldfields and 18 LTCV populations of smooth tarplant in the PIA of Build Alternative 1a could not be avoided if this Build alternative is identified as the Preferred Alternative. Impacts (e.g., hydrologic alteration, introduction of noxious weeds) to the 3 Coulter's goldfields and 2 smooth tarplant LTCV populations in the indirect impact area would be avoided or minimized during construction (see Section 3.3.3.4 [page 3-570]).

With Build Alternative 1a, permanent direct and indirect impacts to these populations of Coulter's goldfields and smooth tarplant would exceed the 90-percent LTCV avoidance threshold. This would be a substantial impact. A Determination of Biological Equivalent or Superior Preservation (DBESP) and appropriate compensation would be required to comply with the MSHCP.

Assessment of LTCV Populations in Build Alternative 1b

Some of the populations that would be impacted by Build Alternative 1b, including San Jacinto Valley crownscale, Davidson's saltscale, Plummer's mariposa lily, smooth tarplant, Parry's spineflower, long-spined spineflower, and vernal barley, do not have LTCV. These populations would not require mitigation to comply with the MSHCP.

The little mousetail and smooth tarplant LTCV populations in the indirect impact area and Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve, would be the same as Build Alternative 1a. Although the two Build alternatives would differ in this location, the LTCV assessment would be the same.

Design Option 1b

The impacts associated with Design Option 1b1 would be the same as those presented for Build Alternative 1b (Table 3.3-3 [page 3-471]).

Build Alternatives 2a and 2b

Permanent direct or permanent indirect impacts to 16 special-status plant species would result from Build Alternatives 2a and 2b. Fourteen of these 16 species are MSHCP Covered Species, four of which are listed as threatened or endangered. Eight of the 14 Covered Species have populations with LTCV.

Two special-status plants, paniculate tarplant and Robinson's peppergrass, are not included in the MSHCP.

The special-status plant species that would be impacted by Build Alternatives 2a and 2b are listed below, followed by an assessment of their LTCV if applicable. Specific impacts to these plant populations and individuals are summarized in Table 3.3-3 (page 3-471).

- San Jacinto Valley crownscale – Federally listed as endangered, CNPS List 1B.1
- Parish's brittlescale (*Atriplex parishii*) – CNPS List 1B.1
- Davidson's saltscale – CNPS List 1B.2
- Smooth tarplant – CNPS List 1B.1
- Parry's spineflower – CNPS List 3.2
- Long-spined spineflower – CNPS List 1B.2
- Paniculate tarplant – CNPS List 4.2
- Palmer's grapplinghook (*Harpagonella palmeri*) – CNPS List 4.2
- Vernal barley – CNPS List 3.2
- Coulter's goldfields – CNPS List 1B.1
- Robinson's peppergrass – CNPS List 1B.2
- Small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*) – CNPS List 4.2
- Little mousetail – CNPS List 3.1
- Spreading navarretia (*Navarretia fossalis*) – Federally listed as threatened, CNPS List 1B.1
- California Orcutt grass (*Orcuttia californica*) – Federally and state listed as endangered, CNPS List 1B.1
- Thread-leaved brodiaea (*Brodiaea filifolia*) – Federally listed as threatened and state listed as endangered, CNPS List 1B.1

Assessment of LTCV Populations in Build Alternative 2a

Criteria Area Cells 3683, 3684, 3791, 3887, 3791, 3891, 4007, 3584, 3291, 2774, 2775, 2878, and 2364 would be in the impact areas of Build Alternatives 2a and 2b. Eight special-status plant species with LTCV would be permanently directly or indirectly impacted by the construction of these build alternatives—San Jacinto Valley

crownscale, Parish's brittlescale, Davidson's saltscale, smooth tarplant, Coulter's goldfields, little mousetail, spreading navarretia, and California Orcutt grass.

A portion of a little mousetail population complex (9,886 plants) at the Stoney Mountain Preserve would extend into the indirect impact area. These populations have LTCV. They could be permanently and indirectly impacted by Build Alternative 2a.

Fifty-nine populations of Davidson's saltscale with 12,136 plants were identified in Additional Indirect Impact Study Area 1 (Table 3.3-5 [page 3-533] and Figure 3.3-24 [Section 3.3]). The majority of the populations were observed east of California Avenue and south of Stetson Avenue, but a few populations were identified at the MWD Upper Salt Creek Reserve, north of Stetson Road (Figure 3.3-24 [Section 3.3]). These populations represent the core for the population complex within the study area, and the viability of the populations in this area is essential for the survival of this species. The populations in this area could substantially contribute toward reserve assembly and have very high LTCV. Only one small population (with six plants) was found outside Additional Indirect Impact Study Area 1, northwest of the Stoney Mountain Preserve. This small population is not in a Criteria Area Cell, so it does not have LTCV.

Permanent indirect impacts to the LTCV little mousetail and smooth tarplant populations in the indirect impact area and in Additional Indirect Impact Study Area 2, at the Stoney Mountain Preserve, would be the same as Build Alternative 1a. Impacts to the 20 populations of Coulter's goldfields and 18 populations of smooth tarplant with LTCV in the PIA and indirect impact area would be the same as Build Alternative 1a.

Build Alternative 2a could cause permanent indirect impacts to the LTCV populations of San Jacinto Valley crownscale, Parish's brittlescale, smooth tarplant, little mousetail, spreading navarretia, and California Orcutt grass in Additional Indirect Impact Study Area 1. These impacts could exceed the 90-percent avoidance threshold for these species. If the threshold were exceeded for any of these species, that would be substantial impact. However, measures were taken during the Project development and siting phase to avoid impacts to these populations as much as possible and to maintain the existing hydrologic conditions after construction, as described in Section 3.3.3.4 (page 3-570). Also described in Section 3.3.3.4, measures would be implemented to avoid and minimize permanent indirect impacts during construction. In particular, potentially occurring permanent indirect impacts to spreading navarretia and California Orcutt grass at the Stowe Road Vernal Pool Complex will be avoided. With these measures, permanent indirect impacts to these LTCV populations could be avoided, and the 90-percent LTCV population avoidance threshold could be attained.

Assessment of LTCV Populations in Build Alternative 2b

Impacts to the little mousetail and smooth tarplant LTCV populations from Build Alternative 2b would be the same as Build Alternative 1a. Both Build alternatives include Roadway Segment J. Impacts to the LTCV populations of San Jacinto Valley crownscale, Parish's brittlescale, smooth tarplant, little mousetail, spreading navarretia, and California Orcutt grass in Additional Indirect Impact Study Area 1 would be the same as Build Alternative 2a.

Design Option 2b1

The impacts associated with Design Option 2b1 would be the same as those presented for Build Alternative 2b (Table 3.3-3 [page 3-471]).

Avoidance, Minimization, and Mitigation Measures

Impacts to special-status plant species are anticipated to be potentially significant unless the following measures are incorporated.

Avoidance Measures

The Build alternatives for the Project will incorporate avoidance measures BIO-28 and BIO-35 for plants.

Minimization Measures

All Build alternatives will incorporate measures BIO-36 through BIO-38 to comply with all MSHCP guidelines related to minimizing impacts to plant species within or adjacent to the MSHCP Conservation Area.

Animal Species

Permanent Impacts

The Build alternatives would permanently impact threatened and/or endangered animal species, MSHCP Covered Species, and special-status animal species not covered by the MSHCP.

For this analysis, permanent direct impacts to animal species can include direct take of habitat or individuals in the PIA or the direct impact areas of the unique design features. Indirect impacts can include increased noise from roadway operation, degraded habitat due to fragmentation and the resulting reduction in numbers of prey and foraging area, and more potential for being struck by vehicles due to increased traffic. Habitat fragmentation results not only in isolated populations, but encourages invasive animal species that degrade habitat quality and availability. Indirect impacts also include alteration of hydrology in the indirect impact area and Additional Indirect Impact Study Areas 1 and 2.

This section is presented using the following subtopics: MSHCP Covered Species and/or Planning Species (not threatened or endangered), Species Not Covered by the MSHCP, and Threatened and Endangered Species.

Build Alternative 1a

MSHCP Covered Species and/or Planning Species

Los Angeles Pocket Mouse

Build Alternative 1a will potentially permanently impact 2.0 ha (4.8 ac) of habitat occupied by the Los Angeles pocket mouse just east of the existing SR 79 alignment, north of Ramona Expressway and south of the San Jacinto River. This Los Angeles pocket mouse population is part of the regionally important core population within and near the San Jacinto River and Massacre Canyon wash. Permanent impacts would include direct impacts to 1.0 ha (2.6 ac) and indirect impacts to 0.9 ha (2.2 ac) of occupied habitat.

Build Alternative 1a could also have permanent direct and indirect impacts to the Los Angeles pocket mouse itself. Direct impacts would include the loss of grassland, sage scrub, and alluvial fan scrub habitats. Indirect impacts to the population of Los Angeles pocket mouse in the indirect impact area north of Build Alternative 1a could include degraded habitat due to increased vehicle noise, vibration, lights from vehicles, dispersing Los Angeles pocket mice being struck by vehicles, and long-term effects of habitat fragmentation. Habitat fragmentation could decrease gene flow in the species and could increase the number of subpopulations through isolation. Populations that were once continuous could become divided into separate fragments, forming small islands isolated from one another. Subsequently, local extirpations and genetic inbreeding could result.

Additionally, Build Alternative 1a would have permanent direct and indirect impacts to the southern portion of Criteria Area Cell 2364, where occupied habitat and Los Angeles pocket mice were observed. However, Build Alternative 1a would not preclude the goals of this Criteria Area Cell.

Burrowing Owl

Six pairs of burrowing owls and a single male could be permanently impacted by Build Alternative 1a. Of these, one pair would be directly impacted (RIV BUO-023, 2006 nest). A total of 4.03 ha (9.95 ac) of excellent quality habitat and 49.38 ha (122.02 ac) of suitable quality habitat could be directly impacted.

The remaining five pairs of burrowing owls and single male could be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles. Their locations include RIV-BUO-005, 223 m (733 ft) from the roadway centerline, RIV-BUO-006, 185 m (607 ft) from centerline, RIV-BUO 023 (2005 nest), 303 m (993 ft) from centerline, RIV-BUO-024, 209 m (685 ft) from centerline, RIV-BUO-052, 91 m (298 ft) from centerline, and RIV-BUO-053 (single male), 309 m (1,015 ft) from centerline.

Additionally, Build Alternative 1a would directly impact the western portion of Criteria Area Cell 3683, so could indirectly impact RIV-BUO-005, which was observed in excellent quality habitat in the southwestern corner. However, Build Alternative 1a would not preclude the goals of this Criteria Area Cell.

Nesting and Foraging Raptors

No MSHCP covered nesting raptors would be directly impacted by Build Alternative 1a. However, two pairs of white-tailed kites were found 58 m (191 ft) and 124 m (406 ft) from centerline and could be indirectly impacted. The pair at 58 m (191 ft) is expected to be impacted by operational roadway noise. The pair at 124 m (406 ft) is expected to be impacted by habitat fragmentation and increased potential for collisions with vehicles. Therefore, this Build alternative may result in permanent, indirect impacts to two pairs of white-tailed kites.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Twelve pairs of nesting raptors could be permanently impacted by Build Alternative 1a. Of these 12 pairs, one pair of barn owls and four pairs of red tailed hawks, would be directly impacted. A total of 142.33 ha (351.70 ac) of raptor foraging habitat would be directly impacted.

The remaining seven pairs of nesting raptors could be indirectly impacted by operational roadway noise, habitat fragmentation, or increased potential for collisions with vehicles. Their locations include two pairs of barn owls 235 m (772 ft) and 108 m (353 ft) from centerline and five pairs of red-tailed hawks at 336 m (1,103 ft), 348 m (1,140 ft), 134 m (439 ft), 309 m (1,015 ft), and 318 m (1,044 ft) from centerline.

Bats

Removal of rock outcrops would permanently reduce available roosting habitat for bat species that are dependent on this limited resource. Additional permanent impacts to roosting habitat would also include removal of mature trees that may offer tree roosts (e.g., those containing cavities, exfoliating bark, suitable foliage, or well-developed frond skirts) for sensitive bat species. Established building roosts could also be permanently impacted by the demolition of man-made structures.

Threatened and Endangered Species

Stephens' Kangaroo Rat

Build Alternative 1a could permanently impact 235.1 ha (581.0 ac) of Stephens' kangaroo rat habitat. Direct impacts to occupied habitat would affect 101.3 ha (250.4 ac), and indirect impacts would affect 133.8 ha (330.6 ac).

Quino Checkerspot Butterfly

About 169.7 ha (419.5 ac) of suitable Quino checkerspot butterfly habitat would be permanently and directly impacted by Build Alternative 1a, while approximately 79.33 ha (196.02 ac) may be permanently, indirectly impacted.

Coastal California Gnatcatcher

About 58.5 ha (144.7 ac) of suitable coastal California gnatcatcher habitat would be permanently and directly impacted by Build Alternative 1a, while about 11.29 ha (27.90 ac) could be permanently, indirectly impacted.

Build Alternative 1b

MSHCP Covered Species and/or Planning Species

Los Angeles Pocket Mouse

Impacts to Los Angeles pocket mouse, both habitat and populations, from Build Alternative 1b would be the same as Build Alternative 1a.

Burrowing Owl

Seven pairs of burrowing owls would be permanently impacted by Build Alternative 1b. Of these, one pair would be directly impacted (RIV BUO 023, 2006 nest). A total of 9.52 ha (23.54 ac) of excellent quality habitat and 58.26 ha (143.96 ac) of suitable quality habitat would be directly impacted.

The remaining six pairs of burrowing owls would be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles. Locations include RIV BUO-005, 233 m (733 ft) from centerline, RIV BUO-006, 185 m (607 ft) from centerline, RIV-BUO-023 (2005 nest), 266 m (874 ft) from centerline, RIV-BUO-024, 209 m (685 ft) from centerline, RIV-BUO-042, 428 m (1,404 ft) from centerline, and RIV BUO 052, 91 m (298 ft) from centerline.

Impacts to burrowing owls in the western portion of Criteria Area Cell 3683 would be the same as Build Alternative 1a.

Nesting and Foraging Raptors

No MSHCP covered nesting raptors would be directly impacted by Build Alternative 1b. However, one pair of white-tailed kites was found 58 m (191 ft) from centerline, so could be indirectly impacted by operational roadway noise.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Twelve pairs of nesting raptors would be permanently impacted by Build Alternative 1b. Of these 12 pairs, one pair of barn owls and four pairs of red tailed hawks would be directly impacted. A total of 107.01 ha (264.42 ac) of raptor foraging habitat would be directly impacted.

The remaining seven pairs of nesting raptors could be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles. Locations include one pair of barn owls 235 m (772 ft) from centerline and six pairs of red-tailed hawks at 400 m (1,313 ft), 411 m (1,348 ft), 134 m (439 ft), 309 m (1,015 ft), 122 m (400 ft), and 346 m (1,135 ft) from centerline.

Bats

Impacts to bats from Build Alternative 1b would be the same as Build Alternative 1a.

Threatened and Endangered Species

Stephens' Kangaroo Rat

Build Alternative 1b could permanently impact 232.3 ha (557.9 ac) of Stephens' kangaroo rat habitat. Permanent direct impacts to occupied habitat would be 100.0 ha (247.1 ac), and indirect impacts would be 132.3 ha (326.8 ac).

Quino Checkerspot Butterfly

About 175.1 ha (432.7 ac) of suitable Quino checkerspot butterfly habitat would be permanently and directly impacted by Build Alternative 1b, while about 85.08 ha (210.25 ac) could be indirectly impacted.

Coastal California Gnatcatcher

About 56.2 ha (138.9 ac) of suitable coastal California gnatcatcher habitat would be permanently and directly impacted by Build Alternative 1b, while about 11.58 ha (28.62 ac) could be indirectly impacted.

Design Option 1b1

With Design Option 1b1, the raptor foraging habitat and Quino checkerspot butterfly habitat would increase with the increased ROW in Roadway Segment B. Otherwise, the impacts to special-status animal species associated with Design Option 1b1 would be the same as those presented for Build Alternative 1b.

Nesting and Foraging Raptors

The raptor foraging habitat that would be permanently and directly impacted by Design Option 1b1 would increase to 107.35 ha (265.25 ac) from the base condition total of 107.01 ha (264.42 ac).

Quino Checkerspot Butterfly

Permanent, direct impacts to Quino checkerspot butterfly habitat associated with Design Option 1b1 would increase slightly, to 175.3 ha (433.2 ac) from the total for Build Alternative 1b of 175.1 ha (432.7 ac), while about 85.13 ha (210.37 ac) could be indirectly impacted.

Build Alternative 2a

MSHCP Covered Species and/or Planning Species

Los Angeles Pocket Mouse

Impacts to Los Angeles pocket mouse from Build Alternative 2a would be the same as Build Alternative 1a.

Burrowing Owl

Six pairs of burrowing owls and a single male would be permanently impacted by Build Alternative 2a. Of these, two pairs (RIV-BUO-031 and RIV-BUO-056) would be directly impacted. A total of 31.13 ha (76.92 ac) of excellent quality habitat and 52.95 ha (130.84 ac) of suitable quality habitat would be directly impacted.

The remaining four pairs of burrowing owls and single male could be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles. Locations include RIV-BUO-004, 188 m (620 ft) from centerline, RIV BUO-005, 138 m (454 ft) from centerline, RIV BUO 023, 133 m (436 ft) from centerline, RIV-BUO-052, 170 m (558 ft) from centerline, and RIV-BUO-053 (single male), 309 m (1,015 ft) from centerline.

Impacts to burrowing owls in the western portion of Criteria Area Cell 3683 would be similar to Build Alternative 1a, except that Build Alternative 2a would impact both RIV-BUO-004 and RIV-BUO-005.

Nesting and Foraging Raptors

No MSHCP covered nesting raptors would be permanently, directly impacted by Build Alternative 2a. However, three pairs of white-tailed kites 116 m (380 ft), 58 m (191 ft), and 233 m (765 ft) from centerline and one pair of Cooper's hawks 199 m (651 ft) from the centerline would be permanently, indirectly impacted by operational roadway noise, habitat fragmentation, and/or increased mortality from collisions with vehicles.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Twelve pairs of nesting raptors would be permanently impacted by Build Alternative 2a. Of these 12 pairs, one pair of barn owls and four pairs of red-tailed hawks would be directly impacted. A total of 142.33 ha (351.70 ac) of raptor foraging habitat would be directly impacted.

The remaining seven pairs of nesting raptors would be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles. Locations include two pairs of barn owls 235 m (772 ft) and 108 m (353 ft) from centerline and five pairs of red-tailed hawks at 336 m (1,103 ft), 348 m (1,140 ft), 134 m (439 ft), 309 m (1,015 ft), and 318 m (1,044 ft) from centerline.

Bats

Impacts to bats from Build Alternative 2a would be the same as Build Alternative 1a.

Threatened and Endangered Species

Vernal Pool Branchiopods

Build Alternative 2a would potentially permanently impact the hydrology of a vernal pool complex in Additional Indirect Impact Study Area 1, in the grassland just northwest of the intersection of Stowe Road and California Avenue. This vernal pool contains 0.72 ha (1.79 ac) of habitat occupied by vernal pool fairy shrimp, which are federally listed as threatened. Therefore, impacts to vernal pool fairy shrimp from Build Alternative 2a could be potentially significant unless measures BIO-28 and BIO-42 are implemented.

Additionally, Build Alternative 2a would permanently, indirectly impact the southeastern portion of Criteria Area Cell 3887 where vernal pool fairy shrimp were observed. However, Build Alternative 2a would not preclude the goals of this Criteria Area cell.

Stephens' Kangaroo Rat

Build Alternative 2a could permanently impact 231.8 ha (572.9 ac) of Stephens' kangaroo rat habitat. Permanent direct impacts to occupied habitat would be 87.5 ha (216.1 ac), and indirect impacts would be 144.4 ha (356.8 ac).

Quino Checkerspot Butterfly

About 150.2 ha (371.0 ac) of suitable Quino checkerspot butterfly habitat would be permanently and directly impacted by Build Alternative 2a, while about 235.39 ha (581.67 ac) could be indirectly impacted.

Coastal California Gnatcatcher

About 46.1 ha (114.0 ac) of suitable coastal California gnatcatcher habitat would be permanently and directly impacted by Build Alternative 2a, while about 40.74 ac (100.68 ha) could be indirectly impacted.

Build Alternative 2b

MSHCP Covered Species and/or Planning Species

Los Angeles Pocket Mouse

Impacts to Los Angeles pocket mouse from Build Alternative 2b would be the same as Build Alternative 1a.

Burrowing Owl

Seven pairs of burrowing owls would be permanently impacted by Build Alternative 2b. Of these, two pairs, RIV-BUO-031 and RIV-BUO-056, would be directly impacted. A total of 33.07 ha (81.72 ac) of excellent quality habitat and 61.01 ha (150.77 ac) of suitable quality habitat would be directly impacted.

The remaining five pairs of burrowing owls could be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles. Locations include RIV BUO 004, 188 m (620 ft) from centerline, RIV BUO-005, 138 m (454 ft) from centerline, RIV-BUO-023, 133 m (436 ft) from centerline, RIV-BUO-042, 428 m (1,404 ft) from centerline, and RIV-BUO-052, 170 m (558 ft) from centerline.

Impacts to burrowing owls in the western portion of Criteria Area Cell 3683 would be the same as Build Alternative 2a.

Nesting and Foraging Raptors

No MSHCP covered nesting raptors would be directly impacted by Build Alternative 2b. However, two pairs of white-tailed kites located 58 m (191 ft) and 233 m (765 ft) from centerline and one pair of Cooper's hawks 199 m (651 ft) from centerline would be indirectly impacted by operational roadway noise, habitat fragmentation, or increased mortality from collisions with vehicles.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Impacts to nesting and foraging raptors from Build Alternative 2b would be the same as Build Alternative 1b.

Bats

Impacts to bats from Build Alternative 2a would be the same as Build Alternative 1a.

Threatened and Endangered Species

Vernal Pool Branchiopods

Impacts to vernal pool branchiopods would be the same from Build Alternative 2b as described for Build Alternative 2a.

Stephens' Kangaroo Rat

Build Alternative 2b could permanently impact 227.7 ha (562.6 ac) of Stephens' kangaroo rat habitat. Permanent direct impacts to occupied habitat would be 86.0 ha (212.5 ac), and indirect impacts would be 141.7 ha (350.1 ac).

Quino Checkerspot Butterfly

About 162.7 ha (401.9 ac) of suitable Quino checkerspot butterfly habitat would be permanently and directly impacted by Build Alternative 2b, while about 239.94 ha (592.91 ac) could be indirectly impacted.

Coastal California Gnatcatcher

About 43.8 ha (108.3 ac) of suitable coastal California gnatcatcher habitat would be permanently and directly impacted by Build Alternative 2b, while about 41.04 ha (101.41 ac) could be indirectly impacted.

Design Option 2b1

Design Option 2b1 would have the same impacts to animal species as Design Option 1b1.

Temporary Impacts Overview

The Project does not contain temporary construction easements that would result in the temporary removal of habitat or individuals. However, temporary impacts could occur to Los Angeles pocket mice, burrowing owls, nesting raptors, bats, Stephens' kangaroo rats, quino checkerspot butterflies, and coastal California gnatcatchers due to other temporary effects, as discussed below for each species. The analysis for temporary impacts to sensitive animal species overlaps with the permanent, indirect impact analysis for these species because the same individuals/pairs located in the indirect impact area may not only be impacted during construction, but could also be impacted after construction, when the new roadway is in full operation.

A summary of potential temporary impacts to animal species from the Build alternatives and design options is in Table 3.3-3 (page 3-471).

Los Angeles Pocket Mouse

Temporary impacts to the Los Angeles pocket mouse would be the same regardless of the Build alternative or design option that is identified as the Preferred Alternative. Therefore, the discussion on temporary impacts to this species is included for the collective Project, as opposed to specific Build alternative or design option.

Temporary impacts to occupied Los Angeles pocket mouse habitat that may occur as result of the Project include degradation of habitat quality and suitability because of construction-related noise, lights, vibration, dust, and soil compaction along the ROW and routes for staging and access. Los Angeles pocket mice may be subject to

mortality and injury from being struck by construction vehicles and equipment traveling along access dirt roads and staging areas. Although construction is temporary, the effects can be long-term disruptions to the species because Los Angeles pocket mice are rather short-lived and are very sensitive to disturbances in their environment. Therefore, the Project could have long-term impacts on Los Angeles pocket mouse breeding, foraging, movement, hibernation/sleeping patterns, dispersal, and predator avoidance behavior.

Due to the small size of the Los Angeles pocket mouse and its very specific metabolic requirements, this species is only able to be active within a very narrow range of temperatures. While active, they require a relatively high intake of calories to maintain their body temperature and activity patterns and avoid going into torpor. Vibration and noise from construction may disrupt the sleeping and aestivating patterns of the Los Angeles pocket mouse. Some individuals may leave the immediate Project area during the construction process because of noise and vibration. Los Angeles pocket mouse survival often depends on using acute hearing to detect approaching predators in the dark. In addition, increased trash and discarded food items from construction contractors may attract predators of the Los Angeles pocket mouse to the area.

Burrowing Owls and Nesting Raptors

Temporary impacts to burrowing owls and nesting raptors may include construction noise, night lighting, and increased human presence (construction personnel). Temporary construction noise may affect burrowing owls and raptors because birds primarily communicate with one another through vocalizations and auditory cues. Increased noise levels can interfere with normal communication. Therefore, background noise and isolated, impulsive noise (e.g., drilling, excavation) can interfere with contact between mated birds, warning and distress calls that signify predators and other threats, feeding behavior, and protection of the young. In addition, high noise levels may keep an area that is otherwise appropriate for nesting from being suitable.

The same 75-m (246-ft) and 150-m (500-ft) buffers for burrowing owls and nesting raptors, respectively, were used to analyze temporary indirect impacts from construction noise, night lighting, and increased human presence.

Night lighting and increased human presence during construction can affect normal foraging patterns for burrowing owls and raptors. Although construction activities would be located entirely within the PIA and would not extend into the indirect impact area for burrowing owls or nesting raptors, the amount of construction activity, equipment, and increased human presence for the 3-year construction period could still affect daily behavior for these species. The potential for impacts would vary throughout the construction period, but the beginning and middle stages, when construction activities and numbers of personnel would peak, would be most likely to have the most effect. The potential for impacts would decrease as construction winds down, and activities and personnel would be minimal.

Construction of the Project would be phased (see Section 2.2.1.3 [Volume 1, page 2-20]), so temporary impacts from construction noise would vary depending on the phase the Project is in. The two construction activities that would generate the highest noise levels are roadway excavation, which would require blasting, and construction of roadway overpasses and bridges, which would require pile driving. Both of these activities create impulsive noises that occur in isolated events, which can result in startle effects.

Roadway excavation would take place in the West Hemet Hills for all Build alternatives and design options. However, the low frequency impulsive noise from blasting has the potential to affect species within a 1.6 km (1.0 mi) radius, so the potential for startle effects could extend into the valley.

Roadway overpasses and bridges would be required with all Build alternatives and design options, but not all of these structures would require pile driving. However, the structures that would require pile driving will not be determined until final design, so to include all potential impacts to burrowing owls and nesting raptors, this construction noise impact analysis assumes that every roadway overpass and bridge would require pile driving. Construction noise levels were based on the distance of the resource from the PIA. Existing ambient noise levels were taken from monitoring locations and were compared to projected peak-hour noise levels. Reference noise levels of 98 decibels (dB) were used for general roadway and 105 dB for structure construction. To take a conservative approach and account for the loudest possible construction activity, both reference noise levels represent the loudest noise level for that activity (e.g., noises associated with dump trucks and pile driving). Construction noise calculations were based on the reference numbers and a standard attenuation formula. The reference number for excavation (e.g., blasting) has been left blank because this number depends on variables such as amount of detonation material and blasting method that cannot be determined until construction. Therefore, it is assumed that all resources within a 1.6-km (1.0-mi) radius of blasting will be temporarily impacted by excavation activities and that the radius includes all Build alternatives and design options. Construction noise for burrowing owls and nesting raptors is shown in Tables 3.3-16 and 3.3-17 (pages 3-617 and 3-621), respectively.

Construction is scheduled to take place in two 12-hour timeframes, over a 24-hour period, in a 5-day work week, Monday through Friday. Although excessive noise levels would occur from roadway excavation and bridge superstructure construction, this would be only during daylight, Monday through Friday. Project construction is estimated to take 39 or 40 months, depending on which Build alternative is identified as the Preferred Alternative.

Bats

Temporary impacts to bat species would be the same regardless of the Build alternative or design option implemented. Therefore, the discussion about temporary impacts to bats is presented for the collective Project, as opposed to specific Build alternative or design option.

Temporary impacts to bats from all Build alternatives and design options could include disturbances to roost sites and disruptions of foraging areas due to increased vehicular traffic, night illumination, pile driving for bridges, tree cutting, building demolition, grubbing, and other construction-related noise, as well as blasting, drilling, rock hammering, and grading in areas with rock outcrops or hills.

Stephens' Kangaroo Rat, Quino Checkerspot Butterfly, and Coastal California Gnatcatcher

Temporary impacts to the Stephens' kangaroo rat, quino checkerspot butterfly, and coastal California gnatcatcher could include construction-related noise, lights, dust, and vibration. Increased mortality and injury from being struck by construction vehicles may also occur. In addition, increased trash and discarded food items from construction personnel may attract predators of the Stephens' kangaroo rat.

Temporary Impacts to Animal Species from the Project Alternatives and Design Options

All Build Alternatives and Design Options

MSHCP Covered Species and/or Planning Species

Los Angeles Pocket Mouse

Although construction-related activities would be limited to the PIA and the utility relocation areas, the Los Angeles pocket mice in the indirect impact areas are expected to be temporarily impacted by increased noise, dust, vibration, and lights during construction. The Project would temporarily impact 1.7 ha (4.1 ac) of habitat occupied by the Los Angeles pocket mouse just east of the existing SR 79 alignment, north of Ramona Expressway and south of the San Jacinto River. This Los Angeles pocket mouse population is part of the regionally important core population within and near the San Jacinto River and Massacre Canyon wash.

Animal Species Not Covered by the MSHCP

Bats

Temporary impacts to bats from construction of any of the Build alternatives or design options could include disturbances to roost sites and disruptions of foraging areas due to increased vehicular traffic, night illumination, pile driving for bridges, tree cutting, building demolition, grubbing, and other construction noise, as well as blasting, drilling, rock hammering, and grading in areas that have rock outcrops or hills. Bats could abandon roost sites as a result of local disturbances and could alter their foraging behavior near lights, which could benefit them by attracting insects or repel them from an area to avoid predators.

Build Alternative 1a

MSHCP Covered Species and/or Planning Species

Burrowing Owl

Five pairs of burrowing owls and a single male, RIV-BUO-005, 138 m (454 ft) from the PIA, RIV-BUO-006, 118 m (387 ft) from the PIA, RIV-BUO-023, 173 m (568 ft) from the PIA, RIV-BUO-024, 32 m (104 ft) from the PIA, RIV-BUO-052, 14 m (47 ft) from the PIA, and RIV-BUO-053 (single male), 147 m (481 ft) from the PIA, could be temporarily impacted by construction of Build Alternative 1a. Temporary impacts to these five pairs of burrowing owls and single male could include construction noise, night lighting, or increased human presence.

Nesting and Foraging Raptors

Three pairs of white-tailed kites were found 11m (36 ft), 75 m (245 ft), and 146 m (478 ft) from the PIA of Build Alternative 1a. Although these raptors would be outside the PIA, they could still be impacted by construction activities. Therefore, this Build alternative could result in temporary impacts to three pairs of white-tailed kites from construction noise, night lighting, or increased human presence.

Stephens' Kangaroo Rat

Build Alternative 1a could temporarily impact 133.8 ha (330.6 ac) of Stephens' kangaroo rat habitat.

Quino Checkerspot Butterfly

Build Alternative 1a could temporarily impact 79.33 ha (196.02 ac) of Quino checkerspot butterfly habitat.

Coastal California Gnatcatcher

Build Alternative 1a could temporarily impact 11.29 ha (27.90 ac) of coastal California gnatcatcher habitat.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Two pairs of barn owls were found 63 m (207 ft) and 46 m (151 ft) from the PIA of Build Alternative 1a. In addition, five pairs of red-tailed hawks were found 84 m (275 ft), 95 m (313 ft), 34 m (112 ft), 18 m (60 ft), and 4 m (13 ft) from the PIA of Build Alternative 1a. Although these raptors would be outside the PIA, they could still be impacted by construction activities. Therefore, this Build alternative could result in temporary impacts to seven pairs of nesting raptors from construction noise, night lighting, or increased human presence.

Build Alternative 1b

MSHCP Covered Species and/or Planning Species

Burrowing Owl

Six pairs of burrowing owls, RIV-BUO-005, 138 m (454 ft) from the PIA, RIV-BUO-006, 118 m (387 ft) from the PIA, RIV-BUO-023, 173 m (568 ft) from the PIA, RIV-BUO-024, 32 m (104 ft) from the PIA, RIV-BUO-042, 176 m (577 ft) from the PIA, and RIV-BUO-052, 14 m (47 ft) from the PIA, could be temporarily impacted by construction of Build Alternative 1b. Temporary impacts to these six pairs of burrowing owls could include construction noise, night lighting, or increased human presence.

Nesting and Foraging Raptors

Two pairs of white-tailed kites were found 11 m (36 ft) and 146 m (478 ft) from the Build Alternative 1b PIA. Although these raptors would be outside the PIA, they could still be impacted by construction activities. Impacts to these two pairs of white-tailed kites could include construction noise, night lighting, or increased human presence.

Stephens' Kangaroo Rat

Build Alternative 1b could temporarily impact 132.3 ha (326.8 ac) of Stephens' kangaroo rat habitat.

Quino Checkerspot Butterfly

Build Alternative 1b could temporarily impact 85.08 ha (210.25 ac) of quino checkerspot butterfly habitat.

Coastal California Gnatcatcher

Build Alternative 1b could temporarily impact 11.58 ha (28.62 ac) of coastal California gnatcatcher habitat.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

One pair of barn owls and six pairs of red-tailed hawks would be in the indirect impact area of Build Alternative 1b. Although these raptors would be outside the PIA, they could still be impacted by construction activities. The barn owls were 63 m (207 ft) from the PIA, and the red-tailed hawks were 84 m (275 ft), 95 m (313 ft), 34 m (112 ft), 18 m (60 ft), and 4 m (13 ft), and 45 m (148 ft) from the PIA. Temporary impacts to these raptors could include construction noise, night lighting, or increased human presence.

Design Option 1b1

Design Option 1b1 would cause one minor change in temporary impacts to quino checkerspot butterfly habitat when compared to Build Alternative 1b. Design Option 1b1 would temporarily impact 85.13 ha (210.37 ac) of quino checkerspot butterfly habitat, instead of 85.08 ha (210.25 ac) under Build Alternative 1b. All other temporary impacts to sensitive animal species would be the same with Design Option 1b1 as Build Alternative 1b.

Build Alternative 2a

MSHCP Covered Species and/or Planning Species

Burrowing Owl

Four pairs of burrowing owls and a single male, including RIV-BUO-004, 129 m (424 ft) from the PIA, RIV-BUO-005, 138 m (454 ft) from the PIA, RIV-BUO-023, 173 m (568 ft) from the PIA, RIV-BUO-052, 14 m (47 ft) from the PIA, and RIV BUO-053 (single male), 147 m (481 ft) from the PIA, could be temporarily impacted by Build Alternative 2a. Impacts could include construction noise, night lighting, or increased human presence.

Nesting and Foraging Raptors

One pair of Cooper's hawks and four pairs of white-tailed kites would be in the indirect impact area of Build Alternative 2a. Although these raptors would be outside the PIA, they could still be impacted by construction activities. The Cooper's hawks were found 131 m (430 ft) from the PIA, and the white-tailed kites were found 54 m (176 ft), 44 m (144 ft), 125 m (411 ft), and 11 m (36 ft) from the PIA. Temporary impacts could include construction noise, night lighting, or increased human presence.

Stephens' Kangaroo Rat

Build Alternative 2a could temporarily impact 144.4 ha (356.8 ac) of Stephens' kangaroo rat habitat.

Quino Checkerspot Butterfly

Build Alternative 2a could temporarily impact 235.39 ha (581.69 ac) of quino checkerspot butterfly habitat.

Coastal California Gnatcatcher

Build Alternative 2a could temporarily impact 40.74 ha (100.68 ac) of coastal California gnatcatcher habitat.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

Two pairs of barn owls and five pairs of red-tailed hawks were found in the indirect impact area of Build Alternative 2a. Although these raptors would be outside the PIA, they could still be impacted by construction activities. The barn owls were 63 m (207 ft) and 46 m (151 ft) from the PIA, and the red-tailed hawks were 84 m (275 ft), 95 m (313 ft), 34 m (112 ft), 18 m (60 ft), and 4 m (13 ft) from the PIA. Temporary impacts to these raptors could include construction noise, night lighting, or increased human presence.

Build Alternative 2b

MSHCP Covered Species and/or Planning Species

Burrowing Owl

Five pairs of burrowing owls, RIV-BUO-004, 129 m (424 ft) from the PIA, RIV BUO-005, 138 m (454 ft) from the PIA, RIV-BUO-023, 173 m (568 ft) from the PIA, RIV-BUO-042, 176 m (577 ft) from the PIA, and RIV-BUO-052, 14 m (47 ft) from the PIA, could be temporarily impacted by construction of Build Alternative 2b. These impacts could include construction noise, night lighting, or increased human presence.

Nesting and Foraging Raptors

One pair of Cooper's hawks and two pairs of white-tailed kites were found in the indirect impact area of Build Alternative 2b. Although these raptors would be outside the PIA, they could still be impacted by construction activities. The Cooper's hawks were 131 m (430 ft) from the PIA, and the white-tailed kites were 125 m (411 ft) and 11 m (36 ft) from the PIA. Temporary impacts could include construction noise, night lighting, or increased human presence.

Stephens' Kangaroo Rat

Build Alternative 2b could temporarily impact 141.7 ha (350.1 ac) of Stephens' kangaroo rat habitat.

Quino Checkerspot Butterfly

Build Alternative 2b could temporarily impact 239.94 ha (592.91 ac) of quino checkerspot butterfly habitat.

Coastal California Gnatcatcher

Build Alternative 2b could temporarily impact 41.04 ha (101.41 ac) of coastal California gnatcatcher habitat.

Animal Species Not Covered by the MSHCP

Nesting and Foraging Raptors

One pair of barn owls and six pairs of red-tailed hawks were found in the indirect impact area of Build Alternative 2b. Although these raptors would be outside the PIA, they could still be impacted by construction activities. The barn owls were 63 m (207 ft) from the PIA, and the red-tailed hawks were 84 m (275 ft), 95 m

(313 ft), 34 m (112 ft), 18 m (60 ft), and 4 m (13 ft), and 45 m (148 ft) from the PIA. Temporary impacts could include construction noise, night lighting, or increased human presence.

Design Option 2b1

Design Option 2b1 could cause one minor change in temporary impacts to quino checkerspot butterfly habitat when compared to Build Alternative 2b. Design Option 2b1 could temporarily impact 239.99 ha (593.03 ac) of Quino checkerspot butterfly habitat, instead of 239.94 ha (592.91 ac) with Build Alternative 2b. All other temporary impacts to sensitive animal species would be the same with Design Option 2b1 as Build Alternative 2b.

Avoidance, Minimization, and Mitigation Measures for Animal Species

Avoidance Measures

Avoidance measure BIO-28, for special-status plant species, would also apply to this section to protect the federally listed vernal pool branchiopod in the Stowe Road Vernal Pool Complex located in Additional Indirect Impact Study Area 1.

Minimization Measures

Measures BIO-14 and BIO-40 through BIO-45 would be implemented with all of the Build alternatives and design options.

Mitigation Measures

Mitigation measures BIO-28, BIO-34, BIO-40, BIO-41,and BIO-46 through BIO-48 will be implemented with all of the Build alternatives or design options.

CEQA Checklist Question IV.c

Permanent Impacts

No Build Alternative

No Project-related impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

Build Alternative 1a

This Build alternative would result in permanent impacts to 0.81 ha (1.99 ac) of vernal pools, 0.38 ha (0.93 ac) of seasonal wetlands, 3.66 ha (9.05 ac) of agricultural seasonal wetlands, and 0.64 ha (1.59 ac) of riparian seasonal wetlands.

Build Alternative 1b

Permanent, direct impacts to wetland resources would be identical to the permanent, direct impacts under Build Alternative 1a. However, the permanent, direct impacts to vernal pool habitat from this Build alternative would be

less than Build Alternative 1a. Under this Build alternative, only 0.004 ha (0.01 ac) of permanent, direct impacts to vernal pools would occur.

Design Option 1b1

Impacts to wetland resources would be the same in Design Option 1b1 as presented for Build Alternative 1b.

Build Alternative 2a

This Build alternative would result in permanent, direct impacts to 0.004 ha (0.01 ac) of vernal pools, 0.43 ha (1.06 ac) of seasonal wetlands, 0.64 ha (1.59 ac) of riparian seasonal wetlands, and 3.66 ha (9.05 ac) of agricultural seasonal wetlands.

Construction of Build Alternative 2a through the West Hemet Hills would permanently and directly impact about 7 percent of the watershed for the vernal pool complex located at the intersection of Stowe Road and California Avenue in Additional Indirect Impact Study Area 1. The 7 percent reduction in the watershed area may result in a permanent, indirect impact to 0.98 ha (2.43 ac) of additional vernal pool habitat located in Additional Indirect Impact Study Area 1 because of interruptions in hydrological patterns. Measures to minimize this potential indirect impact are described in Avoidance, Minimization, and/or Mitigation Measures.

Build Alternative 2b

Permanent direct and indirect impacts to wetlands and other waters from Build Alternative 2b would be similar to those described for Build Alternative 2a. Permanent, direct impacts to seasonal wetlands, riparian seasonal wetlands, and agricultural seasonal wetlands would be the same as Build Alternative 2a.

Permanent, direct impacts to vernal pool habitat from this Build alternative would be the same as Build Alternative 1a, 0.81 ha (1.99 ac), compared to 0.004 ha (0.01 ac) with Build Alternatives 1b and 2a.

Design Option 2b1

Direct Impacts to wetlands and other waters would be the same in Design Option 2b1 as presented for Build Alternative 2b.

Temporary Impacts

Temporary impacts to wetlands, other waters, and vernal pool habitats would include transitory impacts during construction, such as installation of cofferdams, temporary support structures, and construction access routes. These would be removed after a relatively short time and would not result in any permanent loss or impact to the aquatic resource.

No Build Alternative

No Project-related impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

Build Alternative 1a

Build Alternative 1a could temporarily impact up to 1.15 ha (2.85 ac) of Salt Creek Channel during construction of the bridge across the channel.

Build Alternative 1b and Design Option 1b1

A maximum of 1.12 ha (2.77 ac) of the Salt Creek Channel and up to 0.29 ha (0.72 ac) of the Hemet Channel could be temporarily impacted during construction of Build Alternative 1b. Temporary impacts from Design Option 1b1 would be the same.

Build Alternative 2a

A total of 1.15 ha (2.85 ac) in Salt Creek Channel and up to 0.75 ha (1.85 ac) of Hemet Channel could be temporarily impacted during construction of this Build alternative.

Build Alternative 2b and Design Option 2b1

A maximum of 1.27 ha (3.15 ac) in Salt Creek Channel and 0.53 ha (1.32 ac) in Hemet Channel could be temporarily impacted during construction of Build Alternative 2b. Temporary impacts from Design Option 2b1 would be the same.

Avoidance, Minimization and Mitigation Measures

The following measures will be implemented to offset potentially significant impacts to federally protected wetlands.

Avoidance Measures

As much as possible, the Build alternatives and design options have been developed to avoid permanent direct and indirect impacts to riparian/riverine and vernal pool habitats. Other Build alternatives that were considered (see Section 2.2.5 [Volume 1, page 2-26]) would have routed a portion of the roadway parallel to Warren Road on the east side of the San Diego Canal and west of the Hemet-Ryan Airport. This proposed alternative was eliminated from further analysis because of the large number of potential impacts to the habitat in this area. However, completely avoiding all areas that could be impacted would not be practicable, so measure BIO-28 will be implemented depending on the Preferred Alternative that is identified for the Project.

Minimization Measures

Measures WQ-1, WQ-4, WQ-5, and BIO-29 through BIO-33 would minimize impacts to wetlands and other waters.

Mitigation Measures

Mitigation measures BIO-33 and BIO-34 would be implemented to mitigate impacts to wetlands and other waters.

CEQA Checklist Question IV.d

A summary of the impacts to wildlife movement is in Table 3.3-3 (page 3-471).

Permanent Impacts

Permanent direct impacts to wildlife movement would include blocking the existing wildlife linkages or corridors, making these connective features unsuitable for use by one or more wildlife movement categories. The lack of suitable crossings, such as culverts and bridges, could force wildlife to seek other, potentially more dangerous crossings over the roadway or could restrict home ranges or dispersal movements. This kind of restriction could increase the potential for extirpation, or local extinction, over time. Blocking an existing linkage or corridor would be a permanent direct impact and could affect Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, Insects, and Passive Dispersers. No permanent direct impacts to Avian Wildlife movement are expected because local species in this category have the ability to fly over the roadway if culvert and bridge crossings are not present or are not suitable.

Permanent indirect impacts to wildlife movement would include alterations to the existing wildlife linkages or corridors that decrease their effectiveness. For example, traffic noise and artificial light could discourage wildlife from using the linkages or corridors, but would not prohibit their use. Therefore, traffic noise and artificial light would be indirect impacts. Likewise, in some areas, roadway operations could restrict wildlife crossings to only a few culverts and bridges, which could constrain the existing linkage or corridor, but would not prohibit its use. Such constraints because of roadway operations would also be considered indirect impacts.

No Build Alternative

No impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

All Build Alternatives and Design Options

Except for Existing Constrained Linkage C (San Jacinto River), the wildlife movement linkages and corridors described earlier would be permanently impacted by the Build alternatives and design options that cross them. The wildlife corridors trend east and west, and the Build alternatives and design options would be aligned north and south, thus would need to cross the corridors. These crossings would alter the corridors by placing man-made structures over them or through them. The kind of structure used at each crossing would depend on the topography, the requirements of the roadway, and environmental considerations such as drainage or historic preservation. Some crossings would be bridges, others would be on embankment with culverts, and others would block the corridor entirely. Structures that would enable wildlife to cross the roadway safely would be included throughout the Project. Figures 3.3-11 through 3.3-16 (Section 3.3) show the locations of linkages, corridors, and proposed bridges and culverts by Build alternative or design option.

All of the Build alternatives and design options would have permanent impacts on the wildlife corridors they cross. These impacts would be direct or indirect, depending on the configuration of the Build alternative or design option and nature of the crossing. Direct impacts, if any, would depend on the Build alternative or design option.

Permanent indirect impacts from all Build alternatives and design options would include:

- Roadway structures that intrude into existing wildlife corridors and make them less desirable to certain species of wildlife
- The shadow effect from bridges, which would reduce the amount of natural light in a crossing during the day and could make the corridor less desirable for diurnal species (animals that are active in the daytime)
- Increased traffic noise and artificial light, which could decrease the effectiveness of a wildlife corridor

Some of these impacts would vary according to the dimensions of the structure causing the impact. For instance, a higher bridge would have a smaller shadow impact on a wildlife corridor than a lower one, and a short culvert would be less imposing than a longer one.

Although the locations of crossings might vary, some wildlife corridors would be impacted in various ways by all of the Build alternatives and design options. These corridors are:

- MSHCP Existing Constrained Linkage B (Salt Creek)
- Newport Road Hills to Patton Road (1)
- Hemet Channel (2)
- San Jacinto Branch Line (3)
- Lakeview Mountains to Tres Cerritos Hills (7)
- Colorado River Aqueduct (8)

Corridors that would be impacted only by Build Alternatives 1a and 1b and Design Option 1b1 are:

- Double Butte to West Hemet Hills (4)
- West Hemet Hills to Lakeview Mountains (6)

One corridor would be impacted only by Build Alternatives 2a and 2b and Design Option 2b1—West Hemet Hills to Hemet-Ryan Airport (5).

Existing Constrained Linkage C (San Jacinto River) would not be crossed by any of the Build alternatives or design options. The only Project-related impacts to this constrained linkage would be temporary.

Permanent impacts to the MSHCP linkage and local wildlife corridors are discussed below by Build alternative and design option.

Existing Constrained Linkage B (Salt Creek)

All Build alternatives and design options would permanently and indirectly impact Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife, and Insects that use MSHCP Existing Constrained Linkage B by making this corridor less desirable for species in these wildlife movement

categories. Permanent impacts to Passive Dispersers (e.g., fairy shrimp and plants) are not expected because the habitat and hydrology would remain unchanged in the linkage.

Build Alternative 1a

Build Alternative 1a would maintain the existing constrained linkage by building an SR 79 bridge over Olive Avenue, Winchester Road, and Salt Creek Channel. The bridge would have a minimum vertical clearance of 5.79 m (19 ft) and would be about 268 m (938 ft) long. It would consist of two separate structures about 22 m (72 ft) apart, one about 13 to14 m (41 to 47 ft) wide and the other about 16 to 24 m (52 to 78 ft) wide. Although Winchester Road already crosses Salt Creek Channel in this location, the shadows cast by the proposed bridge would reduce the amount of natural light in the crossing during the day even further.

Build Alternative 1b

Build Alternative 1b would maintain the existing constrained linkage by building an SR 79 bridge over Olive Avenue and Salt Creek Channel. The bridge would have a minimum vertical clearance of about 5.58 m (18 ft) and would be about 231 m (758 ft) long. Although this bridge would consist of two separate structures about 22 m (72 ft) apart, the structures would be 13 to 30 m (41 to 98 ft) and 18 to 26 m (58 to 85 ft) wide and would reduce the amount of natural light in the corridor.

Design Option 1b1

Design Option 1b1 would maintain the existing constrained linkage by building an SR 79 bridge over Salt Creek Channel. This bridge would be lower and shorter than the one designed for Build Alternative 1b, with a minimum vertical clearance of about 2 m (6 ft) and a length of about 205 m (673 ft). Although this bridge would consist of two separate structures about 22.0 m (72 ft) apart, the structures would be 14 m to 30 m (46 ft to 98 ft) and 19 to 26 m (62 to 85 ft) wide. Like the Build alternative, the shadows cast by these structures would reduce the amount of natural light in the crossing. Indirect impacts from traffic noise and artificial light could be more severe with the design option than the base condition because the roadway would be closer to the linkage.

Build Alternative 2a

Build Alternative 2a would have the same impacts to Existing Constrained Linkage B (Salt Creek) as Build Alternative 1a. The configuration of the bridge would be the same, so the impacts would be the same.

Build Alternative 2b

Build Alternative 2b would maintain the existing constrained linkage by building an SR 79 bridge over Olive Avenue and Salt Creek Channel. The bridge would have a minimum vertical clearance of about 6.56 m (21.5 ft) and would be about 271 m (889 ft) long. Although this bridge would consist of two separate structures about 22 m (72 ft) apart, the structures would be about 13 to 23 m (41 to 74 ft) and 15 to 24 m (50 to 78 ft) wide. The shadows cast by the structures would reduce the amount of natural light in the crossing during the day.

Design Option 2b1

Design Option 2b1 would maintain the existing constrained linkage by building an SR 79 bridge over Salt Creek Channel. This bridge would be lower and shorter than the one designed for Build Alternative 2b, with a minimum vertical clearance of about 3 m (10 ft) and a length of about 230 m (755 ft). Although the bridge would consist of two separate structures that are about 22 m (72 ft) apart, the structures would be 13 m to 23 m (41 ft to 74 ft) and 16 m to 24 m (53 ft to 78 ft) wide. Like the Build alternative, the shadows cast by these structures would reduce the amount of natural light in the crossing during the day. Indirect impacts from traffic noise and artificial light could be more severe with the design option than the base condition because the roadway would be closer to the linkage.

Newport Road Hills to Patton Road Corridor (1)

Build Alternative 1a

Build Alternative 1a would permanently and directly impact Small Mammalian, Reptile, and Amphibian Wildlife and Insects that use the existing Newport Road Hills to Patton Road Corridor by making it unsuitable for species in these categories.

Build Alternative 1a would permanently and indirectly impact Avian Wildlife and Large Mammalian Wildlife that use the existing corridor by making it less desirable and more dangerous for species in these categories. To continue to use this already constrained corridor, wildlife would need to travel along Newport Road and cross Build Alternative 1a on the proposed Newport Road bridge or by using Culvert A-1 or Culvert A-2 when possible (some species might not be able to use these culvert crossings year round due to periodic inundation).

The proposed Newport Road bridge over SR 79 would not have any vegetation, and the elevated crossing could deter many species; however, the bridge would present fewer hazards from traffic than crossing SR 79 directly. Culverts A-1 and A-2 would run east and west on either side of the proposed Newport Road bridge. Each culvert opening would be about 0.9 m (3 ft) by 2.1 m (7 ft). Culvert A-1 would be about 320 m (1,050 ft) long, and Culvert A-2 would be about 370 m (1,210 ft) long. The culvert openings would be adequate for many species, but the lengths might be undesirable.

Although Build Alternative 1a would not prohibit the movement of Avian Wildlife and Large Mammalian Wildlife, the altered routes required by this Build alternative would present new hazards from traffic and would not be as desirable or as direct as the existing corridor.

Build Alternative 1b and Design Option 1b1

Build Alternative 1b and Design Option 1b1 would permanently and indirectly impact Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, and Insects that use the existing Newport Road Hills to Patton Road Corridor by making it less desirable and more dangerous for species in these categories. To continue to use this already constrained corridor, wildlife would need to travel under or over proposed bridges or through proposed culverts.

Wildlife could travel under the proposed SR 79 bridges over Patterson Avenue or Patton Avenue, which would pose fewer hazards from traffic than crossing SR 79 directly. These routes would not be as direct as the existing corridor and would require wildlife to travel along existing roads, which could decrease the effectiveness of this already constrained corridor. Although unlikely, wildlife could also travel along Newport Road and cross over SR 79 on the proposed Newport Road bridge or use Culverts B-1 or B 2 when seasonally possible. The proposed Newport Road bridge over SR 79 would not have any vegetation, and the elevated crossing could deter many species, but the bridge would present fewer traffic hazards than crossing SR 79 directly.

Culverts B-1 and B-2 would run east and west on either side of the proposed Newport Road bridge over SR 79. Each culvert opening would be about 0.9 m (3 ft) by 2.1 m (7 ft). Culvert B-1 would be about 270 m (890 ft) long, and Culvert B-2 would be about 240 m (790 ft) long. The culvert openings would be adequate for many species, but the lengths could be undesirable.

Although Build Alternative 1b and Design Option 1b1 would not prohibit the movement of most wildlife, the altered routes associated with them would present new hazards from traffic and would not be as desirable or as direct as the existing corridor.

Build Alternative 2a

Build Alternative 2a would have the same impacts to the existing Newport Road Hills to Patton Road Corridor as Build Alternative 1a.

Build Alternative 2b and Design Option 2b1

Build Alternative 2b and Design Option 2b1 would have the same impacts to the existing Newport Road Hills to Patton Road Corridor as Build Alternative 1b.

Hemet Channel Corridor (2)

Build Alternative 1a

Build Alternative 1a would not cross the Hemet Channel Corridor, so no permanent direct impacts are expected. However, it would be close enough to permanently and indirectly impact Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, and Insects that use the existing corridor by making it less desirable for species in these categories. Permanent impacts to Passive Dispersers (e.g., plants) are not expected because the habitat and hydrology would remain unchanged in the corridor.

Build Alternative 1b

Build Alternative 1b would permanently and indirectly impact Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, Insects, and Passive Dispersers that use the existing Hemet Channel Corridor by making it less desirable for species in these categories.

Build Alternative 1b would maintain the existing corridor by creating an SR 79 bridge over Hemet Channel and the San Jacinto Branch Line. The bridge would have a minimum vertical clearance of 7.79 m (25.5 ft) and would be about 265 m (869 ft) long. Although this bridge would consist of two separate structures about 22 m (72 ft)

apart, the structures would be 13 to 17 m (41 to 57 ft) and 13 to 18 m (41 to 60 ft) wide. The shadows cast by these structures would reduce the amount of natural light in the crossing during the day.

Design Option 1b1

Design Option 1b1 would impact the same wildlife movement categories in the Hemet Channel Corridor as those discussed under Build Alternative 1b. Any difference in impacts would be related to changes in the dimensions of the bridge over Hemet Channel. Design Option 1b1 would not bridge over the San Jacinto Branch Line.

Like Build Alternative 1b, Design Option 1b1 would maintain the existing wildlife corridor by building an SR 79 bridge over Hemet Channel. This bridge would be lower and shorter than the one for the Build alternative, with a minimum vertical clearance of about 2 m (7 ft) and a length of about 155 m (509 ft). Although this bridge would consist of two separate structures about 22 m (72 ft) apart, the structures would be 13 to 15 m (41 to 49 ft) and 13 m (41 ft) wide. Like the Build alternative, the shadows cast by these structures would reduce the amount of natural light in the crossing during the day. Indirect impacts from traffic noise and artificial light could be more severe with the design option than the base condition because the roadway would be closer to the corridor.

Build Alternative 2a

Build Alternative 2a would impact the same wildlife movement categories in the Hemet Channel Corridor as Build Alternative 1b.

Build Alternative 2a would maintain the existing corridor by creating Culvert F-3 and an SR 79 bridge over the San Jacinto Branch Line and Hemet Channel. Culvert F-3 would cross under Build Alternative 2a. It would be about 60 m (200 ft) long and would consist of four openings about 4.25 m (14 ft) by 3.00 m (10 ft) each. The culvert openings would be adequate for many species, but the lengths might be undesirable. Some species may be unable to use this culvert crossing year round due to periodic inundation.

The bridge over the San Jacinto Branch Line and Hemet Channel would have a minimum vertical clearance of about 8.24 m (27 ft) and would be about 227 m (745 ft) long. The bridge would consist of two separate structures about 22 m (72 ft) apart, with widths of about 13 m (41 ft) and 15 to 20 m (50 to 65 ft). In addition to the bridge, a Future Street "A" southbound off-ramp would be built over the San Jacinto Branch Line and Hemet Channel at this location, about 3.5 to 30 m (11 to 98 ft) west of the bridge. This off-ramp would have a minimum vertical clearance of about 7.17 m (23.5 ft) and would be about 266 m (873 ft) long and 8 to 12 m (26 to 39 ft) wide. Although the two bridge structures and the off-ramp would have gaps between them, their shadows would reduce the amount of natural light in the crossing during the day.

Build Alternative 2b

Build Alternative 2b would permanently and indirectly impact Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife, and Insects that use the existing Hemet Channel Corridor by making this corridor less desirable for species in these categories. Permanent impacts to Passive Dispersers (e.g., plants) are not expected because the habitat and hydrology would remain unchanged in the corridor.

Build Alternative 2b would maintain the existing corridor by creating an SR 79 bridge over the San Jacinto Branch Line and Hemet Channel. The bridge would have a minimum vertical clearance of about 8.60 m (28 ft) and would be about 227 m (745 ft) long. This bridge would consist of two separate structures about 22 m (72 ft) apart, with widths of about 13 m (41 ft) and 15 to 20 m (50 to 65 ft). A Future Street "A" southbound off-ramp would also be built over the San Jacinto Branch Line and Hemet Channel at this location, about 3.5 to 30 m (11 to 98 ft) west of the bridge. This off-ramp would have a minimum vertical clearance of about 7.17 m (23.5 ft) and would be about 266 m (873 ft) long and 8 to 12 m (26 to 39 ft) wide. Although the two bridge structures and the off-ramp would have gaps between them, their shadows would reduce the amount of natural light in the crossing during the day, which could make the corridor less desirable for diurnal species.

Design Option 2b1

Design Option 2b1 would impact the same wildlife movement categories in the Hemet Channel Corridor as those discussed under Build Alternative 2b. Any difference in impacts would be related to changes in the dimensions of the structures over Hemet Channel. Design Option 2b1 would not bridge over the San Jacinto Branch Line.

Design Option 2b1 would maintain the existing wildlife corridor by building an SR 79 bridge over Hemet Channel. This bridge would be lower and shorter than the one for the Build alternative, with a minimum vertical clearance of about 2 m (7 ft) and a length of about 72 m (236 ft). The bridge would consist of two separate structures, about 22 m (72 ft) apart, with widths of about 13 m (41 ft) and 17 to 18 m (55 to 60 ft). A Future Street "A" southbound off ramp would also be built over Hemet Channel in this location, about 12 to 31 m (39 to 102 ft) west of the bridge. The off-ramp would have a minimum vertical clearance of about 3 m (10 ft) and would be about 142 m (466 ft) long and 12 m (39 ft) wide. Although the two bridge structures and the off-ramp would have gaps between them, their shadows would reduce amount of natural light in the crossing during the day. Indirect impacts from traffic noise and artificial light could be more severe with the design option than the base condition because the roadway would be closer to the corridor.

San Jacinto Branch Line Corridor (3)

Build Alternative 1a

Build Alternative 1a would have permanent and indirect impacts to Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife that use the existing San Jacinto Branch Line Corridor by making it less desirable for species in these categories.

Build Alternative 1a would maintain the existing wildlife corridor by building an SR 79 bridge over the San Jacinto Branch Line. The bridge would have a minimum vertical clearance of 7.68 m (25 ft) and would be about 90 m (295 ft) long. Although this bridge would consist of two separate structures about 22 m (72 ft) apart, the structures would be 16 to 18 m (53 to 59 ft) and 15 to 23 m (48 to 75 ft) wide. The shadows cast by these structures would reduce the amount of natural light in the crossing during the day.

Build Alternative 1b

Build Alternative 1b would have the same impacts to the same wildlife movement categories as Build Alternative 1a.

Build Alternative 1b would maintain the existing corridor by building an SR 79 bridge over Hemet Channel and the San Jacinto Branch Line. The bridge would have a minimum vertical clearance of about 7.79 m (25.5 ft) and would be about 265 m (869 ft) long. Although this bridge would consist of two separate structures about 22 m (72 ft) apart, the structures would be 13 to 17 m (41 to 57 ft) and 13 to 18 m (41 to 60 ft) wide. The shadows cast by these structures would reduce the amount of natural light in the crossing during the day.

Design Option 1b1

Design Option 1b1 would impact the same wildlife movement categories in the San Jacinto Branch Line Corridor as those discussed under Build Alternative 1a. Because it would involve laying a section of roadway directly over the tracks, this design option would create a physical barrier to terrestrial wildlife movement in the existing San Jacinto Branch Line Corridor. It would not provide culverts or bridges to facilitate wildlife movement, making this corridor unsuitable for all categories of wildlife movement except Avian Wildlife.

Build Alternative 2a

Build Alternative 2a would have the same types of impacts to the same wildlife movement categories as Build Alternative 1a, but it would include an off-ramp over Hemet Channel and the San Jacinto Branch Line, and the bridge configuration would be somewhat different.

Build Alternative 2a would maintain the existing corridor by building an SR 79 bridge over the San Jacinto Branch Line and Hemet Channel. The bridge would have a minimum vertical clearance of about 8.24 m (27 ft) and would be about 227 m (745 ft) long. This bridge would consist of two separate structures about 22 m (72 ft) apart, with widths of about 13 m (41 ft) and 15 to 20 m (50 to 65 ft). In addition to the bridge, a Future Street "A" southbound off-ramp would be built over the San Jacinto Branch Line and Hemet Channel in this same location, about 3.5 to 30 m (11 to 98 ft) west of the bridge. This off-ramp would have a minimum vertical clearance of about 7.17 m (23.5 ft) and would be about 266 m (873 ft) long and 8 to 12 m (26 to 39 ft) wide. Although the two bridge structures and the off-ramp would have gaps between them, their shadows would reduce amount of natural light in the crossing during the day.

Build Alternative 2b

Build Alternative 2b would have the same types of impacts to the same wildlife movement categories as Build Alternative 1a.

Build Alternative 2b would maintain the existing corridor by creating an SR 79 bridge over the San Jacinto Branch Line and Hemet Channel. The bridge would have a minimum vertical clearance of about 8.6 m (28 ft) and would be about 227 m (745 ft) long. This bridge would consist of two separate structures about 22 m (72 ft) apart, with widths of about 13 m (41 ft) and 15 to 20 m (50 to 65 ft). A Future Street "A" southbound off-ramp would also be built over the San Jacinto Branch Line and Hemet Channel at this location, about 3.5 to 30 m (11 to 98 ft) west of the bridge. This off-ramp would have a minimum vertical clearance of about 7.17 m (23.5 ft) and would be about 266 m (873 ft) long and 8 to 12 m (26 to 39 ft) wide. Although the two bridge structures and the off-ramp would have gaps between them, their shadows would reduce the amount of natural light in the crossing during the day.

Design Option 2b1

Design Option 2b1 would have the same configuration and impacts as Design Option 1b1.

Double Butte to West Hemet Hills Corridor (4)

Build Alternative 1a

Build Alternative 1a would permanently and directly impact Large Mammalian Wildlife and Small Mammalian, Reptile, and Amphibian Wildlife that use the existing Double Butte to West Hemet Hills Corridor by making it unsuitable for species in these categories. This Build alternative would fragment existing habitat in the West Hemet Hills by creating a physical barrier to terrestrial wildlife movement in the corridor. Build Alternative 1a would not include culverts or bridges to facilitate wildlife movement in this corridor, making it unsuitable for all categories of wildlife movement except Avian Wildlife.

Build Alternative 1b and Design Option 1b1

Build Alternative 1b and Design Option 1b1 would have the same impacts to the same wildlife movement categories as Build Alternative 1a.

Build Alternatives 2a and 2b and Design Option 2b1

Build Alternatives 2a and 2b and Design Option 2b1 would not cross the existing Double Butte to West Hemet Hills Corridor and would have no impact on it.

West Hemet Hills to Hemet-Ryan Airport Corridor (5)

Build Alternatives 1a and 1b and Design Option 1b1

Build Alternatives 1a and 1b and Design Option 1b1 would not cross the existing West Hemet Hills to Hemet-Ryan Airport Corridor and would have no impact on it.

Build Alternative 2a

Build Alternative 2a would permanently and directly impact Large Mammalian Wildlife that use the existing West Hemet Hills to Hemet-Ryan Airport Corridor by making this corridor unsuitable for species in this category. This Build alternative would fragment the habitat region in the West Hemet Hills by creating a physical barrier to Large Mammalian Wildlife movement in the existing corridor. Build Alternative 2a would not provide culverts or bridges that would be adequate for Large Mammalian Wildlife movement, making this corridor unsuitable for species in this category.

Build Alternative 2a would permanently and indirectly impact Avian Wildlife and Small Mammalian, Reptile, and Amphibian Wildlife that use the existing West Hemet Hills to Hemet-Ryan Airport Corridor by making it less desirable for species in these categories. To continue to use this corridor, terrestrial wildlife would need to travel through proposed Culverts H-1, H-1a, H-1b, or H-2 when seasonally possible. Some species might not be able to use these culvert crossings year round due to periodic inundation. These culverts would cross under Build Alternative 2a. Culvert H-1 would be about 0.76 m (2.5 ft) in diameter and about 75 m (245 ft) long.

Culverts H-1a and H-1b would be about 0.61 m (2.0 ft) in diameter. Culvert H-1a would be about 145 m (475 ft) long, and Culvert H-1b would be about 160 m (525 ft) long. Culvert H-2 would be about 1.1 m (3.5 ft) in diameter and about 98 m (320 ft) long. These culvert openings would be adequate for many species, but the lengths might be undesirable.

Although Build Alternative 2a would not prohibit the movement of Avian Wildlife and Small Mammalian, Reptile, and Amphibian Wildlife, the routes the wildlife would have to use would not be as desirable or as direct as the existing West Hemet Hills to Hemet-Ryan Airport Corridor.

Build Alternative 2b

Impacts to this corridor from Build Alternative 2b would be the same as Build Alternative 2a.

Design Option 2b1

Design Option 2b1 would impact the same wildlife movement categories in the West Hemet Hills to Hemet-Ryan Airport Corridor as those discussed under Build Alternative 2a. Any difference in impacts would be related to changes in the dimensions of the culverts included with this design option.

Like Build Alternatives 2a and 2b, Design Option 2b1 would fragment the habitat region in the West Hemet Hills by creating a physical barrier to Large Mammalian Wildlife. To continue to use the West Hemet Hills to Hemet-Ryan Airport Corridor, smaller terrestrial wildlife would need to travel through proposed Culverts H-1, H-1a, H-1b, or H-2 when seasonally possible. These culverts would cross under the Design Option 2b1 roadway. Some species might not be able to use them year round due to periodic inundation.

With Design Option 2b1, Culvert H-1 would have an opening that would be the same size as with the base condition, but it would be longer, about 89 m (292 ft). Culverts H-1a and H-1b would not change from the base condition. Like the base condition, Culvert H-2 would be about 1.1 m (3.5 ft) in diameter, but it would be longer, at about 111 m (364 ft). These culvert openings would be adequate for many species, but the longer lengths in two of the culverts could make them even more undesirable than those in the base condition.

West Hemet Hills to Lakeview Mountains Corridor (6)

Build Alternative 1a

Build Alternative 1a would permanently and directly impact Large Mammalian Wildlife that use the existing West Hemet Hills to Lakeview Mountains Corridor by making it unsuitable for species in this category. This Build alternative would fragment existing habitat in the West Hemet Hills by creating a physical barrier to wildlife movement in the existing corridor. Build Alternative 1a would not provide culverts or bridges to facilitate wildlife movement in the corridor, making it unsuitable for Large Mammalian Wildlife.

The noise, artificial light, and traffic on Build Alternative 1a would permanently and indirectly impact Avian Wildlife that use the existing West Hemet Hills to Lakeview Mountains Corridor by making it less desirable for species in this category.

Build Alternative 1b and Design Option 1b1

Impacts to this corridor from Build Alternative 1b and Design Option 1b1 would be the same as Build Alternative 1a.

Build Alternatives 2a and 2b and Design Option 2b1

Build Alternatives 2a and 2b and Design Option 2b1 would not cross the existing West Hemet Hills to Lakeview Mountains Corridor and would have no impact on it.

Lakeview Mountains to Tres Cerritos Hills Corridor (7)

All Build Alternatives and Design Options

All of the Build alternatives and design options would permanently and directly impact Large Mammalian Wildlife that use the existing Lakeview Mountains to Tres Cerritos Hills Corridor by making it unsuitable for species in this category. They would block the existing connection (a bridge over the San Diego Canal) and create a physical barrier to wildlife movement along the corridor. None of the Build alternatives or design options would provide culverts or bridges to facilitate wildlife movement in this corridor, making it unsuitable for Large Mammalian Wildlife.

Increased noise, artificial light, and traffic on any of the Build alternatives or design options would permanently and indirectly impact Avian Wildlife that use the existing West Hemet Hills to Lakeview Mountains Corridor by making it less desirable for species in this category.

Colorado River Aqueduct Corridor (8)

Build Alternative 1a

Build Alternative 1a would permanently and indirectly impact Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife that use the existing Colorado River Aqueduct Corridor by making it less desirable for species in these categories.

To continue to use this corridor, terrestrial wildlife would need to travel through two proposed culverts, Culvert L-15 or Culvert L-16. Culvert L-15 would be about 76 m (250 ft) long and would consist of four openings, each about 1.2 m (4 ft) by 2.1 m (7 ft). Culvert L-16 would be about 40 m (131 ft) long and would consist of eight openings, each about 1.5 m (5 ft) by 3 m (10 ft). The heights and widths of the culverts would be adequate for many species, but the lengths might be undesirable. Some species might not be able to use these culvert crossings year round due to periodic inundation.

Build Alternative 1b and Design Option 1b1

The impacts from Build Alternative 1b and Design Option 1b1 would generally be the same as Build Alternative 1a. Any differences would be the result of variance in culvert design.

Build Alternative 1b and Design Option 1b1 would include two proposed culverts, Culvert M-11 and Culvert M-12. Culvert M-11 would be 85 m (280 ft) long and would consist of four openings, each 1.2 m (4 ft) tall and

2.1 m (7 ft) wide. Culvert M-12 would be 40 m (130 ft) long and would consist of eight openings, each 1.5 m (5 ft) tall and 3 m (10 ft) wide.

Build Alternative 2a

The impacts from Build Alternative 2a would be the same as Build Alternative 1a. Culvert designs would also be the same.

Build Alternative 2b and Design Option 2b1

The impacts from Build Alternative 2b and Design Option 1b1 would be the same as Build Alternative 1b. Culvert designs would also be the same.

Temporary Impacts

Temporary impacts to wildlife movement would be related to construction and could include increased collision mortality because of construction vehicles and restricted movement due to temporary fencing, construction noise, night lighting, and increased human presence. Dust, noise, night lighting, or increased human presence also could deter wildlife movement. Construction activities could also cause wildlife to find more dangerous roadway crossings or restrict home ranges or disrupt dispersal movements.

No Build Alternative

No temporary impacts would occur with this alternative. The existing conditions would remain, and the roadway would be unchanged.

All Build Alternatives and Design Options

All Build alternatives and design options would have temporary impacts to the following wildlife corridors:

- MSHCP Existing Constrained Linkage B (Salt Creek)
- Existing Constrained Linkage C
- Newport Road Hills to Patton Road
- Hemet Channel
- San Jacinto Branch Line
- West Hemet Hills to Lakeview Mountains
- Lakeview Mountains to Tres Cerritos Hills
- Colorado River Aqueduct

Existing Constrained Linkage B (Salt Creek)

Construction activity would temporarily impact Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, Insects, and Passive Dispersers that use Existing Constrained Linkage B (Salt Creek).

Existing Constrained Linkage C

Construction activity would temporarily impact Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, Insects, and Passive Dispersers that use Existing Constrained Linkage C.

Newport Road Hills to Patton Road Corridor

Construction activity would temporarily impact Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, and Insects that use the existing Newport Road Hills to Patton Road Corridor.

Hemet Channel Corridor

Construction activity would temporarily impact Avian Wildlife, Large Mammalian Wildlife, Small Mammalian, Reptile, and Amphibian Wildlife, Insects, and Passive Dispersers that use the existing Hemet Channel Corridor.

San Jacinto Branch Line Corridor

Construction activity would temporarily impact Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife that use the existing San Jacinto Branch Line Corridor.

West Hemet Hills to Lakeview Mountains Corridor

Construction activity would temporarily impact Avian Wildlife that use the existing West Hemet Hills to Lakeview Mountains Corridor.

Lakeview Mountains to Tres Cerritos Hills Corridor

Construction activity would temporarily impact Avian Wildlife that use the existing Lakeview Mountains to Tres Cerritos Hills Corridor.

Colorado River Aqueduct Corridor

Construction activity would temporarily impact Avian Wildlife, Large Mammalian Wildlife, and Small Mammalian, Reptile, and Amphibian Wildlife that use the existing Colorado River Aqueduct Corridor.

Build Alternatives 1a, 1b, and Design Option 1b1

The Double Butte to West Hemet Hills Corridor would be impacted only by Build Alternatives 1a, 1b, and Design Option 1b1.

Double Butte to West Hemet Hills Corridor

Build Alternatives 1a and 1b would temporarily impact Avian Wildlife that use the existing Double Butte to West Hemet Hills Corridor.

Build Alternatives 2a, 2b, and Design Option 2b1

The West Hemet Hills to Hemet-Ryan Airport Corridor would be impacted only by Build Alternatives 2a, 2b, and Design Option 2b1.

West Hemet Hills to Hemet-Ryan Airport Corridor

Build Alternatives 2a and 2b would temporarily impact Avian Wildlife, Small Mammalian, Reptile and Amphibian Wildlife, and Insects that use the existing West Hemet Hills to Hemet-Ryan Airport Corridor.

Avoidance, Minimization, and Mitigation Measures

Avoidance Measures

Measures BIO-11 through BIO-13 will be incorporated to avoid potentially significant impacts to wildlife

Minimization Measures

All Build alternatives will incorporate minimization measures BIO-14 through BIO-26 to comply with all MSHCP guidelines related to minimizing impacts to wildlife movement within or adjacent to the MSHCP Conservation Area.

Mitigation Measures

All Build alternatives will incorporate mitigation measure BIO-27 to comply with all MSHCP guidelines related to minimizing impacts to wildlife movement within or adjacent to the MSHCP Conservation Area.

4.2.3.4 Geology and Soils (CEQA Checklist Questions VI.a.i through VI.a.iii and VI.c)

The Project is located in a seismically active area, as is most of Southern California. In addition to the San Jacinto Fault Zone crossing its northern portion, the Project study area is situated between two other major active fault zones—the Elsinore Fault Zone to the southwest and the San Andreas Fault Zone to the northeast. Numerous other active and potentially active faults and fault zones are located in the general region. There are potentially significant impacts as a result of surface fault rupture. The location of the Project in relation to known active and potentially active faults indicates that the Project would not be exposed to a greater seismic risk than other sites in the region. Although it could be reduced by mitigation measure GEO-1, surface fault failure would still be considered a potentially significant impact.

The location of the Project study area in relation to known active and potentially active faults indicates that the alignments are not exposed to a greater seismic risk than other sites in the region. The Project could be impacted by strong ground motion as a result of a significant earthquake in the area. Seismic ground shaking could be reduced by mitigation measure GEO-2, but it would still be considered a potentially significant impact.

The Project study area is located in areas considered moderately to highly susceptible to liquefaction. These areas are mapped near the northern and southern ends of the Project. Liquefaction and its effects, including lateral spreading and subsidence, could be reduced by mitigation measure GEO-3, but liquefaction would still be considered a potentially significant impact.

4.2.3.5 Hazards and Hazardous Materials (CEQA Checklist Question VIII.c)

Construction of the Project has the potential to emit hazardous materials during preparation and excavation activities. The Winchester Elementary School (located at 28751 Winchester Road) would be the school facility closest to the Project. Mitigation measures HAZMAT-1 through HAZMAT-5 are proposed to address the risk of hazardous materials releases. However, the potential for significant impacts cannot be fully reduced. Therefore, because of risks to Winchester Elementary School, hazards and hazardous materials are considered a potentially significant impact.

4.2.3.6 Mandatory Findings of Significance (CEQA Checklist Question XVIII.b)

The Project could contribute to cumulative effects as follows:

- Visual/aesthetics and community character through alteration of the visual character and quality of the San Jacinto Valley
- Air quality during construction of the Project
- Paleontological resources through destruction and damage of these resources during excavation activities
- Species not covered in the MSHCP and wetlands and other waters through habitat removal and/or degradation

The Project would incorporate measures to minimize and mitigate Project-related impacts and to lessen the potential cumulative effects to these resources. Despite measures to address visual/aesthetics, air quality during construction of the Project, and paleontological resources, the impacts would remain significant and, therefore, potentially cumulatively significant. However, the Project-specific mitigation for species not covered in the MSHCP and wetlands and other waters is expected to reduce the Project's contribution to potential cumulative effects to a less than significant level. Because cultural resources evaluations have not been completed, the cumulative impacts to historical resources cannot be fully assessed until a Preferred Alternative has been identified (see Section 3.6 [page 3-691] for a detailed discussion of cumulative impacts). To date, cumulative impacts to cultural resources have been determined to be less than significant.

Visual/Aesthetics

Project would incorporate specific design elements to reduce the visual effect the Project would have on its surroundings, including embankment development and design, rock weathering, and landscaping. However, due to the ongoing changes to visual character in the San Jacinto Valley, the Project would contribute to the cumulative effect of declining rural and agricultural values in the San Jacinto Valley, which directly contribute to the visual character and quality of the area. This impact is considered significant.

Air Quality

The Project would incorporate both standard conditions and mitigation measures during construction to lessen the impact on air quality. The Project is located in an area designated as nonattainment of the California O_3 air quality standards, and construction of the Project would result in elevated, NO_X emissions. Therefore, construction of the Project is expected to contribute to existing violations of the O_3 standards. This short-term impact would be potentially significant.

Community Character

The Project would incorporate specific design elements to reduce the effect the Project has on its surroundings, including embankment development and design, rock weathering, and landscaping. The general plans of the local jurisdictions indicate their intent to support future growth and change. Most noticeably, this has resulted in the conversion of open space and agriculture to more urban uses, such as housing developments and commercial centers. In addition, the proposed Project would realign an existing roadway in a rural area. This permanent change to the visual character and quality of the San Jacinto Valley would be a significant impact.

Paleontology

The Project would incorporate specific elements into construction and operation to avoid and/or minimize the effect of Project activities on paleontological resources, including implementation of a Paleontological Mitigation Plan (PMP). However, inadvertent discovery of previously unknown paleontological resources, with possible damage to or destruction of them, would remain a potentially significant cumulative effect.

Species Not Covered by the MSHCP

Coordination with appropriate resource agencies will identify appropriate minimization measures for impacts to the regionally significant Robinson's peppergrass after the Preferred Alternative is identified. This Project-specific mitigation would be expected to reduce the Project's contribution to potential cumulative effects to less than significant.

The Project would incorporate specific minimization measures, such as preconstruction surveys and nest exclusion, to address impacts to nesting and foraging raptors. However, due to the ongoing loss of nesting raptors in western Riverside County and Southern California, the Project would contribute to the cumulative effect of declining nesting raptor populations and reproductive success within the region.

The Project would incorporate specific mitigation measures to improve bat roosting sites and habitat. Measures would include installing a bat-friendly gate on a nearby mine adit to limit or remove human disturbance and improve the quality of this mine roost site. In addition, as part of landscape design for the Project, mature plantings of native deciduous trees would be incorporated to provide suitable habitat for vegetation-roosting bats. This Project-specific mitigation would reduce the Project's contribution to potential cumulative effects to less than significant.

Wetlands and Other Waters

The Project would create, enhance, and/or preserve wetland areas as required by state and federal permits. Permits would be based on the Preferred Alternative identified for the Project. The Project would incorporate engineering controls and best management practices, such as culvert design and placement and erosion control (e.g., silt fencing), to minimize altered hydrology and roadway runoff. This Project-specific mitigation is expected to reduce the Project's contribution to potential cumulative effects to less than significant.

4.2.4 Significant Irreversible Environmental Changes

Sections 3.4 (page 3-685) and 3.5 (page 3-689) describe the potential commitments of resources if any of the proposed Build alternatives are built. The approval and construction of any of the Build alternatives would result in long-term and permanent commitments of natural, physical, human, and fiscal resources throughout the existence of the Project.

The Project would require the commitment of agricultural lands, biological habitats, and open space and would involve permanent residential and nonresidential land conversion for the roadway and associated facilities. Other effects include altered viewsheds and community character, permanent expenditures of state and local funds for construction, maintenance, and upkeep of the Project, and material contributions to a local landfill with finite capacity. Although the proposed Project would be considered a permanent use, if a more compelling need were to arise for use of the land, or the facility was no longer needed, the land could ultimately be converted to another use. However, this is highly unlikely, and, therefore, the conversion of existing land uses would be considered an irretrievable commitment of resources.

The irreversible and irretrievable commitment of materials, labor, resources, and funds associated with the Build alternatives would be offset by the beneficial aspects of an improved transportation system. Associated benefits would consist of improved accessibility, travel, time, and safety for residents, workers, travelers, and others.

4.2.5 Growth-Inducing Impacts

Growth is addressed in Section 3.1.2 (Volume 1, page 3-66). A summary of that discussion follows.

From 1990 to 2010, Hemet's population grew more than 50 percent, and San Jacinto's population grew 130 percent. Forecasts show this rate of growth continuing until at least 2035 (Riverside 2010), primarily due to the demand for affordable housing. The growth is not confined to the San Jacinto Valley. Over the next 20 years, Riverside County is forecast to grow at an average annual rate of 3.4 percent compared to the 1.25-percent average in Southern California (Riverside 2010).

Because of the distribution of forecast growth throughout the county, a series of unprecedented planning activities were initiated in the late 1990s at a county level to manage decision making for land use, transportation, and the conservation of biological habitats. The result was the Riverside County Integrated Project (RCIP) and each of its elements—the Riverside County General Plan (led by the County of Riverside), the Community and Environmental Transportation Acceptability Process (CETAP) (led by RCTC), and the MSHCP (led by the County of Riverside).

The "integrated" plan established a collective goal so that implementation of each component, even at a local scale, would result in a compatible outcome for the county as a whole. After the approval of each of the plans in 2003, their implementation has progressed and has supported the subsequent updates to city general plans in a manner consistent with the Riverside County General Plan.

For each of the general plans, the responsible jurisdiction completed an environmental impact report that analyzed the potential for growth-inducing impacts. The environmental impact report for each jurisdiction concluded that

growth was induced because a "…General Plan is inherently growth inducing…" (Riverside County 2003). However, the intent of the general plan was to "…provide a framework by which public officials will be guided on making decisions relative to development…" (Riverside County 2003) and "…define the limits of such development and act as a mechanism to accommodate and control future development…" (San Jacinto 2006). Thus, although growth was recognized as being induced, it was also intended to be managed. In addition, the environmental impact report for Riverside County evaluated the potential for growth inducement from the construction of infrastructure needs. As stated in Section 5.3 of the Final Environmental Impact Report for the County General Plan (2003), "…providing these infrastructure needs (such as roads) in response to substantial increases in development that would occur through build out of the General Plan, would accommodate, but not induce or cause, the growth projected by the County General Plan." Based on these conclusions in the environmental impact reports of the general plans for Riverside County, San Jacinto, and Hemet, the baseline for the Project (the No Build Alternative) recognizes that growth is occurring in Riverside County that has been induced by the adoption of the updated general plans, but such growth is not attributable to the Project.

Although Riverside County determined that meeting infrastructure needs would not induce growth, the project type, a limited-access expressway, would focus the most potential for changes in growth on the areas adjacent to proposed interchanges. Most of these locations are protected, developed, or at some stage in the development-entitlement process (e.g., Specific Plan, Application Submitted, Project Approved) that is compatible with their general plan designation. Because this development is largely set, the Project location could only minimally contribute to growth on undeveloped parcels adjacent to the proposed Project interchanges.

Although changes to the rate of growth or localized patterns of land use may occur, these would be considered negligible compared to the changes already planned for the San Jacinto Valley. Future projects are also discussed in Sections 3.1.2 (Volume 1, page 3-66) and 3.6 (page 3-691), shown in Figure 3.6-1 (Section 3.6), and listed in Table 3.6-2 (page 3-704) and Appendix H. With the Project, there would be either no, or a negligible, change in the amount of growth.

4.2.6 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988, has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light duty trucks, other trucks, buses, and motorcycles

make up the largest source (second to electricity generation) of GHG emitting sources. The dominant GHG emitted is CO_2, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas Mitigation" is a term for reducing GHG emissions in order to reduce or "mitigate" the impacts of climate change. "Adaptation," refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).[18]

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing the growth of vehicle miles traveled (VMT), 3) transitioning to lower GHG emitting fuels, and 4) improving vehicle technologies. To be most effective all four strategies should be pursued cooperatively. The following Regulatory Setting section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

4.2.6.1 Regulatory Setting

State

With the passage of several pieces of legislation including State Senate and Assembly Bills and Executive Orders, California launched an innovative and pro-active approach to dealing with GHG emissions and climate change.

Assembly Bill 1493 (AB 1493), Pavley. Vehicular Emissions: Greenhouse Gases, 2002: requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year. In June 2009, the United States Environmental Protection Agency (U.S. EPA) Administrator granted a Clean Air Act waiver of preemption to California. This waiver allowed California to implement its own GHG emission standards for motor vehicles beginning with model year 2009. California agencies will be working with federal agencies to conduct joint rulemaking to reduce GHG emissions for passenger cars model years 2017-2025.

Executive Order (EO) S-3-05: (signed on June 1, 2005, by former Governor Arnold Schwarzenegger) the goal of this EO is to reduce California's GHG emissions to: 1) year 2000 levels by 2010, 2) year 1990 levels by the 2020, and 3) 80 percent below the year 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

AB 32, the Global Warming Solutions Act of 2006, Núñez and Pavley: AB 32 sets the same overall GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that ARB create a scoping plan (which includes market mechanisms) and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

[18] http://climatechange.transportation.org/ghg_mitigation/

Executive Order S-20-06 (signed on October 18, 2006 by former Governor Arnold Schwarzenegger) further directs state agencies to begin implementing AB 32, including the recommendations made by California's Climate Action Team.

Executive Order S-01-07: (signed on January 18, 2007 by former Governor Arnold Schwarzenegger) set forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least ten percent by the year 2020.

Senate Bill 97 (SB 97), Chapter 185, 2007: required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Caltrans Director's Policy 30 (DP-30) Climate Change (approved June 22, 2012): is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. This policy contributes to the Department's stewardship goal to preserve and enhance California's resources and assets.

Federal

Although climate change and GHG reduction is a concern at the federal level; currently there are no regulations or legislation that have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has promulgated explicit guidance or methodology to conduct project-level GHG analysis. As stated on FHWA's climate change website (http://www.fhwa.dot.gov/hep/climate/index.htm), climate change considerations should be integrated throughout the transportation decision-making process–from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the state has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in the growth of vehicle hours travelled.

Climate change and its associated effects are being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and EO 13514 - *Federal Leadership in Environmental, Energy and Economic Performance*.

Executive Order 13514 is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also direct federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act and that the U.S. EPA has the authority to regulate GHG. The Court held that the U.S. EPA Administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

On December 7, 2009, the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- **Endangerment Finding**: The Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)—in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding**: The Administrator found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the U.S. EPA's *Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles*, which was published on September 15, 2009.[19] On May 7, 2010 the final *Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards* was published in the Federal Register.

U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations. These steps were outlined by President Obama in a Presidential Memorandum on May 21, 2010.[20]

The final combined U.S. EPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide (CO_2) per mile, (the equivalent to 35.5 miles per gallon [MPG] if the automobile industry were to meet this CO_2 level solely through fuel economy improvements). Together, these standards will cut GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On November 16, 2011, U.S. EPA and NHTSA issued their joint proposal to extend this national program of coordinated greenhouse gas and fuel economy standards to model years 2017 through 2025 passenger vehicles.

[19] http://www.epa.gov/oms/climate/regulations.htm#1-1

[20] http://epa.gov/otaq/climate/regulations.htm

4.2.6.2 Project Analysis

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of GHG.[21] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines sections 15064(h)(1) and 15130). To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 contains the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, ARB released the GHG inventory for California (forecast last updated: October 28, 2010). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

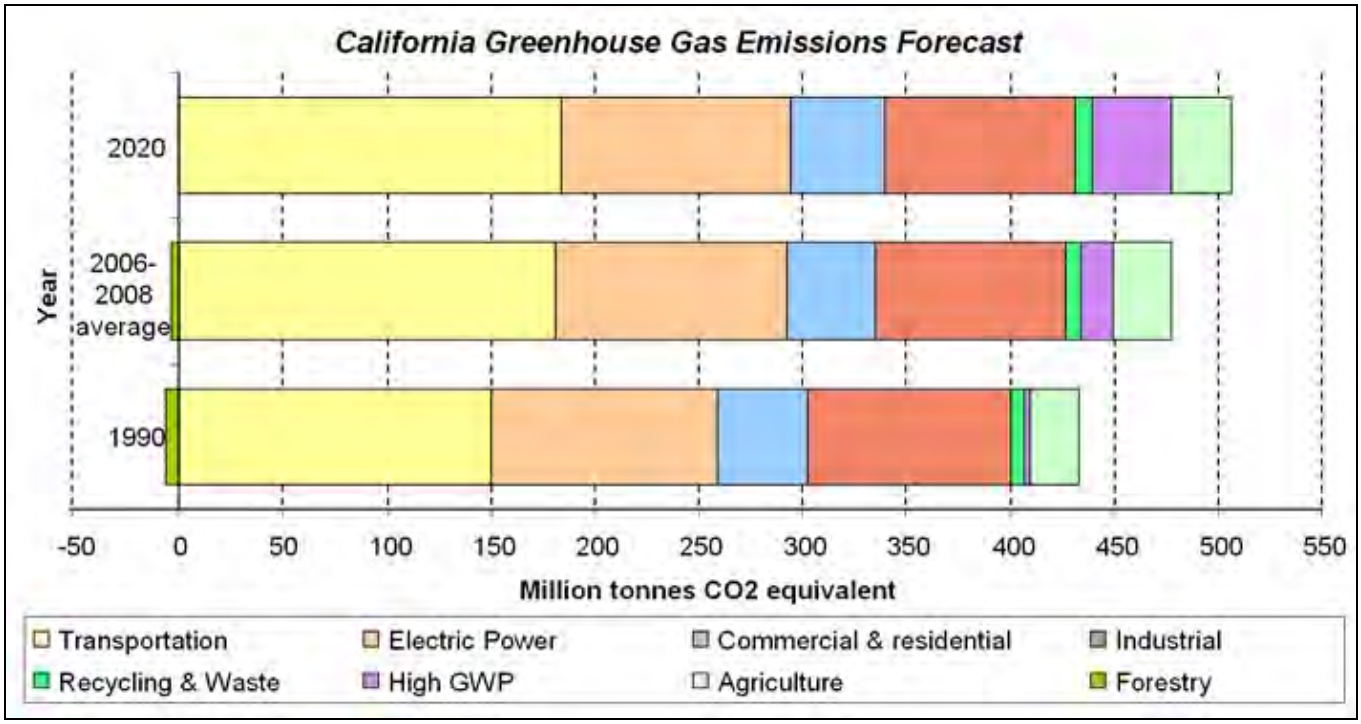

Figure 4.2-1 California Greenhouse Gas Forecast
Source: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

[21]This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

The Department and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, the Department has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.[22]

One of the main strategies in the Department's Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide (CO_2) from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 mph; the most severe emissions occur from 0-25 miles per hour (see Figure 4.2-2 below). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors GHG emissions, particularly CO_2, may be reduced.

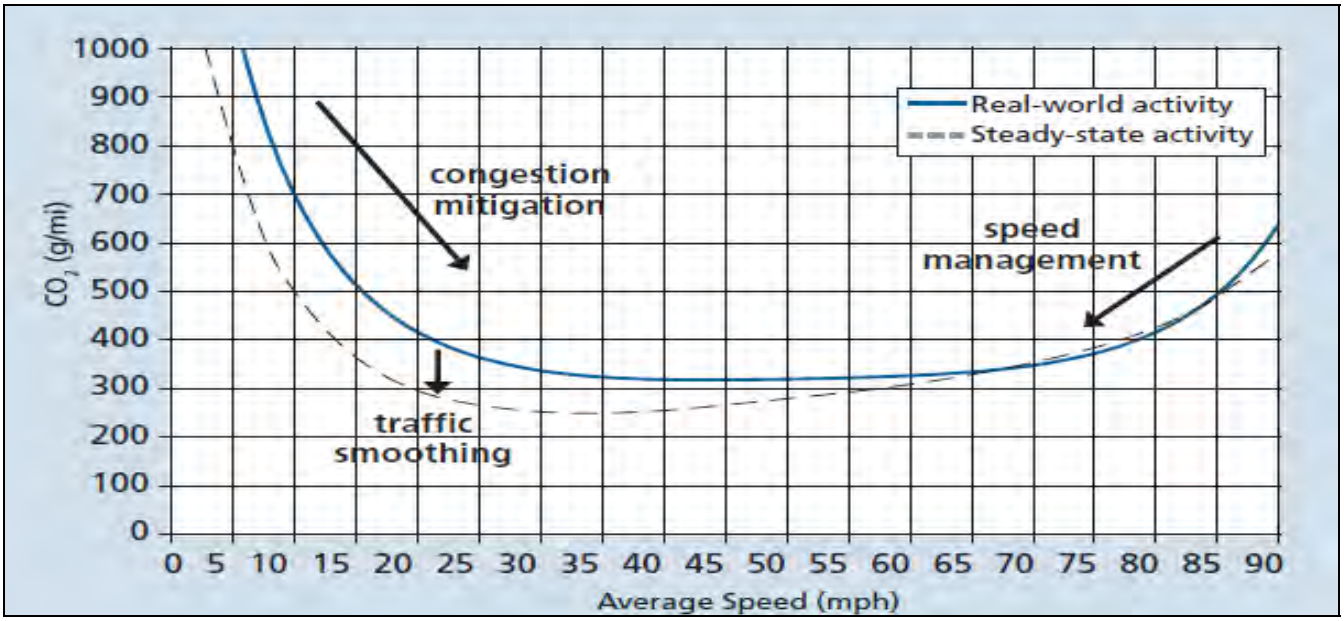

Figure 4.2-2 Possible Effect of Traffic Operation Strategies in Reducing On-Road CO_2 Emission[23]

One of the purposes of the proposed Project is to alleviate existing and future traffic congestion along SR 79 during peak hours. The proposed Project is intended to improve capacity to support increased local and regional travel demands associated with projected growth in the area. For the No Build Alternative (Year 2035), 10 roadway segments are expected to operate at LOS F (Traffic Analysis for SR 79 Realignment, July 2005, revised January 2006 and November 2009). The Build alternatives include Build Alternatives 1a, 1b (including Design Option 1b1), 2a, and 2b (including Design Option 2b1). The traffic data for the Build alternatives would be

[22]Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

[23]**Traffic Congestion and Greenhouse Gases**: Matthew Barth and Kanok Boriboonsomsin(TR News 268 May-June 2010)<*http://onlinepubs.trb.org/onlinepubs/trnews/trnews268.pdf*>

similar, so the analysis evaluates the Build alternatives collectively. Under the Build alternatives, in the year 2035, SR 79 would be expected to operate at LOS C or better along the entire alignment, except for the segment Domenigoni to Simpson Avenue, which would operate at LOS D or better (Traffic Analysis for SR 79 Realignment, July 2005, revised January 2006 and November 2009). In October 2012, the Department submitted a memorandum confirming that the November 2009 traffic analysis is still valid. The improvement in traffic flow with the Build alternatives would be expected to reduce overall regional GHG emissions.

The Project would be beneficial to regional and local efforts to reduce GHG emissions. It would help to achieve regional and subregional GHG emission reduction targets by reducing traffic congestion, thus reducing vehicle exhaust emissions. The Project is listed in the 2012-2035 Regional Transportation Plan (RTP) (SCAG 2012), which includes programs, policies, and measures to address air emissions, including greenhouse gases. Measures in the RTP that help mitigate air emissions, including GHG emissions, are composed of strategies to reduce congestion, increase access to public transportation, improve air quality, and enhance coordination between land use and transportation decisions. The City of Hemet General Plan 2030 identifies improving traffic conditions and reducing vehicle miles traveled as measures to reduce GHG emissions, in accordance with Senate Bill 375 regional and/or subregional targets established by the CARB. The environmental impact report recently approved for this general plan proposes to create and implement programs that will aid in improving air quality by reducing motor vehicle trips, such as those programs recommended by the RTP, RCIP, and the South Coast Air Quality Management District (SCAQMD) (Hemet 2011b). GHG emissions are not evaluated or discussed in the current City of San Jacinto General Plan (San Jacinto 2006).

The early planning aspects of the Project and how the modal choice for the Project was selected are discussed in Chapter 1, Section 1.1.1.1 (Volume 1, page 1-1). Additional details are in Section 1.2.7 (Volume 1, page 1-12).

The existing SR 79 corridor is not compatible with a future multimodal transportation system because of roadway geometry and right-of-way constraints. For the corridor to accommodate transit (HOV lanes, express bus service, rail, Transit Oasis), a sufficient roadway cross-section and right-of-way would be required.

Quantitative Analysis

CO_2 emissions from the proposed Project were estimated using EMFAC2007 (version 2.3) and vehicle miles traveled (VMT) for the proposed Project. The estimated CO_2 emissions are presented in Table 4.2-4 (page 4-80). Although the modeled CO_2 emissions in the future years (2015 and 2035) would be higher than the existing (2004, the baseline year of the traffic analysis) emissions, the future CO_2 emissions for the Build Alternative model would be less than the future No Build Alternative emissions. In 2015, the modeled Build Alternative emissions would be 16,560 metric tons per year less than the future No Build Alternative emissions; in 2035, the modeled Build Alternative emissions would be 19,870 metric tons per year less than the No Build Alternative emissions. This increase in GHG emissions under the No Build Alternative would be due to slower vehicle speeds and higher VMT when compared to the Build Alternative. There are two reasons for the higher VMT for the No Build Alternative. First, the Build Alternative would provide a more direct route than the existing SR 79, where drivers have to make multiple turns to remain on SR 79. Second, congested conditions lead to increased VMT as drivers find other routes to avoid congested areas. Because the proposed Project would reduce overall congestion, it would be expected that drivers would be able to take more direct routes, thereby reducing overall VMT. Based on

the quantitative analysis, the Build Alternative would reduce CO_2 emissions compared to the No Build Alternative, thus would be beneficial to the regional GHG reduction goals.

Table 4.2-4 Direct Emissions of CO_2

Alternative	Vehicle Kilometers Traveled	Vehicle Miles Traveled	Emissions (metric tons/day)	Emissions (metric tons/yr)
			CO_2	CO_2
Existing (2004)	5,149,900	3,200,000	2,222	811,085
No Build Alternative (2015)	7,724,850	4,800,000	3,202	1,168,624
Build Alternative (2015)	7,563,920	4,700,000	3,156	1,152,071
No Build Alternative (2035)	12,231,010	7,600,000	5,306	1,936,672
Build Alternative (2035)	12,070,080	7,500,000	5,252	1,916,808

Source: Traffic Analysis for SR 79 Realignment, July 2005, revised January 2006 and November 2009

Note: Emission factors from EMFAC2007 (version 2.3) for the Riverside County portion of the South Coast Air Basin.

The results for the Build alternative represent Build Alternatives 1a, 1b (including Design Option 1b1), 2a, and 2b (including Design Option 2b1) because the traffic data for the Build alternatives are similar.

Limitations and Uncertainties with Modeling

EMFAC

Although emission factors (EMFAC) can calculate CO_2 emissions from mobile sources, the model does have limitations when it comes to accurately reflecting CO_2 emissions. According to the National Cooperative Highway Research Program (NCHRP), studies have revealed that brief but rapid accelerations can contribute significantly to a vehicle's carbon monoxide and hydrocarbon emissions during a typical urban trip (NCHRP 2008). Current emission-factor models are insensitive to the distribution of such modal events (i.e., cruise, acceleration, deceleration, and idle) in the operation of a vehicle and instead estimate emissions by average trip speed. This limitation creates an uncertainty in the model's results when compared to the estimated emissions of the various alternatives with baseline in an attempt to determine impacts. Although work by USEPA and the ARB is underway on modal-emission models, neither agency has yet approved a modal emissions model that can be used to conduct this more accurate modeling. In addition, EMFAC does not include speed corrections for most vehicle classes for CO_2 emissions. For most vehicle classes, emission factors are held constant, which means that EMFAC is not sensitive to the decreased emissions associated with improved traffic flows for most vehicle classes. Therefore, unless a project involves a large number of heavy-duty vehicles, the difference in modeled CO_2 emissions due to speed change will be slight.

The ARB is currently not using EMFAC to create its inventory of GHG emissions. It is unclear why the ARB has made this decision. The ARB website simply states:

> *REVISION: Both the EMFAC and OFFROAD models develop CO_2 and CH_4 [methane] emission estimates; however, they are not currently used as the basis for [ARB's] official [GHG] inventory which is based on fuel usage information. However, ARB is working towards reconciling the emission estimates from the fuel usage approach and the models.*

Other Variables

With the current science, project-level analysis of GHG emissions is limited. Although a GHG analysis is included for this Project, there are numerous key GHG variables that are likely to change dramatically during the design life of the proposed Project and would thus dramatically change the projected CO_2 emissions.

First, vehicle fuel economy is increasing. The USEPA's annual light-duty automobile trend report provides data on the fuel economy and technology characteristics of new light-duty vehicles including cars, minivans, sport utility vehicles, and pickup trucks (USEPA 2008). The report confirms that average fuel economy has improved each year beginning in 2005, and is now the highest since 1993 (USEPA 2008). Most of the increase since 2004 is due to higher fuel economy for light trucks, following a long-term trend of slightly declining overall fuel economy that peaked in 1987. These vehicles also have a slightly lower market share, peaking at 52 percent in 2004 with projections at 48 percent in 2008. The options for vehicle fuel economy increases studied by the National Highway Traffic Safety Administration (NHTSA) are presented in Table 4.2-5 (page 4-81) (NHTSA 2008a).

Table 4.2-5 Model Year 2015 Required Miles per Gallon for Various Fuel Economy Options

Vehicle Type	Required Miles per Gallon					
	No Action	25% Below Optimized	Optimized (Preferred)	25% Above Optimized	50% Above Optimized	Total Costs Equal Total Benefits
Cars	27.5	33.9	35.7	37.5	39.5	43.3
Trucks	23.5	27.5	28.6	29.8	30.9	33.1

Source: Final EIS for New Corporate Average Fuel Economy, NHTSA 2008

Second, near zero carbon vehicles will come into the market during the design life of this Project. According to a report released by the University of California, Davis, Institute of Transportation Studies (Cunningham et al. 2008):

> *Large advancements have occurred in fuel cell vehicle and hydrogen infrastructure technology over the past 15 years. Fuel cell technology has progressed substantially resulting in power density, efficiency, range, cost, and durability all improving each year. In another sign of progress, automotive developers are now demonstrating over 100 fuel cell vehicles (FCVs) in California – several in the hands of the general public – with configurations designed to be attractive to buyers. Cold-weather operation and vehicle range challenges are close to being solved, although vehicle cost and durability improvements are required before a commercial vehicle can be successful without incentives. The pace of development is on track to approach pre-commercialization within the next decade.*
>
> *A number of the United States Department of Energy (USDOE) 2010 milestones for FCV development and commercialization are expected to be met by 2010. Accounting for a five to six year production development cycle, the scenarios developed by the USDOE suggest that 10,000s of vehicles per year from 2015 to 2017 would be possible in a federal demonstration program,*

> *assuming large cost share grants by the government and industry are available to reduce the cost of production vehicles.*

Third, and as previously stated, California has recently adopted a low-carbon transportation fuel standard. The ARB is scheduled to review the draft regulation for low carbon fuels in April 2009 with implementation of the standard to begin in 2010.

Fourth, driver behavior has been changing as the U.S. economy and oil prices have changed. The Congressional Budget Office found the following results based on data collected from California: 1) freeway motorists have adjusted to higher gas prices by making fewer trips and driving more slowly, 2) the market share of sports utility vehicles is declining, and 3) the average prices for larger, less-fuel-efficient models have declined over the past 5 years as average prices for the most-fuel-efficient automobiles have risen, showing an increase in demand for the more-fuel-efficient vehicles (CBO 2008).

Limitations and Uncertainties with Impact Assessment

The range of uncertainties in assessing GHG impacts grows with each step of the analysis (NHTSA 2008a).

> *Cascade of uncertainties typical in impact assessments showing the "uncertainty explosion" as these ranges are multiplied to encompass a comprehensive range of future consequences, including physical, economic, social, and political impacts and policy responses.*

Much of the uncertainty in assessing an individual project's impact on climate change surrounds the global nature of the climate change. Even assuming that the target of meeting the 1990 levels of emissions is met, there is no regulatory or other framework in place that would allow for a ready assessment of what any modeled increase in CO_2 emissions would mean for climate change given the overall California GHG emissions inventory of approximately 430 million tons of CO_2 equivalent. This uncertainty only increases when viewed globally. The IPCC has created multiple scenarios to project potential future global GHG emissions and to evaluate potential changes in global temperature, other climate changes, and their effect on human and natural systems. These scenarios vary in terms of the type of economic development, the amount of overall growth, and the steps taken to reduce GHG emissions. Non-mitigation IPCC scenarios project an increase in global GHG emissions by 9.7 up to 36.7 billion metric tons CO_2 from 2000 to 2030, which represents an increase of between 25 and 90 percent (IPCC 2007).

The assessment is further complicated by the fact that changes in GHG emissions can be difficult to attribute to a particular project because the projects often move the location for some type of GHG emissions, rather than causing "new" GHG emissions. It is difficult to assess the extent to which any project-level increase in CO_2 emissions represents a net global increase, reduction, or no change; there are no models approved by regulatory agencies that operate at the global or even statewide scale.

The complexities and uncertainties associated with project-level impact analysis are further borne out in a recently released NHTSA report (NHTSA 2008b). As the text quoted below shows, even when dealing with GHG emission scenarios on a national scale for the entire passenger car and light truck fleet, the numerical differences among alternatives is very small and well within the error sensitivity of the model.

In analyzing across the CAFE 30 alternatives, the mean change in the global mean surface temperature, as a ratio of the increase in warming between the B1 (low) to A1B (medium) scenarios, ranges from 0.5 percent to 1.1 percent. The resulting change in sea level rise (compared to the No Action Alternative) ranges, across the alternatives, from 0.04 centimeter to 0.07 centimeter. In summary, the impacts of the model year 2011-2015 CAFE alternatives on global mean surface temperature, sea level rise, and precipitation are relatively small in the context of the expected changes associated with the emission trajectories. This is due primarily to the global and multi-sectoral nature of the climate problem. Emissions of CO_2, the primary gas driving the climate effects, from the United States automobile and light truck fleet represented about 2.5 percent of total global emissions of all greenhouse gases in the year 2000 (EPA, 2008; CAIT, 2008). While a significant source, this is a still small percentage of global emissions, and the relative contribution of CO_2 emissions from the United States light vehicle fleet is expected to decline in the future, due primarily to rapid growth of emissions from developing economies (which are due in part to growth in global transportation sector emissions).

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events. The following construction minimization measures will be implemented for air quality to reduce exhaust emissions during construction. These measures would also be expected to reduce GHG emissions during construction.

AQ-1 **Second-Stage Smog Alerts.** Suspension of all construction equipment operations during second-stage smog alerts is required.

AQ-2 **Electricity.** To the extent feasible, use electricity from power poles rather than temporary diesel- or gasoline-powered generators.

AQ-3 **Construction Parking.** Configure construction parking to minimize traffic interference on local streets.

AQ-4 **Construction Truck Routes.** To the extent feasible, reroute construction trucks from congested streets or sensitive receptor areas.

AQ-5 **Onsite Construction Traffic Control.** Provide temporary traffic controls, such as a flag man, for onsite construction vehicles during all phases of construction to maintain smooth traffic flow.

AQ-6 **Construction Vehicle Turn Lanes.** Provide dedicated turn lanes for movement of construction vehicles, if no turn lane currently exists.

CEQA Conclusion

As discussed above, both the future Build alternatives and future No Build Alternative show increases in CO_2 emissions over the existing levels; however, the future Build alternative CO_2 emissions are less than the future No Build Alternative emissions. In addition, as discussed above, there are limitations with EMFAC and with assessing what a given CO_2 emissions increase means for climate change. Therefore, it is the Department's determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a determination regarding significance of the Project's direct impact and its contribution on the cumulative scale to climate change. However, the Department is firmly committed to implementing measures to help reduce the potential effects of the Project. These measures are outlined below.

Greenhouse Gas Reduction Strategies

AB 32 Compliance

The Department continues to be actively involved on the Governor's Climate Action Team as ARB works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies the Department is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including $100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together are expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain CO_2 reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as depicted in Figure 4.2-3: The Mobility Pyramid.

Figure 4.2-3 The Mobility Pyramid

The Department is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. The Department works closely with local jurisdictions on planning activities, but does not have local land use planning authority. The Department assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; the Department is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by U.S. EPA and ARB.

Table 4.2-6 (page 4-86) summarizes the Department and statewide efforts that it is implementing in order to reduce GHG emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Table 4.2-6 Climate Change/CO_2 Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings (million metric tons)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	.975	7.8
Operational Improvements & Intelligent Transportation System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	.07	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, Cal/EPA, ARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement Biodiesel 20 Biodiesel 100	 .0045	.0065 .045 .0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	.117	.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5% limestone cement mix 25% fly ash cement mix >50% fly ash/slag mix	1.2 .36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal/EPA, ARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

Source: Climate Change Program at Caltrans, December 2006

The following measures will also be included in the project to reduce the GHG emissions and potential climate change impacts from the project:

GHG reduction measures:

1. The Department and the California Highway Patrol are working with regional agencies to implement Intelligent Transportation Systems (ITS) to help manage the efficiency of the existing highway system. ITS commonly consists of electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.

2. Landscaping reduces surface warming, and through photosynthesis, decreases CO_2. The Project proposes to provide landscaping where necessary in the corridor to provide aesthetic treatment, replacement planting, or mitigation planting for the Project.

3. The Project would incorporate the use of energy-efficient lighting, such as light-emitting diode (LED) traffic signals. LED bulbs cost $60 to $70 apiece but last five to six years, compared to the one-year average lifespan of incandescent light bulbs previously used. The LED bulbs themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the Project's CO_2 emissions (KBJ 2008).

4. According to Caltrans Standard Specifications, the contractor must comply with all of the South Coast Air Quality Management District's rules, ordinances, and regulations in regards to air quality restrictions. In addition, the contractor will restrict idling of construction vehicles to no longer than 5 consecutive minutes to comply with Title 13, California Code of Regulations §2449. Compliance with this regulation reduces harmful emissions and GHG from diesel-powered construction vehicles.

Adaptation Strategies

"Adaptation strategies" refer to how the Department and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency report on October 14, 2010 outlining recommendations to President Obama for how federal agency policies and programs can better prepare the United States to respond to the effects of climate change. The Progress Report of the Interagency Climate Change Adaptation Task Force recommends that the federal government implement actions to expand and strengthen the nation's capacity to better understand, prepare for, and respond to climate change.

Climate change adaption must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, former Governor Arnold Schwarzenegger signed EO S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea level rise.

The California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state and federal public and private entities to develop. The California Climate Adaptation Strategy (Dec 2009),[24] which summarizes the best known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to EO S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including the California Environmental Protection Agency; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

The Resources Agency was also directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2010[25] to advise how California should plan for future sea level rise. The report is to include:

- Relative sea level rise projections for California, Oregon and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates;
- The range of uncertainty in selected sea level rise projections;
- A synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems;
- A discussion of future research needs regarding sea level rise for California.

Prior to the release of the final Sea Level Rise Assessment Report, all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for

[24] http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF

[25] Pre-publication copies of the report, *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future*, were made available from the National Academies Press on June 22, 2012. For more information, please see http://www.nap.edu/catalog.php?record_id=13389.

the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data.

Interim guidance has been released by The Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise.

All projects that have filed a Notice of Preparation (NOP) as of the date of the EO S-13-08, and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines. The NOP for the proposed Project was filed in March 2005. Therefore, no further analysis of adaptation strategies for sea level rise is required for the proposed Project.

Executive Order S-13-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system and economy of the state. The Department continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, the Department is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, the Department has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, the Department will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. The Department is an active participant in the efforts being conducted in response to EO S-13-08 and is mobilizing to be able to respond to the National Academy of Science report on Sea Level Rise Assessment Report.

4.3 Mitigation Measures for Significant Impacts under CEQA

In response to the potential significant impacts identified in association with the proposed Project, a number of avoidance, minimization, and/or mitigation measures were developed. These measures, along with other measures for impacts that are less than significant, are presented in detail in the Environmental Commitment Record in Appendix E. Specific mitigation measures for significant impacts under CEQA are listed below by environmental topic.

4.3.1 Aesthetics

To address significant changes to views from scenic vistas, effects to scenic resources on a State Scenic Highway, degradation of visual character and visual quality, and additional roadway lighting, the following mitigation measures are proposed (see Section 3.1.7.4 [Volume 1, page 3-244] or the ECR [Appendix E] for full text of the measures):

- VIS-1: Corridor Master Plan
- VIS-2: Mitigation Planting/Highway Planting
- VIS-3: Plantings to Bring Down Apparent Scale
- VIS-4: Minimize Visual Impacts with Revegetation
- VIS-5: Textured Noise Barriers
- VIS-6: Aesthetic Treatment to Structures
- VIS-7: Planting on Structures to Minimize Glare
- VIS-8: Concentrations of Trees and Shrubs at Interchanges
- VIS-9: Screening Treatments in Winchester
- VIS-10: Noise Barrier Screening in Winchester
- VIS-11: Prepare Contour Grading Plans
- VIS-12: Cut Slope Design
- VIS-13: Over-Excavate Slopes
- VIS-14: Create Artificial Draws
- VIS-15: Weathering of Exposed Rock
- VIS-16: Revegetate Cut Slopes
- VIS-17: Erosion Control
- VIS-18: Hydroseed Fill Slopes
- VIS-19: Texturize Fill Slopes
- VIS-20: Revegetate Fill Slopes
- VIS-21: Benched Slopes
- VIS-22: Fill Slope Design
- VIS-23: Earthen Basins
- VIS-24: Non-Reflective Materials
- VIS-25: Overcrossing Design
- VIS-26: Noise Barrier Design Treatments
- VIS-27: Noise Barrier Landscaping
- VIS-28: Noise Barrier Surfaces
- VIS-29: Lighting

4.3.2 Air Quality

To address violation of air quality standards and Project contributions to criteria pollutants that are in nonattainment during construction, the following minimization measures are proposed (see Section 3.2.6.4 [Volume 1, page 3-376] or the ECR [Appendix E] for full text of the measures):

- AQ-1: Second-Stage Smog Alerts
- AQ-2: Electricity
- AQ-3: Construction Parking
- AQ-4: Construction Truck Routes
- AQ-5: Onsite Construction Traffic Control
- AQ-6: Construction Vehicle Turn Lanes
- AQ-7: Blasting Activities
- AQ-8: Signal Boards
- AQ-9: Environmentally Sensitive Areas

4.3.3 Biological Resources

To address impacts to biological resources, the following avoidance, minimization, and mitigation measures are proposed (see Sections 3.3.1.4 [page 3-497], 3.3.2.4 [page 3-516], 3.3.3.4 [page 3-570], 3.3.4.4 [page 3-630], 3.3.5.4 [page 3-673], 3.3.6.4 [page 3-683], or the ECR [Appendix E] for full text of the measures):

Avoidance

- BIO-11: Bridge over Salt Creek Channel
- BIO-12: Avoidance of San Jacinto River
- BIO-13: Avoidance of Existing Constrained Linkage C
- BIO-15: Crossing Structures and Spacing Intervals for a Variety of Species
- BIO-16: Openings in K-Rails for Small Animals
- BIO-17: Wildlife Crossings Intended for Large Mammalian Wildlife
- BIO-18: Use of Tree and Shrub Buffers around Crossing Entrances, No Artificial Lighting
- BIO-19: Crossing Facilities Vegetated as Naturally as Possible
- BIO-20: Use of Natural Objects in the Crossing Facility
- BIO-21: Installation of Vegetative Cover near the Entrances to Culverts
- BIO-22: Installation of Dirt, Rock, or Concrete Benches on at Least One Side of the Large Mammal Crossing Facilities
- BIO-23: Welded Wire Fencing to Guide Large Wildlife to Appropriate Crossing Locations
- BIO-24: Fences Continue at Least 0.8 Kilometers (800 Meters) beyond the Critical Area
- BIO-25: Installation of One-Way Wildlife Doors
- BIO-26: Jump-Outs and One-Way Gates
- BIO-28, 28a: Environmentally Sensitive Area Fencing, Temporary Treatment BMPs
- BIO-35: Avoidance of Sensitive Plant Populations

Minimization

- BIO-1 and BIO-2: Landscaping Plans
- BIO-3: Barrier Fencing along ROW
- BIO-4: Slope Construction within ROW
- BIO-5: Equipment Storage, Fueling, and Staging Areas
- BIO-6: Training about Sensitive Biological Resources
- BIO-7: Fire Season Work
- BIO-8: Dust Minimization
- BIO-9: Designated Areas for Equipment Maintenance and Staging
- BIO-10: Litter Control
- BIO-14: Night Lighting
- BIO-29: Onsite and Offsite Drainage Facilities in the Project ROW
- BIO-30: Maintenance of Constructed Storm Water Systems
- BIO-31: No Erodible Materials Deposited in Water Courses
- BIO-32: Ongoing Monitoring and Reporting
- BIO-36, 36a, 36b, 36c: Avoid the Spread of Invasive Plant Species
- BIO-40: Conduct Presence/Absence Surveys Immediately Prior to Construction Each Year
- BIO-41: Relocation of Burrowing Owls
- BIO-42: Maintenance of Hydrology to Existing Vernal Pool/Alkali Playa Habitat
- BIO-43: Conducting Vegetation Clearance to Avoid Active Breeding Season (March 1 through June 30)
- BIO-44: Nesting Raptor Surveys and Implementation of Nest Exclusion
- BIO-45: Inspections for Roosting Bats before Demolition
- BIO-49: Conducting Clearance of Riparian Habitat Outside Riparian Bird Active Breeding Season (Generally March 1 through June 30)

Mitigation

- BIO-27: Enhancements to Wildlife Corridors
- BIO-33: Modification of the Project Design to Construct a Gravity-Based Surface Water Diversion System
- BIO-34: Mitigation of Impacts to Water Features
- BIO-37: Mitigation for Robinson's Peppergrass Populations
- BIO-38: Coulter's Goldfields and Smooth Tarplant Populations
- BIO-39: Culvert/Drainage System for Coulter's Goldfields and Smooth Tarplant Populations
- BIO-46: Installation of Bat-Friendly Gate on Mine Adit Adjacent to Roadway Segments A, B, and C
- BIO-47: Provision of Suitable Habitat for Vegetation-Roosting Bats
- BIO-48: DBESP for Los Angeles Pocket Mouse

4.3.4 Cultural Resources

Mitigation and minimization measures CR-1 through CR-4 are presented in Section 3.1.8.4 (Volume 1, page 3-266) and the ECR (Appendix E). If any of the archaeological sites that have not yet been evaluated are found to qualify as historical resources after identification of a Preferred Alternative, specific avoidance, minimization, and/or mitigation measures for the Project will be included in the Final EIR/EIS and CEQA Checklist to address any impacts. At a minimum, these would include data recovery by qualified professionals, analysis, reporting, and curation to ensure that impacts are reduced to a level that is less than significant.

- CR-1: Cultural Materials Discovered during Construction
- CR-2: Discovery of Human Remains
- CR-3: Establishment of ESAs for CA-RIV-6907/H
- CR-4: Additional Avoidance, Minimization, and/or Mitigation Measures

Mitigation and minimization measure PALEO-1, including sub-measures PALEO-1a through PALEO-1h, is presented in Section 3.2.4.4 (Volume 1, page 3-331) and the ECR (Appendix E). The literature review, archival searches, field survey, and a review of the geologic maps of the Project area indicate that a paleontologically highly sensitive rock unit (Younger Alluvium) is at or near the surface in areas where earth-moving activities associated with Project construction would have high potential for encountering fossilized remains. Therefore, measures to mitigate potential impacts to paleontological resources will be required. The mitigation measure listed below represents the minimum required by Department guidelines. Other measures may be added as Project design progresses.

- PALEO-1: Paleontological Mitigation Plan

4.3.5 Geology and Soils

To address rupture of known earthquake faults, seismic ground shaking, seismic-related ground failure, landslides, and soil erosion, the following mitigation measures are proposed (see Section 3.2.3.4 [Volume 1, page 3-322] or the ECR [Appendix E] for full text of the measures):

- GEO-1: Surface Fault Rupture
- GEO-2: Ground Shaking
- GEO-3: Liquefaction
- GEO-4: Compressible/Collapsible Soils
- GEO-5: Expansive Soils
- GEO-6: Slope Stability
- GEO-7: Groundwater
- GEO-8: Excavation Characteristics

4.3.6 Hazards and Hazardous Materials

To address significant hazards to the public and hazardous emissions, the following mitigation measures are proposed (see Section 3.2.5.4 [Volume 1, page 3-351] or the ECR [Appendix E] for full text of the measures):

- HAZMAT-1: Phase II Environmental Site Assessment
- HAZMAT-2: Aerially Deposited Lead Surveys
- HAZMAT-3: Asbestos Containing Materials and Lead-Based Paint Surveys
- HAZMAT-4: Hazardous Materials Contingency Plan
- HAZMAT-5: National Pollutant Discharge Elimination System Permit
- SERV-1: Coordination with Emergency Responders Prior to Opening Year (2015)
- SERV-2: Coordination of Temporary Detours with Emergency Responders

4.3.7 Hydrology and Water Quality

To address hydrology and water quality impacts, the following mitigation measures are proposed (see Sections 3.2.1.4 [Volume 1, page 3-283], 3.2.2.4 [Volume 1, page 3-310], or the ECR [Appendix E] for full text of the measures):

- WQ-1: Construction Best Management Practices in Compliance with Project Planning and Design Guide (PPDG), Storm Water Management Plan (SWMP), Storm Water Pollution Prevention Plan (SWPPP), and Standard Special Provisions (SSP)
- WQ-2: Revegetation
- WQ-3: Disturbed Slope Stabilization
- WQ-4: Treatment BMPs
- WQ-5: Dewatering Permit
- HYDRA-1: Construct Drainage and Flood Control Facilities
- HYDRA-2: Complete a Letter of Map Revision (LOMR)

4.3.8 Land Use and Planning

To address land use impacts, the following mitigation measures are proposed (see Sections 3.1.1.1 [Volume 1, page 3-25], 3.1.4.1 [Volume 1, page 3-138], or the ECR [Appendix E] for full text of the measures):

- LU-1: City of Hemet General Plan and Build Alternative 1a
- LU-2: City of San Jacinto General Plan and Build Alternative 1a
- LU-3: City of Hemet General Plan and Build Alternative 1b and Design Option 1b1
- LU-4: City of Hemet General Plan and Build Alternative 2a
- LU-5: City of San Jacinto General Plan and Build Alternative 2a
- LU-6: County of Riverside Circulation System
- COM-1: Establish Pedestrian/Bike/Equestrian Paths

4.3.9 Noise

To address impacts caused by traffic noise, the following abatement measure is proposed (see Section 3.2.7.4 [Volume 1, page 3-423] or the ECR [Appendix E] for full text of the measures):

- NO-1: Installation of Recommended Noise Barriers Shown to be Feasible and Reasonable

To address impacts caused by construction noise, the following abatement measures are proposed:

- NO-2: Observation of Time Restrictions and Use of Alternative Alarms
- NO-3: Use Mufflers on Equipment with Internal Combustion Engines
- NO-4: Placement of Stationary Equipment
- NO-5: Construction Equipment Staging

4.3.10 Population and Housing

To address relocations, the following mitigation measure is proposed (see Section 3.1.4.2 [Volume 1, page 3-139] or the ECR [Appendix E] for full text of the measure):

- RELOC-1: Relocation Assistance

4.3.11 Public Services

To address impacts associated with public services, the following minimization and mitigation measures are proposed (see Sections 3.1.1.3 [Volume 1, page 3-60], 3.1.5.3 [Volume 1, page 3-165], 3.1.4.1 [page 3-138], or the ECR [Appendix E] for full text of the measures):

Minimization

- LU-7: Public Notification of Alternative San Jacinto Parks

Mitigation

- SERV-1: Coordination with Emergency Responders Prior to Opening Year (2015)
- SERV-2: Coordination of Temporary Detours with Emergency Responders
- COM-1: Establish Pedestrian/Bike/Equestrian Paths
- COM-2: School District Coordination
- COM-3: Traffic Management Plan for Access

4.3.12 Recreation

To address potential recreation impacts, the following mitigation measure is proposed (see Section 3.1.1.3 [Volume 1, page 3-60] or the ECR [Appendix E] for full text of the measures):

- LU-7: Public Notification of Alternative San Jacinto Parks
- BIO-8: Dust Minimization

4.3.13 Transportation/Traffic

To address transportation and traffic impacts, the following mitigation measures are proposed (see Section 3.1.5.3 [Volume 1, page 3-165] or the ECR [Appendix E] for full text of the measure):

- UTIL-3: Temporary Detour for Railroad
- SERV-1: Coordination with Emergency Responders Prior to Opening Year (2015)
- SERV-2: Coordination of Temporary Detours with Emergency Responders

4.3.14 Utilities and Service Systems

To address utilities and service systems impacts, the following mitigation measures are proposed (see Section 3.1.4.1 [Volume 1, page 3-138], Section 3.2.2.4 [page 3-310], or the ECR [Appendix E] for full text of the measure):

- COM-4: Recycling during Operations
- WQ-1: Construction Best Management Practices in Compliance with Project Planning and Design Guide (PPDG), Storm Water Management Plan (SWMP), Storm Water Pollution Prevention Plan (SWPPP), and Standard Special Provisions (SSP).

Chapter 5 Comments and Coordination

5.1 Introduction

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation, the level of analysis required, and to identify potential impacts and mitigation measures and related environmental requirements. Appropriate coordination has been conducted for the Project in accordance with the National Environmental Policy Act of 1969 (NEPA), the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), and the California Environmental Quality Act (CEQA).

Among the earliest coordination products are publication of a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) and publication of a Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) under the California Environmental Quality Act (CEQA). The NOI was published in the Federal Register on September 7, 2004. The NOP was filed on September 10, 2004, and distributed to agencies by the State Clearinghouse. A Supplemental NOP was distributed on March 7, 2005. The following quote is from the NOI, but essentially the same statement was included in both NOP filings:

> *The FHWA, in cooperation with the California Department of Transportation, District 8, and the Riverside County Transportation Commission, will prepare an Environmental Impact Statement (EIS) to realign State Route (SR) 79 1.2 miles south of Domenigoni Parkway to Gilman Sprints Road. The proposed realignment corridor to be evaluated is located east of the existing SR 79, through the community of Winchester, and west of the existing route as it passes through Hemet and San Jacinto.*
>
> *A range of alignment alternatives will be analyzed in the EIS/EIR. Alignment alternatives in the western, central and eastern portions of the project area were identified through an alternatives analysis process described in detail in the Project Criteria and Alternatives Selection for Preliminary Agreement, dated June 22, 2004.*

Agency consultation and public participation for the Project have been accomplished through a variety of formal and informal methods. Coordination included monthly Project Development Team (PDT) meetings, interagency coordination meetings, and focused discipline-specific technical meetings, as well as ongoing consultation with Native American tribes. Public participation was incorporated into the environmental process through meetings held in September and October 2004 and October 2005, public notices, newsletters/factsheets, newspaper advertisements, updates on the Project website, and email notifications. This chapter summarizes the results of the Department's efforts to fully identify, address, and resolve Project-related issues through early and continuing coordination.

SAFETEA-LU is the federal transportation act that was signed into law on August 10, 2005. It makes important changes in the environmental compliance process for transportation projects that fall under the purview of the United States Department of Transportation (USDOT).

Section 6002 of SAFETEA-LU makes changes in the preparation and processing of environmental documents for environmental impact reports with an NOI publication date of August 11, 2007, or later, so Section 6002 does not apply to the Project.

5.2 Consultation and Coordination with Public Agencies

Coordination for the Project was led by the Riverside County Transportation Commission (RCTC) (the responsible agency) and the Department (the NEPA and CEQA lead agency), with participation by the United States Army Corps of Engineers (USACE) (Cooperating Agency), United States Environmental Protection Agency (USEPA), United States Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), Regional Water Quality Control Board (RWQCB), and other agencies with an interest in the Project. FHWA was also a participant in this regard until July 1, 2007, when the Department began its assignment of NEPA responsibilities, pursuant to Section 6005 of the Safe, Accountable, Flexible, and Efficient Transportation Act: A Legacy for Users (SAFETEA-LU) (23 USC 327). This team was formed to ensure collaborative planning at key decision points during the environmental review process.

Team activities included coordination for technical assistance and concurrent review of environmental documents and technical reports. Agencies were also consulted at key decision points and Project milestones that required discretionary action/input, including:

- Preliminary Agreement on Purpose and Need from USACE and USEPA (December 2003)
- Preliminary Agreement on the Final Project Criteria and Alternatives Selection (June 2004)
- Response to the request for Cooperating Agency participation (April 2005)
- Preliminary Agreement on Supplemental Information for Project Criteria and Alternatives Selection (May 2005)
- Final Agreement on the Build Alternatives to be Identified in the Draft Environmental Impact Statement (July 2007)

The following sections summarize the activities surrounding key decision points and Project milestones that required discretionary action/input from the resource agencies.

5.2.1 Cooperating Agency Participation

In accordance with Council on Environmental Quality (CEQ) Regulation 1501.6 and 23 CFR 771, the FHWA requested Cooperating Agency participation from USACE, USEPA, and USFWS in November 2004 (FHWA 2004a, 2004b, 2004c). In addition to their administrative responsibilities under Section 404 of the Clean Water Act (CWA), the USACE agreed to be a Cooperating Agency.

Due to resource constraints at the time of the request, USEPA and USFWS declined the role of Cooperating Agency on the Project, but committed to providing technical assistance, input, and review/approval consistent with the NEPA/404 MOU (USEPA 2004a, USFWS 2004a).

5.2.2 Alternatives Screening

The Project alternatives were developed over many years and in accordance with the NEPA/404 Integration Process in a joint effort among federal, state, local agencies (California Department of Transportation [Department], Federal Highway Administration [FHWA], United States Army Corps of Engineers [USACE], United States Environmental Protection Agency [USEPA], United States Fish and Wildlife Service [USFWS], California Department of Fish and Game [CDFG], Regional Water Quality Control Board [RWQCB], Riverside County Transportation Commission [RCTC], City of Hemet, City of San Jacinto, and County of Riverside), supported by community involvement (see Section 5.3 [page5-5]). The results of that effort are documented in the reports listed below. Additional details about this coordination are included in Section 1.1.1.1 (Volume 1, page 1-1) and Section 2.2.5 (Volume 1, page 2-26).

- State Route 79 Realignment Study Report (January 1998)
- Project Study Report/Project Development Support (January 2002)
- Final Project Criteria and Alternatives Selection for Preliminary Agreement (June 2004)
- Supplemental Information for Project Criteria and Alternatives Selection for Updated Preliminary Agreement (May 2005)
- Request for Updated Preliminary Agreement for Project Criteria and Alternatives Selection and Responses (August 2005)

5.2.3 Additional Public Agency Coordination

The following sections summarize resource-specific coordination with public agencies.

5.2.3.1 Farmlands/Agricultural Lands

Coordination with the Riverside County Assessor's Office staff member, Jim Harlow, took place on January 17 and January 22, 2008, regarding Williamson Act contract lands. Mr. Harlow provided information to determine property parcels enrolled in the Williamson Act program and their status (preserve or nonrenewal). Subsequently, on November 10 and 12, 2009, via email, Mr. Harlow confirmed the status of Williamson Act contract land located within the Agricultural Study Area.

Final coordination with the California Department of Conservation (CDC) and the federal Natural Resources Conservation Service (NRCS) was initiated by the Department in March 2010 via separate transmittals of documented summaries of the Project's potential impacts to Williamson Act lands, and prime, unique, and farmland of statewide importance. A response letter was received from the CDC in April 2010, and comments

were addressed (Appendix G). The NRCS responded in June 2010 by filling out the remaining portions of Form CPA-106 (included in Appendix G).

Coordination with the NRCS was initiated again by the Department in February 2012 to document updates to prime farmland, unique farmland, and farmland of statewide importance impacts on an updated Form CPA-106. The NRCS responded in July 2012 by filling out the remaining portions of Form CPA-106 (included in Appendix G).

5.2.3.2 Isolated Waters/USACE

USACE has reviewed the isolated waters of the United States jurisdictional determination forms for the Project and approved the jurisdictional determination on April 14, 2011. This approval, as well as USACE's letter for Preliminary Agreement on the purpose and need, is included in Coordination with USACE at the end of this chapter.

5.2.3.3 Cultural Resources

Pursuant to Stipulation XII of the Section 106 Programmatic Agreement (PA), the Department is using a phased approach to evaluation and finding of effect for this Project. The State Historic Preservation Officer (SHPO) was notified of the Department's intent to use a phased approach for the Project in a letter dated May 20, 2008, which is included at the end of this chapter.

The Historic Property Survey Report (HPSR) is the document that transmits several technical studies (the Historical Resources Evaluation Report, Archaeological Survey Report, and Extended Phase I Proposal and Report, as well as the Area of Potential Effects map and documentation of Public Participation [including Native American consultation]) to SHPO requesting concurrence on the NRHP eligibility of properties that could be affected by the Project. In accordance with PA Stipulation VIII.C.5, on June 24, 2010, the Department requested SHPO concurrence on determinations of eligibility for 12 built environment properties and two historical archaeological sites. SHPO concurred with the determinations on August 2, 2010. The SHPO concurrence letter is included at the end of this chapter.

After public circulation of this Draft EIR/EIS, a Preferred Alternative will be identified, and a Phase II archaeological evaluation will be conducted based on that alternative. The Phase II archaeological evaluation will limit subsurface testing and additional study to the Preferred Alternative and will avoid unnecessary impacts to sites on other alternatives. The Department will seek concurrence on evaluations for as many as 22 prehistoric archaeological sites, three historical archaeological sites, and three multicomponent sites. The sites that could be affected by the Preferred Alternative will be evaluated and reported in a Supplemental HPSR, as documented in Notification of Intent to Phase Section 106, which is included at the end of this chapter.

Following SHPO concurrence on NRHP eligibility, the Project impacts will be analyzed and a Finding of Effect will be submitted to SHPO for concurrence on the Colorado River Aqueduct and any other historic properties. If necessary, a Memorandum of Agreement for resolving adverse effects would be developed to complete the Section 106 process.

See Section 5.6 (page 5-18) for details concerning the Native American consultation process.

5.2.3.4 USFWS Species List

The Department requested a Project Species List from USFWS on November 8, 2012. The list of special-status species analyzed for the Project was developed consistent with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), which is documented in the Natural Environment Study prepared for the Project. However, because the Project has its own conditions, the species that are required to be addressed by USFWS are listed separately in the USFWS Species List included at the end of this chapter.

5.2.3.5 Parks and Recreation

Coordination with the Riverside County Habitat Conservation Agency, Riverside County, and the Cities of Hemet and San Jacinto took place in December 2010 and January 2011 to confirm whether the Project would impact certain resources that might be protected by the provisions of Section 4(f) of the 1966 Department of Transportation Act (49 USC 303). Riverside County and the Cities of Hemet and San Jacinto confirmed the status of the bike paths and trails in the Project study area. Meeting summaries are included as Appendix I. Based on the information provided by the County of Riverside, Cities of Hemet and San Jacinto, and Riverside County Habitat Conservation Agency, the Department has determined that the bike paths and trails are expected to be recognized as an exception to 23 CFR 774, specifically in the context of 23 CFR 774.13 (f) (4), "Trails, paths, bikeways, and sidewalks that are part of the local transportation system and which function primarily for transportation."

5.2.4 Transportation Conformity Working Group

The interagency consultation process is a tool used for project-level conformity determinations for particulate matter (PM) hot spot analyses. The Southern California Association of Governments (SCAG) Transportation Conformity Working Group (TCWG) was developed to support interagency coordination and maintain transportation conformity in Southern California. The TCWG is composed of federal (USEPA, FHWA, Federal Transit Administration [FTA]), state (California Air Resources Board [ARB], the Department), regional (Air Quality Management Districts, SCAG, etc.), and sub-regional (County transportation commissions) agencies and other stakeholders. The Project PM hot spot analysis was presented to the TCWG to meet the interagency consultation requirements in October 2008. The Department, FHWA, and USEPA approved the Project PM hot spot analysis for NEPA circulation. The TCWG approval for NEPA circulation of the PM hot spot analysis is included at the end of this chapter.

5.3 Public Participation

Project scope development (scoping) was conducted between September 2004 and February 2006 to seek citizen, agency, and other stakeholder input regarding a new alignment for SR 79 in the cities of Hemet and San Jacinto and a part of unincorporated Riverside County. Public feedback was solicited to identify concerns about and benefits of the alternatives to be considered in focused technical studies and defined for analysis in the Draft EIR/EIS. The results of the scoping were detailed in the Final Scoping Summary Report (September 2005), Final

Hemet Public Information Meeting Summary Report (October 2005), and Final Meeting Summary, Winchester Homeowners Association Meeting (October 2005). Those results are summarized below.

5.3.1 Public Notifications

Public notification was achieved using a number of methods to ensure that stakeholders received information about the Project, the public scoping process, and other opportunities for public participation. These methods are discussed below.

5.3.1.1 Website

A Project website (*http://www.sr79project.info*) was developed to post information about Project contacts, status, and activities, as well as methods for the public to provide feedback.

5.3.1.2 Mailing List

A Project mailing list of agencies, landowners, stakeholders, and other interested parties was used to distribute letters of invitation to participate in the public scoping process and periodic newsletters with information about the Project. The Project mailing list was updated throughout scoping and included current landowners, as well as the following:

- Members of the public who had attended previous meetings associated with the Project
- Landowners included in a 2002 court order for property access
- Elected officials
- Agency department heads
- School districts
- Water agencies
- Utility companies
- Other public representatives
- Business organizations concerned with economic development and community development
- Building industry representatives
- Environmental groups
- Community nonprofit groups
- Local organizations
- Native American representatives
- Members of the public who had previously expressed an interest to RCTC regarding transportation projects

5.3.1.3 Newspaper Notices

Notices were published in the *Press Enterprise, Hemet-San Jacinto Edition* (a local, daily, subscriber-based newspaper) and *Valley Chronicle* (a local, weekly, subscriber- and nonsubscriber-based newspaper) to inform the public about the Project and announce public meetings. Notices were placed prior to each public meeting, over a series of weekdays and weekend days in local newspapers.

Press Enterprise, Hemet-San Jacinto Edition

Notice of the scoping meetings on Wednesday, September 29, 2004, and Wednesday, October 6, 2004, was published in the *Press Enterprise, Hemet-San Jacinto Edition*, on the following dates:

Wednesday, September 15, 2004
Saturday, September 18, 2004
Wednesday, September 22, 2004
Saturday, September 25, 2004
Wednesday, September 29, 2004

Notice of the public information meeting held on Wednesday, October 19, 2005, was published in the *Press Enterprise, Hemet-San Jacinto Edition*, on the following dates:

Wednesday, October 5, 2005
Saturday, October 8, 2005
Wednesday, October 12, 2005
Saturday, October 15, 2005
Wednesday, October 19, 2005

Valley Chronicle

Notice of the scoping meetings on Wednesday, September 29, 2004, and Wednesday, October 6, 2004, was published in the *Valley Chronicle* on Friday, October 1, 2004. Notice of the public information meeting held on Wednesday, October 19, 2005, was published in the *Valley Chronicle* on the following dates:

Friday, October 7, 2005
Friday, October 14, 2005

5.3.1.4 Notice of Intent and Notice of Preparation

In accordance with NEPA and CEQA, a Notice of Intent (NOI) to prepare an EIS and a Notice of Preparation (NOP) soliciting public participation in determining the scope of the EIR were prepared and distributed for the Project.

The NOI was published in the *Federal Register* on Tuesday, September 7, 2004, to notify federal agencies of the Project. The NOP was posted with the Office of Planning and Research State Clearinghouse (SCH) on Thursday, September 9, 2004, and with the County of Riverside County Clerk (County Clerk) on Friday, September 10, 2004, to notify state, regional, and local agencies concerning the Project. The Project was assigned SCH No. 2004031140. Although no changes occurred to the Project as it was described in the September 2004 NOP, a supplemental NOP was prepared in March 2005 to provide an extended opportunity for agency and public comment. The supplemental NOP was posted with the SCH on Friday, March 4, 2005, and with the County Clerk on Monday, March 7, 2005. It was also mailed to state, regional, and local agencies and to environmental and Native American groups on the Project mailing list. The March 2005 supplemental NOP was filed under

SCH No. 2004031140, the same SCH number as the September 2004 NOP. Thus the Project received two 30-day comment periods, established on each of the dates the NOPs were published.

A summary of the comments received from the NOI and NOPs is provided later in this chapter (page 5-15).

5.3.2 Public Meetings

Two public scoping meetings were held to solicit input on the proposed alternatives for the Project. These meetings were held on Wednesday, September 29, 2004, at the James Simpson Memorial Center in the city of Hemet (approximately 120 attendees) and on Wednesday, October 6, 2004, at the San Jacinto Unified School District Conference Room in the city of San Jacinto (approximately 36 attendees). Descriptions of these 2004 meetings are provided below.

Two additional meetings were held in October 2005 to update the public and solicit feedback about changes to the Project. A homeowners' association (HOA) meeting was held in the town of Winchester, and a public information meeting was held in Hemet. The Winchester HOA meeting was held on Thursday, October 6, 2005, at the Winchester Community Center (approximately 80 attendees), and the Hemet public information meeting was held on Wednesday, October 19, 2005, at the James Simpson Memorial Center (approximately 152 attendees). Descriptions of these 2005 meetings are provided below.

5.3.2.1 2004 Scoping Meetings

Except for location, the scoping meetings held in 2004 were organized and handled in a similar fashion. The following discussion is applicable to both meetings unless otherwise noted.

Meeting Activities

Upon entering the venue, the meeting attendees were provided a nametag, an agenda/comment card with self-stick Post-it® Notes, and a newsletter (dated September 2004). A Spanish-speaking interpreter was available at both meetings, but no interpretation services were requested.

Meeting attendees were directed to proceed to the exhibit area of the meeting room, where three large maps displayed the draft alignment alternatives proposed for the Project. To determine support for and opposition to the three draft alignments under consideration, meeting attendees were asked to place a green Post-it® Note on the portions of the draft alignment alternatives they endorsed and a yellow Post-it® Note on the portions of the alternatives they opposed. At the Hemet meeting, the Western and Eastern Alignments showed equal degrees of opposition, with the Western and Central Alignments showing about the same number of endorsements. At the San Jacinto meeting, opposition to the Eastern Alignment was strong, but there was no clear endorsement of any particular alignment.

Following the review of the alignment exhibits, RCTC staff and environmental and engineering technical staff were introduced to the attendees, the agenda for the evening was reviewed, and an overview of the proposed Project was presented. Meeting attendees were divided into five "breakout" groups to discuss and respond to

five specific questions regarding the benefits and drawbacks of each alternative. Each group was assigned two facilitators.

Following the breakout group discussions, the meeting attendees reconvened to review the results from each group.

Public Input/Feedback

Feedback was provided either verbally during the meetings or written on comment cards. Public feedback can generally be categorized into environmental, engineering, or general topic areas, as discussed below. Based on public feedback, stakeholders were generally supportive of the Project. However, the feedback indicated varying preferences for the alternative that might be chosen for the Project.

Environmental Feedback

Aesthetics/Visual Resources

Commenters requested that the Project preserve the rural character of the community and use corridors that are already heavily impacted. Some commenters were concerned about increased litter along the roadway. Preserving the scenic nature of the valley was also identified as important.

Agricultural Land and Farming/Livestock Activities

Concerns about agricultural land and farming/livestock activities were raised by a number of public scoping meeting attendees, and several written comments were submitted on this topic. Specifically, commenters were concerned about potential impacts to dairies, horse farms, ranches, and cow pastures.

Air Quality

Several written comments addressed air quality. Concerns about air quality were specifically related to the effect of the Project on sensitive receptors, including homes and schools. Many felt that the Eastern Alignment Alternative would have the most impact with respect to air quality because of its proximity to existing development.

Biological Resources

Biological resources, including wildlife, vernal pools, and biological preserves, were a topic of concern for a number of meeting attendees. This topic area also was the subject of one of the written comments received through the Project website, which stressed the importance of protecting fairy shrimp and tadpoles that inhabit vernal pools in the Project area. Specifically, concerns were voiced about reducing wildlife habitat and wasting natural resources. One commenter suggested elevating the roadway over sensitive biological areas to avoid impacts.

Community Impacts

Commenters want to preserve established communities and maintain their quality and character. Some commenters identified a preference for an alignment through rural areas or open space/vacant land where it would disrupt fewer people.

Cultural Resources

Native Americans and local historical societies identified the importance of preserving cultural resources within the Project study area.

Economics

Economic concerns related to the cost of ROW acquisition were expressed. Some commenters identified a preference for the alignment that would be the least costly with respect to ROW acquisition. Several suggested the use of ROW along existing roads and surface water facilities to save money. Additional concerns with respect to economics were related to the economic growth limitations to cities that the draft alignments might impose. Some commenters were concerned that the proposed Project would increase their taxes, reduce their property value, or stand in the way of marketing and selling their property.

Floodplain Issues

Concerns were identified with respect to flooding and the location of the flood zone in relation to the Project.

Growth

Concerns that the proposed Project might impede growth and development were raised. Specifically, commenters were concerned about impacts to development of future residential areas, schools, and commercial businesses. Commenters suggested that the proposed alignment be designed to support growth in the valley.

Hazardous Materials

Several commenters noted the importance of avoiding existing landfills in the Project study area.

Hydrology

Concerns about surface water channels and water quality were raised, environmental impacts to Seattle Channel in particular.

Noise

Concerns with noise produced by vehicular traffic along the proposed roadway were identified. One commenter suggested the Project use rubberized asphalt to reduce noise emissions. Another suggested that the existing topography be used as a natural sound barrier.

Public Safety

Public safety concerns were raised. Commenters acknowledged that roadway safety is very important, especially due to dangers on existing surface streets. They suggested that the proposed alignment should not occur near housing, schools, or businesses for safety reasons. Some commenters suggested that the Project may have the potential to increase crime in the Project area.

Recreation

Commenters stated that access to recreation facilities, including horse trails, was important. They also requested that the Project provide trails for recreational activities.

Relocation Impacts

Relocation concerns were raised. Many commenters said that it is important to avoid disturbing existing development, including businesses, homes, and schools. It was suggested that the Project use existing ROW as much as possible to reduce the acquisition of private property, including alignments along Warren Road and Domenigoni Parkway. In addition, several property owners requested information on how the value of property and the businesses and homes located on that property are assessed and valued.

Topography

Some commenters identified the importance of the topography of the Project area and requested that roadway construction not use fill from the surrounding areas.

Traffic and Circulation

Commenters were concerned with construction traffic and congestion during this portion of the Project. Commenters requested information about the effect that the Project would have on local surface streets. Some commenters noted that the Project had the potential to increase traffic, but other commenters disagreed, saying that it would redirect traffic from local surface streets (such as Florida Avenue). Commenters wanted to upgrade the traffic capacity of the area. Commenters requested that the Project redirect traffic away from downtown areas and that alignments along Sanderson Avenue were not good because too much traffic is already there. They also indicated concern with traffic congestion and requested that a circulation plan be developed.

Engineering Feedback

Airport

Concerns about interference with the Hemet-Ryan Airport sphere of influence were raised at the public scoping meetings and in written comments.

Construction Phasing

Concerns about how the Project would be constructed were raised. Several commenters stated that the Project should obtain ROW for the full Project buildout conditions. They also commented that it should be built to full

capacity (six lanes), instead of four lanes initially, with expansion to six lanes in the future. Some commenters requested that the roadway designation be assigned as a freeway and not a highway.

Drainage Control

In a written comment, one commenter identified the need to maintain drainage within the Project area.

Future Roadway Development/Route Expansion

Concerns about future roadway development and expansion activities were raised. Comments identified the importance of the ability to appropriately expand the paved roadway and interchanges. Specifically, a concern was raised regarding the proximity of the proposed alignment to existing facilities, such as railroad or canal, and the potential for these facilities to impede future roadway development and route expansion.

Railroad

Comments regarding the railroad identified concerns with an alignment parallel to the railroad tracks and how that might affect traffic.

Route Design

Commenters requested that the roadway be designed as straight as possible to avoid dangerous curves. It was indicated that commenters valued a roadway that was easy to drive on that would not crowd the roadway into an existing developed area. One commenter asked why the Project was not focusing on a transportation corridor between Winchester and Temecula. Another commenter requested that the Project use high-quality materials for pavement and lighting. Comments regarding access and connectivity were also provided in relation to route design.

Access

Commenters noted that the roadway alignment should consider the importance of connecting east-west access roads and a north-south route from Interstate 10 (I-10) to San Diego. They also stated that it was important for the alignment to occur near existing and planned retail developments and downtown areas. A limited access facility was suggested, as well as requests for increased access to existing streets and services. Frontage roads providing access to development along the roadway were identified as important.

Directness

Commenters indicated that a direct route for the roadway alignment was preferred.

General Feedback

Decision-Making Authority for the Project

Some commenters raised concerns regarding the decision-making authority for the Project and stated that individuals with local knowledge should have the ability to assist in the decision making.

Project Progress

Concerns were expressed about Project progress and implementation. Commenters indicated that the alignment selection process needs to be faster and asked if the proposed Project would ever be built. Several indicated that the Project is moving too slowly.

Property Access

One commenter indicated that he would prefer that access to his property be restricted.

Public Outreach

Commenters requested that the Project continue to conduct public outreach and provide more publicity for Project-related activities. One commenter requested disclosure of Project decisions.

5.3.2.2 2005 Winchester HOA Meeting

The Winchester HOA meeting was held with members of the Winchester community to solicit feedback on changes that had been made to the Project since the 2004 scoping meetings.

Meeting Activities

Names and contact information were collected only from those individuals who indicated that they would like to be added to the Project mailing list. Meeting materials included displays of the alignments presented at the 2004 scoping meetings and displays of the updated alignments, as well as a display of the potential interchange locations along the updated alignments. A presentation to illustrate the specific changes that had occurred to the alignments since the 2004 scoping meetings was given.

Public Input/Feedback

Feedback was provided verbally during the meeting and generally indicated the following concerns:

- Attendees asked where they would be able to access the future roadway (intersections or interchanges). They want to maintain access to their community, especially for businesses. They did not want traffic diverted away from the local businesses.
- Attendees were interested in the sequencing of local access. This is related to how the Project would determine which intersections would be converted to interchanges and when.
- Landowners do not want their property to be impacted by the Project, but if it needs to be impacted, then they want it to be purchased.
- Attendees were interested in understanding how the Project is being funded.
- Attendees were concerned by the potential impact to the topography of the hills located between Stowe Road and Florida Avenue, west of California Avenue and east of Winchester Road.
- Attendees were concerned about potential economic impacts of the Project. More specifically, they were concerned that property sales either will not occur or will fall out of escrow when this Project is disclosed to a buyer. This is due to large Project study areas and the fact that a specific alternative has not been identified.

- Landowners were concerned that the Project will divide the community.

Attendees asked technical questions about air quality, noise, and relocation schedules for businesses and residences.

5.3.2.3 2005 Hemet Public Information Meeting

The 2005 Hemet public information meeting was held to highlight Project changes made in response to ongoing public feedback and agency coordination.

Meeting Activities

Similar to the organization of the 2004 scoping meetings, attendees were provided a name tag, agenda/comment card, and fact sheet (dated October 2005), then were directed to an exhibit area of the meeting room to view two large exhibits. Representatives of RCTC, as well as environmental and engineering technical staff, were present at each station and available to answer questions. Spanish-language translators were available at the meeting, but no interpretation services were requested.

Following the presentation, meeting attendees were asked about the benefits and drawbacks of the currently proposed alignments.

Public Input/Feedback

Feedback was provided verbally during the meeting and recorded on poster paper hung on the wall facing the audience. In summary, the community was very interested in the status and outcome of the Project. Feedback indicated that the public wanted the Project to be approved and constructed quickly to alleviate traffic congestion in the area and to avoid costly delays. People wanted an alignment to be identified so that they could prepare to move forward with development plans. They wanted the least amount of disruption to homeowners, and all preferred that the road not go near their homes.

Concerns about quality of life were at the forefront of public input. Although better traffic flow was welcomed, concerns remained about transforming the quiet, rural feel of the area. Those who had lived in the area for a long time were concerned about the potential changes the Project represented to their community.

5.4 Additional Public Input/Feedback

In addition to public feedback provided at scoping meetings, public input was provided via emails submitted through the Project website and letter responses to the NOI and NOPs.

5.4.1 Email Feedback

The Project website was accessible throughout scoping (and the informational portion continues today). During the Project scoping period, many people used the website for requests to be added to the Project mailing list; some

also provided feedback. Comments received via email through the Project website are presented below, nearly verbatim, with clarifications in brackets.

- We are against the western alignment.
- Have you considered widening Winchester Road through the town [of] Winchester and then continue the route once it reaches the northern portion of Winchester Road?
- We support the eastern routes. The new middle route [New Alternative] will provide much needed fill material for this and other projects throughout the county.
- Why is there no proposed route down Warren Road? [Warren Road] is a straight shot to Domenigoni Parkway and doesn't impact any current populations or homes.
- The proposed route over the mountain [New Alternative] goes into our small community of more than 20 years. [The New Alternative] seems like a misuse of public funds because of the extra cost.
- Development interests seem to be against using Warren Road.
- The Western Alternative is disruptive and would affect property values. The routes that utilize existing roadways and Domenigoni Parkway would be better.
- Where can I obtain a written report showing the results of the October 19, 2005, meeting?

5.4.2 Responses to the NOI and NOPs

Letters received in response to the NOI (September 2004) and the two NOPs (September 2004 and March 2005) for the Project provided valuable insights into the issues and concerns of potentially affected agencies, groups, and individuals. General information has been released to the public, and no specific responses have been provided. Although many of the letters identified topics that are required in the environmental analysis, the information and opinions provided in the letters identify specific issues to be addressed in the Draft EIR/EIS. All substantive comments provided in response to the NOI and NOPs have been considered by the Department in developing the alternatives to be analyzed in the Draft EIR/EIS. The key issues raised in the letters are listed below.

September 2004 NOI

United States Army Corps of Engineers, Los Angeles District (October 15, 2004)

- Coordination consistent with the NEPA/Clean Water Act Section 404 Integration Process for Surface Transportation Project Memorandum of Understanding (NEPA/404 MOU)
- Reasonable and practicable alternatives and impacts to water resources – specifically, the Least Environmentally Damaging Practicable Alternative (LEDPA)

United States Fish and Wildlife Service (October 19, 2004)

- Consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) to minimize and mitigate habitat loss and the incidental take of covered species under the section 10(a)(1)(B) permit
- Avoidance and minimization of impacts to the Upper Salt Creek Vernal Pool Complex and MSHCP Criteria Area

- A Preferred Alternative consistent with both the Section 404(b)(1) guidelines and requirements of the MSHCP

United States Environmental Protection Agency (October 22, 2004)

- Compliance with the Clean Water Act Section 404(b)(1) Guidelines
- Reasonable and practicable alternatives and impacts to aquatic resources, specifically the LEDPA
- Impacts to wildlife and native communities and compliance with the requirements of the MSHCP
- Emissions from Project construction and operation in the nonattainment South Coast Air Basin
- Traffic modeling to compare relative travel benefits among alternatives and to estimate air emissions
- Growth inducement within the San Jacinto/Hemet area, as well as within the Banning/Beaumont-to-Temecula corridor
- Cumulative impacts to air quality, water quality, wildlife habitat, and vernal pools and other wetlands
- Environmental justice mitigation for adverse impacts to minority and low-income populations
- Pollution prevention in accordance with the Resource Conservation and Recovery Act (RCRA), Section 6002

September 2004 NOP

Native American Heritage Commission (September 20, 2004)

- Early consultation with tribes
- Archaeological mitigation

Hemet Unified School District (September 21, 2004)

- Impacts to the ability to safely or adequately provide school facilities to students of the Hemet Unified School District (HUSD) would be opposed
- A primary alternative roadway alignment along Warren Avenue

California Highway Patrol (September 27, 2004)

- A comprehensive traffic management program to address commuter and resident transportation needs during construction
- Additional patrol personnel to manage traffic on the new roadway
- Ramps and traffic management strategies to address additional traffic introduced by the Project
- California Highway Patrol (CHP) involvement in the Project assessment and planning process

Metropolitan Water District of Southern California (October 13, 2004)

- Potential impacts to Metropolitan Water District of Southern California (MWD) facilities, property, rights-of-way, and/or reserve lands
- MWD involvement in the planning process to avoid or minimize impacts to MWD interests
- Project consistency with the growth management plan adopted by SCAG

California Department of Fish and Game (October 26, 2004)

- Western Riverside County Multiple Species Habitat Conservation Plan to minimize and mitigate habitat loss

March 2005 NOP

South Coast Air Quality Management District (March 9, 2005)

- Potential adverse air quality impacts from all phases of the Project and all air pollutant sources related to the Project
- Feasible mitigation for all significant air quality impacts, including measures for controlling fugitive dust emissions
- South Coast Air Quality Management District (SCAQMD) rules and use of relevant air quality reports and data

Native American Heritage Commission (March 23, 2005)

- Early consultation with tribes
- Archaeological mitigation

Public Utilities Commission (March 28, 2005)

- Safety of the Burlington Northern Santa Fe Railroad (BNSF) rail corridor

Southern California Association of Governments (March 30, 2005)

- Regionally significant project
- Relevant Regional Comprehensive Plan and Guidelines (RCP&G) policies

California Department of Conservation (April 4, 2005)

- Agricultural setting, qualitative/quantitative impacts, and mitigation measures
- Williamson Act lands

5.5 Development of the Design Options

In May 2009, comments were received from the public (specifically the Winchester HOA and the County of Riverside) regarding the proposed design of the Project. The Winchester HOA requested that two items be considered in a modified design. The first was a lower profile of the roadway south of Stowe Road. The second was access at Newport Road. Because of the comments received, the Project alternatives were modified and now include design options to the base condition for Build Alternatives 1b and 2b. The design options include variations in access at SR 79/Winchester Road, Simpson Road, and Ranchland/Future Street A and a lower roadway profile from Domenigoni Parkway north to California Avenue. Stakeholders were informed about the proposed design options, and their feedback was positive. In June 2009, the design options were incorporated as part of the Project.

5.6 Native American Consultation

The FHWA and the Department (under the authority of the FHWA, pursuant to NEPA delegation) have maintained continuous consultation with Native American groups and individuals throughout the history of the Project. Detailed accounts of the consultation process, specific tribal and individual contacts, and the substance of communications with various Native Americans are included in Exhibits 2, 4, and 5 (Archaeological Survey Report, Extended Phase I Proposal, and Extended Phase I Report) in the HPSR (June 2010). The HPSR, and specifically the Native American correspondence included as Part 3 of Exhibit 6 to that report, is incorporated herein by reference. Consultation and coordination efforts for the Project are summarized below.

A letter, dated May 12, 2005, regarding the SR 79 Realignment Project was sent to the Native American Heritage Commission (NAHC) requesting a review of the Sacred Lands file. The NAHC responded by letter on June 6, 2005, stating that the search of the Sacred Land files indicated the presence of Native American sacred sites at undisclosed locations in the immediate vicinity of the Project. NAHC provided a list of tribes and individuals to be contacted for additional information about resources in the vicinity and to be consulted formally about any Project concerns. Thirteen individuals and tribal representatives from the list were contacted by mail in July 2005. The letter described the Project and the status of cultural resources identification tasks. It also invited individuals and tribes to identify any traditional cultural properties or values in the Project area or to state any concerns about the Project.

Thirteen letters were distributed, but only three responses were received. The San Manuel Band of Mission Indians (San Manuel Band, a Serrano group) indicated that the Project is not within an area of known Serrano cultural resources. Two groups, the Ramona Band of Cahuilla Indians (Ramona Band, a Cahuilla group) and the Morongo Band of Mission Indians (Morongo Band, which includes Cupeño, Serrano, and Cahuilla members), requested that Native American monitors be hired to observe ground-disturbing Project activities in sensitive locations.

5.6.1 Extended Phase I Identification

Tribes were notified about updated Project survey findings and preliminary plans to conduct Extended Phase I (XPI) studies via letter, dated July 5, 2007. The letter also requested attendance at a meeting to discuss general concerns or monitoring plans for the Project. The letter was sent to 11 groups or individuals who had either indicated they were interested in continued involvement in the Project or had not responded to previous correspondence regarding the Project. Prior to this second letter, the Rincon Band of Mission Indians indicated to the Department Native American Coordinator that they did not wish to consult on projects in this part of Riverside County; thus they were not included in this mailing.

In reply, seven groups expressed an interest in attending a meeting to discuss XPI studies and monitoring, including the Cahuilla Band of Mission Indians (Cahuilla Band), the Morongo Band, Pauma/Yuima Band of Mission Indians (Pauma/Yuima), the Ramona Band, the Santa Rosa Band of Mission Indians (Santa Rosa Band), the Soboba Band of Luiseño Indians (Soboba Band), and the Temecula Band of Luiseño Mission Indians (Pechanga Band). Mr. Willie Pink (Luiseño) indicated that he would defer to the Pechanga Band on this Project,

and the Twenty-Nine Palms Band of Mission Indians had no specific comments at that time. In addition, the La Jolla Band of Mission Indians indicated to the Department that they did not wish to consult further on this Project.

A meeting with the interested Native American groups, the Department, RCTC, and the RCTC cultural resources consultant was held on July 26, 2007, at the RCTC office in Riverside, California, to review the sites that were proposed for XPI study, present the methods and procedures for conducting XPI investigations, and discuss tribal monitoring. The meeting was intended to provide the Native American groups with an opportunity to comment on the goals and methods being presented. Members from the Cahuilla Band, the Pechanga Band, the Santa Rosa Band, and the Soboba Band attended the meeting. Representatives from the Morongo Band and the Ramona Band were unable to attend the meeting, but expressed an interest in the XPI study. Copies of the Draft Archaeological Survey Report of May 2007 were circulated at the meeting or were mailed to those groups that were unable to attend. No concerns from the groups were raised during this meeting, although all tribal representatives at the meeting expressed an interest in monitoring XPI fieldwork.

Follow-up emails with the groups were circulated on August 13, 2007, to coordinate monitoring efforts for XPI investigations. The Pechanga Band, the Ramona Band, the Santa Rosa Band, and the Soboba Band agreed to provide monitors; the Morongo Band deferred monitoring efforts to the other participating tribes. No response was received from the Cahuilla Band.

Following completion of the first phase of the XPI study (September 2007), the Pechanga Band issued a letter to the Department on October 8, 2007, expressing their concerns about the tribal consultation on the Project to date. Their concerns about the speed of Project development, adequacy of methods employed during fieldwork, and consideration of their tribal knowledge during archaeological site evaluations were expressed again in a meeting with the Department, RCTC, and the RCTC cultural resources consultant on September 24, 2008, and again by letter on November 26, 2008.

The FHWA responded to the tribes' comments and concerns in a letter dated January 29, 2008 (HPSR Exhibit 6, Public Participation: Native American Scoping and Consultation). The FHWA provided clarification on the adequacy of technical approaches used during survey, consultation, and XPI to identify potentially NRHP-eligible properties in the APE. The FHWA also acknowledged its obligations under existing laws to continue to consider Native American concerns as the Section 106 consultation proceeds and especially as they relate to evaluation of the NRHP eligibility of resources, selection of alternatives, and treatment of historic properties that would be affected by the Build alternatives, as well as inadvertent discoveries.

Copies of the Draft XPI Report (Exhibit 5 of the HPSR) were sent to the Cahuilla Band, the Morongo Band, the Pechanga Band, the Ramona Band, the Santa Rosa Band, and the Soboba Band on July 22, 2008, for review and comment. The Pechanga Band issued an email response to the Department on August 29, 2008, regarding their concerns with the Draft XPI report and requested a meeting with the Department to discuss their concerns about the report. In September 2008, follow-up telephone calls were made to the Cahuilla Band, the Morongo Band, the Ramona Band, and the Soboba Band. Those bands issued no concerns regarding the Draft XPI Report. The Santa Rosa Band requested a replacement copy for review.

A revised Draft XPI Report was provided to the Pechanga Band and the Santa Rosa Band on October 24, 2008, for review and comment. The Santa Rosa Band voiced no concerns with the revised draft report. The Pechanga Band issued their comments in a letter to RCTC, dated November 26, 2008. On behalf of the FHWA, the Department responded to the Tribes' comments and concerns in a letter dated January 26, 2009 (HPSR Exhibit 6, Public Participation: Native American Scoping and Consultation).

5.6.2 Phase II Evaluation

The Department notified the SHPO by letter dated May 20, 2008, that the Project would phase the evaluation stage of the Section 106 process, as allowed for in 36 CFR 800.4(b)(2) and 800.5(a)(3) and Section XII of the PA. As a result, the Phase II evaluation will occur once a Preferred Alternative has been identified for the Project. Phase II evaluations will be conducted on those sites that could be affected by the Preferred Alternative and for which NRHP eligibility remains undetermined. Phase II evaluations, possibly including excavations, will be undertaken for only those sites that could be impacted by construction of the Preferred Alternative.

In preparation for the Phase II evaluation process, the Department and RCTC requested a meeting with the tribes to seek their input on evaluations of prehistoric sites. Representatives from the Cahuilla Band, Soboba Band, Pechanga Band, and Santa Rosa Band attended a meeting in Hemet, California, on September 14, 2009, to discuss approaches for evaluating sites from both the tribes' perspective and the archaeological perspective.

Consultation with the tribes will be ongoing for the duration of the Project. Results of Native American coordination/consultation for the Phase II evaluation will be included in the Final EIR/EIS.

SHPO Concurrence

August 2, 2010

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OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
Sacramento CA 95816
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

August 2, 2010 Reply To: FHWA100523D

Olufemi Odufalu, Office Chief
Environmental Support/Cultural Studies
Caltrans District 8
Environmental Planning (MS 825)
464 W Fourth Street, 6th Floor
San Bernardino, CA 92401-1400

Re: Determinations of Eligibility for the Proposed State Route 79 Realignment Project, Riverside County, CA

Dear Mr./Ms. Odufalu:

Thank you for consulting with me about the subject undertaking in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA).

The California Department of Transportation (Caltrans) is requesting my concurrence that the following properties are not eligible for the National Register of Historic Places (NRHP):

- CBJ Dairy (P-33-15752)
- Ramona Boulevard Property (P-33-15748)
- Second San Diego Aqueduct Canal (CA-RIV-8195H)
- Reflection Lake Recreational Vehicle Resort (P-33-15741)
- Braswell Property (P-33-15749)
- Wilhelm Ranch (P-33-15751)
- Bidondo Property (P-33-15750)
- Shannon Drive Property (P-33-15744)
- Vanderlinden Property (P-33-15740)
- San Jacinto Valley Railway (CA-RIV-8196H)
- Haddock Street Property (P-33-15747)
- CA-RIV-1418H
- CA-RIV-8158H

Based on my review of the submitted documentation, I concur with the above findings.

Caltrans is also requesting my concurrence that the Colorado River Aqueduct (CA-RIV-6726H) is eligible for the NRHP as a contributor to a potential Colorado River Aqueduct Historic District. I concur.

Caltrans is also proposing to assume that CA-RIV-6907/H is eligible for the NRHP. Caltrans will protect CA-RIV-6907/H in place through designation and enforcement of an Environmentally Sensitive Area. I have no objections to this proposal.

Thank you for considering historic properties during project planning. If you have any questions, please contact Natalie Lindquist of my staff at (916) 445-7014 or email at nlindquist@parks.ca.gov.

Sincerely,

Susan K Stratton for

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

The Office of Historic Preservation has moved. Please note our new address and phone numbers as listed in the letterhead above.

Request for SHPO Concurrence

June 24, 2010

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DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
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FAX (909) 383-6494
TTY (909) 383-6300

Flex your power!
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June 24, 2010

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer
California Office of Historic Preservation
1416 Ninth Street, Room 1442
Sacramento, CA 95814

08-Riv-79-PM 25.1/52.8
State Route 79 Realignment
Project, Riverside County
EA 49400

Dear Mr. Donaldson:

Subject: Determinations of Eligibility for the California Department of Transportation (Caltrans) State Route 79 Realignment Project, located in Riverside County, California.

Caltrans, on behalf of the Federal Highway Administration (FHWA), and the Riverside County Transportation Commission (RCTC) proposes to construct the State Route 79 (SR-79) Realignment Project, located in Riverside County, California.

This consultation is undertaken in accordance with the Programmatic Agreement (PA) among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation, executed January 1, 2004.

By letter, dated May 20, 2008 (attached), the Department notified the State Office of Historic Preservation that it desired to phase the evaluation of cultural resources for the undertaking in accordance with the Section 106 process, as allowed for in 36 CFR 800.4(b)(2) and 800.5(a)(3) and Stipulation XII of the PA. Section 106 documentation to date for this undertaking consists of an Historic Property Survey Report (HPSR, June 2010) and attachments, which documents the development of the project's Area of Potential Effects (APE), consultation efforts with interested parties and Native Americans, identification of cultural resources within the APE, and the evaluation of the properties within the APE that do not require Phase II archaeological testing.

At this time, in accordance with PA Stipulation VIII.C(5), the Department is seeking SHPO concurrence on determination of eligibility for 12 built environment properties and two historical archaeological sites. The department is also requesting concurrence with the appropriateness of the assumed eligibility for the purposes of this project of one multi-component site that will be protected in place with an Environmentally sensitive area (ESA), pursuant to PA Stipulation

VIII.C(3). These results are detailed below.

The following properties were evaluated and determined to be ineligible for the NRHP:

Name	Resource Description	OHP Status Code	Map Reference Number	Status of Evaluation	Report Reference
*CBJ Dairy (P-33-15752)	Late 1950s residence and dairy	3CS	1	Not eligible	HRER (Exhibit 3)
Ramona Boulevard Property (P-33-15748)	1950s residence and former farmstead	6Z	3	Not eligible	HRER (Exhibit 3)
Second San Diego Aqueduct Canal (CA-RIV-8195H)	Late 1940s-late 1950s water conveyance system	6Z	4	Not eligible	HRER (Exhibit 3)
Reflection Lake Recreational Vehicle Resort (P-33-15741)	Early 1950s manmade lake and late 1960s Recreational Vehicle Resort	6Z	5	Not eligible	HRER (Exhibit 3)
Braswell Property (P-33-15749)	Early 1950s modern adobe block residence	6Z	6	Not eligible	HRER (Exhibit 3)
Wilhelm Ranch (P-33-15751)	Early 1900s farmstead with multiple outbuildings (School house, Bunkhouse, Apiary, Milk house, Workshop, Garage, Tank house, Irrigation machine building, and Concrete reservoir) razed in 2006	6Z	8	Not eligible	HRER (Exhibit 3)
Bidondo Property (P-33-15750)	Early 1950s modern adobe block residence	6Z	9	Not eligible	HRER (Exhibit 3)
Shannon Drive Property (P-33-15744)	1940s modern adobe block residence	6Z	10	Not eligible	HRER (Exhibit 3)
Vanderlinden Property (P-33-15740)	Modern farmstead consisting of a ranch house, modular house, sheds and water tower, and 1900s barn	6Z	11	Not eligible	HRER (Exhibit 3)
San Jacinto Valley Railway (CA-RIV-8196H)	Late 1880s railway	6Z	13	Not eligible	HRER (Exhibit 3)
Haddock Street Property (P-33-15747)	Late 1950s vernacular residence	6Z	14	Not eligible	HRER (Exhibit 3)
CA-RIV-1418H	Rock retaining wall	6Z	16	Not eligible	ASR (Exhibit 2) HRER (Exhibit 3)

Name	Resource Description	OHP Status Code	Map Reference Number	Status of Evaluation	Report Reference
CA-RIV-8158H	Structural remains and concrete stand pipe	6Z	7	Not eligible	ASR (Exhibit 2) HRER (Exhibit 3)

*Note that this resource was jointly evaluated in conjunction with the Mid County Parkway Project in 2008; the SHPO has already provided preliminary concurrence for the lack of NRHP eligibility of this resource (see HPSR Appendix A). The property was determined to be ineligible for the NRHP, but is considered to be an Historical Resource for the purposes of CEQA.

The following property was evaluated and determined eligible for the NRHP:

Name	Resource Description	OHP Status Code	Map Reference Number	Status of Evaluation	Report Reference
*Colorado River Aqueduct (CA-RIV-6726H)	1930s system conveying water from the Colorado River to much of Southern California	3S	2	Eligible	HRER (Exhibit 3)

*The Metropolitan Water District of Southern California, owner of this operating system, is in the process of evaluating NRHP eligibility of the entire system and intends to seek SHPO concurrence on the evaluation at a later date. Only the portion of the property within the APE was evaluated.

The following property will be presumed eligible for the purposes of this undertaking and will be protected in place through designation and enforcement with an ESA:

Name	Resource Description	OHP Status Code	Map Reference Number	Status of Evaluation	Report Reference
*CA-RIV-6907/H	26 outcrops with 50 milling slicks; rock wall, granite quarrying and bottle fragments	Presumed eligible	See APE Map Grid 6 & 10	To be Protected in ESA	ASR (Exhibit 2)

*The ESA is described in Section 5 of the HPSR. However, a full ESA Action plan will be developed after selection of a preferred alternative for the undertaking. Therefore, the ESA Action plan will be submitted with a Supplemental HPSR.

Pursuant to Stipulation VIII.C.(3) and VIII.C.(5) of the Section 106 PA, we request your concurrence with the above-listed determinations of eligibility.

The remaining properties within the APE that require evaluation, consisting of up to 28 prehistoric and/or historical archaeological sites, will be evaluated following the selection of a preferred alternative for the project. These findings will be presented in a Supplemental HPSR. Following concurrence with the Supplemental HPSR, the Department will seek concurrence on a Finding of Effect for the project as a whole. Note that the Preliminary Archeological Evaluation Memorandum referred to in the May 2008 Phasing letter will no longer be submitted because it was determined prudent to defer evaluation of all prehistoric sites and fully document them in the supplemental HPSR.

We look forward to receiving your response within thirty (30) days of your receipt of this submittal, in accordance with Stipulation VIII.C.5.a of the Section 106 PA. If you have any questions or comments regarding the proposed project, please feel free to contact Andrew Walters, Associate Environmental Planner (Architectural History) at (909) 383-7566 (andrew_walters@dot.ca.gov). In return correspondence, please refer to this project by the EA number provided. We look forward to your response.

Sincerely,

OLUFEMI ODUFALU
Office Chief
Environmental Support/Cultural Studies

c. Jill Hupp, Section 106 Coordinator, Division of Environmental Analysis, HQ

Enclosures

Historic Property Survey Report for the State Route 79 Realignment Project: Domenigoni Parkway to Gilman Springs Road, (June 2010).

Exhibit 1	*Area of Potential Effects Map (bound separately)*
Exhibit 2	*Archaeological Survey Report (bound separately)*
Exhibit 3	*Historical Resources Evaluation Report (bound separately)*
Exhibit 4	*Extended Phase I Proposal (bound separately)*
Exhibit 5	*Extended Phase I Report (bound separately)*
Exhibit 6	*Public Participation: Native American Scoping and Consultation (bound separately)*

Notification of Intent to Phase Section 106

May 20, 2008

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DEPARTMENT OF TRANSPORTATION
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Flex your power!
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May 20, 2008

Mr. Milford Wayne Donaldson, FAIA
State Historic Preservation Officer
Office of Historic Preservation
P. O. Box 942896
Sacramento, CA 94296-0001

08-Riv-79-PM 25.1/52.8
State Route 79
Realignment
Riverside County

EA 494000

Dear Mr. Donaldson:

SUBJECT: Notification for use of a phased approach to evaluate and determine Finding of Effect (FOE) under Section 106 for the State Route 79 Realignment Project, Riverside County California

The California Department of Transportation (Caltrans), on behalf of the Federal Highway Administration (FHWA), and the Riverside County Transportation Commission (RCTC) propose to construct the State Route 79 (SR-79) Realignment project, located in Riverside County, California. The purpose of this letter is to provide background information on identification and evaluation efforts and to establish the document submittal process to the State Historic Preservation Officer (SHPO) to fulfill Section 106 compliance for this project using a phased approach.

Under the National Environmental Quality Act (NEPA) Delegation, which became effective July 1, 2007, Caltrans has assumed the oversight responsibilities of the FHWA for compliance with NEPA and Section 106 of National Historic Preservation Act (NHPA, 36 CFR Part 800). The Section 106 Programmatic Agreement (PA) among the FHWA, Advisory Council on Historic Preservation (ACHP), SHPO, and Caltrans also applies to this project. Caltrans desires to phase the evaluation and finding of effect (FOE) stage of the Section 106 process, as allowed for in 36 CFR 800.4(b)(2) and 800.5(a)(3) and Section XII of the PA. After public circulation of the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/DEIS), a Preferred Alternative will be selected. The Phase II archaeological evaluation proposes to limit the evaluations to the Preferred Alternative in order to avoid unnecessary impacts to sites on other alternatives.

To date, the identification phase of the project has been completed on all four (4) build alternatives. In addition, all built environment properties and the majority of the historical archaeological sites on all four (4) build alternatives have been evaluated. These identification and evaluation efforts will be presented for SHPO's review and concurrence prior to the public circulation of the DEIR/DEIS in the following documentation:

1. Historic Properties Survey Report (HPSR), including rationale for the deferral of Phase II Evaluations;

2. Project Maps/Area of Potential Effects;

3. Archaeological survey Report (ASR);

4. Extended Phase I (XP1) Proposal and Report;

5. Historic Resources Evaluation Report (HRER) for all Built Environmental resources and all historical archaeological sites for which there was no potential for subsurface deposits, or for which archival research demonstrated the lack of a focused historic context that would support NRHP eligibility under Criterion D;

6. Preliminary Archaeological Evaluation Memorandum for all prehistoric sites for which there was no potential for subsurface deposits or XP1 assessment confirmed that a subsurface component was lacking, and for which all potential for NRHP eligibility under Criterion D was realized and recovered during the process of site recording or XP1 analysis. This Memorandum will include identification of all sites that will require formal Phase II Archaeological Evaluation in order to determine their NRHP eligibility status;

7. Native American Consultation Documentation; and

8. Public Participation/Consulting Parties Documentation.

This documentation will constitute the bulk of the NRHP evaluations for the proposed project, covering all four (4) build alternatives, resulting in the completion of NRHP evaluation of all but five (5) archeological sites that must continue to Phase II evaluation.

Following the circulation of the DEIR/DEIS, and selection of a Preferred Alternative, the Section 106 process will be completed. Remaining activities would include NRHP-eligibility evaluations for archaeological sites requiring Phase II subsurface testing located only within the Preferred Alternative. Subsequent to the documentation of the site evaluations, Caltrans will request your concurrence on NRHP-eligibility on these sites on the basis of a Supplemental HPSR and combined HRER/Archaeological Evaluation Report (HRER/AER). Prior to issuance of the Final EIR/EIS, Caltrans will submit the FOE for the entire project, which will include one (1) built environment historic property, as well as any archaeological sites found eligible during Phase II evaluations.

In the event that adverse effects to historic properties would require resolution, a Memorandum of Agreement (MOA) would then be prepared to detail the negotiated and approved treatments or mitigation.

If you have any questions, please contact me at (909) 383-6933. Thank you for your assistance with this project.

Sincerely,

Christie Hammond

CHRISTIE HAMMOND
Office Chief
Environmental Support/Cultural Studies

c: Jill Hupp, Section 106 Coordinator, HQ

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Coordination with the

United States Army Corps of Engineers

Approved Jurisdictional Determination

April 14, 2011

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DEPARTMENT OF THE ARMY

April 14, 2011

REPLY TO
ATTENTION OF
Office of the Chief
Regulatory Division

Scott Quinnell
California Department of Transportation, District 8
c/o CH2MHILL
Attention: Carolyn Washburn
3 Hutton Centre Drive Ste 200
Santa Ana, California 92707-8794

SUBJECT: Approved Jurisdictional Determination regarding presence/absence of geographic jurisdiction

Dear Mr. Quinnell:

Reference is made to your request (File No. SPL-2004-00289-SJH) dated October 8, 2008, requesting verification of the jurisdictional limits of the Section 404 of the Clean Water Act (CWA) for a number of water bodies, tributaries and wetlands occurring within the State Route 79 (SR-79 Realignment Project study area located between Domenigoni Parkway and Gilman Springs Road, in the Cities of Hemet and San Jacinto, and the County of Riverside, California. Your jurisdictional determination verification request is a formal concurrence point specified in the multi-agency collaborative process to integrate and streamline the requirements of the National Environmental Policy Act and Section 404 of the CWA for Surface Transportation Projects in the State of California. This letter of verification fulfills this concurrence point.

This letter contains an approved jurisdictional determination of the SR-79 Realignment Project. As you may know, the Corps' evaluation process for determining whether or not a Department of the Army permit is needed involves two tests. If both tests are met, then a permit is required. The first test determines whether or not the proposed project is located in a water of the United States (i.e., it is within the Corps' geographic jurisdiction). The second test determines whether or not the proposed project is a regulated activity under Section 10 of the River and Harbor Act or Section 404 of the Clean Water Act. As part of the evaluation process, pertaining to the first test only, we have made the jurisdictional determination below.

Based on our May 17, 2006 site visit and information furnished to our office, including the September 2008 jurisdictional delineation report entitled *"State Route 79 Realignment Project: Domenigoni Parkway to Gilman Springs Road, Final Jurisdictional Wetland and Other Waters Delineation Report,"* we have determined there are waters of the United States on the project site, as well as non-jurisdictional aquatic resources, and that your proposed project does discharge dredged or fill material into a water of the United States (U.S.). Therefore, the project is subject to our jurisdiction under Section 404 of the Clean Water Act (CWA) and a Department of the Amy (DA) permit is required from our office. According to the delineation report, realignment of the SR-79 would result in the placement of fill material into the following water bodies, tributaries, and adjacent wetlands: San Jacinto River, Salt Creek

Channel, and Hemet Channel. Preliminary estimates indicate a range of approximately 21.73 to 24.66 acres of waters of the U.S., including wetlands, would be permanently impacted by the proposed SR-79 realignment, depending on the alternative selected. Similarly, approximately 2.85 to 4.47 acres of waters of the U.S., including wetlands, would be temporarily impacted.

The enclosed tables list the waters of the United States, including wetlands, regulated by Section 404 of the CWA. Specifically, Table 1 identifies the permanent and temporary direct impacts to jurisdictional waters of the U.S, including wetlands, occurring within each of the proposed SR-79 project alternatives under consideration, Table 2 identifies permanent direct impacts to jurisdictional waters of the U.S. within the San Jacinto Watershed and Associated Hydrologic Sub-Areas, and Table 3 identifies watersheds and drainages and the maximum temporary impacts associated. Table 4 identifies Isolated Wetlands. The aquatic resources identified in Table 4 as Isolated Wetlands, are intrastate isolated waters with no apparent interstate or foreign commerce connection. As such, these waters are not currently regulated by the Corps of Engineers. This disclaimer of jurisdiction is only for Section 404 of the Clean Water Act. Other Federal, State, and local laws may apply to your activities. In particular, you may need authorization from the California State Water Resources Control Board and/or the U.S. Fish and Wildlife Service. Table 5 identifies all jurisdictional wetland and non-wetland waters. All tables referenced in this letter correspond to figures and maps compiled in the SR-79 Realignment Project, Final Jurisdictional Wetland and Other Waters Delineation Report (Caltrans, September 2008). The subject report will be retained in our office files as part of the project's official administrative record and the Corps' approved jurisdictional delineation/determination.

This delineation/determination has been conducted to identify the limits of the Corps jurisdiction for the particular site indentified in this request. This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in the USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

This letter contains an approved jurisdictional determination for the SR 79 Realignment Project, Domenigoni Parkway to Gilman Springs Road, in the Cities of Hemet and San Jacinto, and the County of Riverside, California If you object to this decision, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet (Appendix A) and Request for Appeal (RFA) form. If you request to appeal this decision you must submit a completed RFA form to the Corps South Pacific Division Office at the following address:

Tom Cavanaugh
Administrative Appeal Review Officer,
U.S. Army Corps of Engineers
South Pacific Division, CESPD-PDS-O, 2042B
1455 Market Street, San Francisco, California 94103-1399

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 C.F.R. Part 331.5, and that it has been received by the Division Office within 60 days of the date on the NAP. Should you decide to

submit an RFA form, it must be received at the above address by May 16, 2011. It is not necessary to submit an RFA form to the Division office if you do not object to the decision in this letter.

This verification is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. If you wish to submit new information regarding the approved jurisdictional determination for this site, please submit this information to Stephanie Hall at the letterhead address by May 16, 2011. The Corps will consider any new information so submitted and respond within 60 days by either revising the prior determination, if appropriate, or reissuing the prior determination. A revised or reissued jurisdictional determination can be appealed as described above.

If you have any questions, please contact Stephanie Hall of my staff at 213-452-3410 or via e-mail at Stephanie.J.Hall@usace.army.mil.

Please be advised that you can now comment on your experience with Regulatory Division by accessing the Corps web-based customer survey form at: http://per2.nwp.usace.army.mil/survey.html.

Sincerely,

Mark D. Cohen
Deputy Chief, Regulatory Division

Enclosures

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Scott Quinnell, California Department of Transportation, District 8	File Number: SPL-2004-00289-SJH	Date:04/14/2011

Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

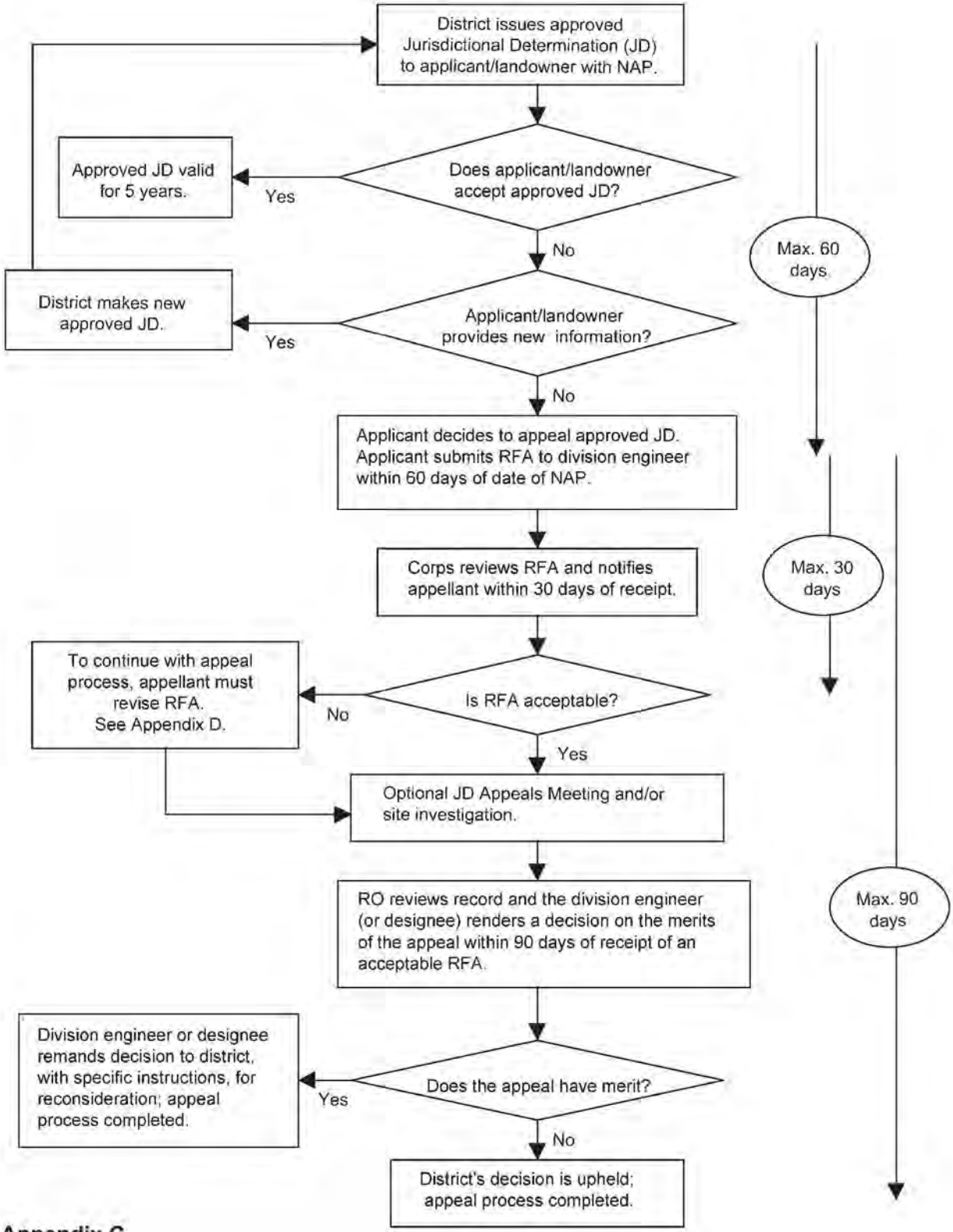
D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT		
REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)		
ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.		
POINT OF CONTACT FOR QUESTIONS OR INFORMATION:		
If you have questions regarding this decision and/or the appeal process you may contact: DISTRICT ENGINEER Los Angeles District, Corps of Engineers ATTN: Chief, Regulatory Division P.O. Box 532711 Los Angeles, CA 90053-2325 Tel. (213) 452-3425	If you only have questions regarding the appeal process you may also contact: DIVISION ENGINEER South Pacific Division, Corps of Engineers ATTN: Tom Cavanaugh Administrative Appeal Review Officer, South Pacific Division, CESPD-PDS-O, 2042B 1455 Market Street, San Francisco, California 94103-1399 Tel. (415) 503-6574	
RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.		
_____ Signature of appellant or agent.	Date:	Telephone number:

Administrative Appeal Process for Approved Jurisdictional Determinations



Appendix C

State Route 79 Summary Tables for Waters of the United States

TABLE 1.
Permanent and Temporary Direct Impacts to Jurisdictional Waters of the United States

	Build Alternative 1a	Build Alternative 1b	Build Alternative 2a	Build Alternative 2b
Permanent				
Waters [1]	7.72	10.76	7.59	10.97
Wetlands	13.55	11.57	11.71	13.69
Total	**21.27**	**22.33**	**19.30**	**24.66**
Temporary				
Waters [2]	0.29	1.00	2.14	1.64
Wetlands[3]	2.56	2.49	2.56	2.83
Total	**2.85**	**3.49**	**4.70**	**4.47**

[1] Permanent impacts to waters include drainage ditches and constructed ponds
[2] Temporary impacts to waters include the Salt Creek Channel and the Hemet Channel
[3]Wetlands include the vegetated portion of the Salt Creek Channel

TABLE 2.
Permanent Direct Impacts to Jurisdictional Waters of the United States within the San Jacinto Watershed (HUC 18070202) and Associated Hydrologic Sub-Areas

Hydrologic Sub-Areas		Build Alternative 1a	Build Alternative 1b	Build Alternative 2a	Build Alternative 2b
Gilman Hot Springs	Waters [1]	6.04	9.96	6.04	9.98
	Wetlands	11.39	11.39	11.53	11.53
	Total	**17.43**	**21.35**	**17.57**	**21.51**
Hemet	Waters[2]	0.96	0.80	0.80	0.96
	Wetlands	2.16	0.18	0.18	2.16
	Total	**3.12**	**0.98**	**0.98**	**3.12**
Winchester	Waters [2]	0.72	0	0.75	0.03
	Wetlands	0	0	0	0
	Total	**0.72**	**0**	**0.75**	**0.03**

[1] Permanent impacts to waters include drainage ditches and constructed ponds
[2] Permanent impacts to waters include only ditches

TABLE 3.
Watersheds and Drainages

Watershed/ Hydrologic Sub-area	Drainage	Latitude	Longitude	Wetland	Waters	Total
San Jacinto / Winchester	Salt Creek Channel	-117.08564	33.69903	2.83	0.32	3.15*
San Jacinto / Winchester	Hemet Channel	-117.065965	33.711204	0	1.85	1.85*

* Represents the maximum area of temporary impacts.

TABLE 4.
Isolated Wetland Included in the Wetland Delineation Report

Wetland ID	Figure[1]	Roadway Segment	Acreage[2]	Latitude	Longitude
VP0001	E-1a	South of AIISA1	0.51	33.718934	-117.059853
VP0068	E-1d	East of AIISA1	0.04	33.733942	-117.030191
VP0071	E-1d	East of AIISA1	0.01	33.734271	-117.030286
VP0072	E-1d	East of AIISA1	0.02	33.734434	-117.030003
VP0073	E-1d	East of AIISA1	0.002	33.734520	-117.029740
VP0075	E-1d	East of AIISA1	0.002	33.734588	-117.029605
VP0077	E-1d	East of AIISA1	0.02	33.734611	-117.029735
VP0086	E-1d	West of AIISA1	0.05	33.745254	-117.040366
VP0089	E-1d	West of AIISA1	0.22	33.745965	-117.041744
VP0090	E-1d	West of AIISA1	0.004	33.746368	-117.038888
VP0091	E-1d	West of AIISA1	0.01	33.747900	-117.039252
VP0092	E-1d	West of AIISA1	0.02	33.748703	-117.038781
VP0093	E-1d	West of AIISA1	0.05	33.748731	-117.038322
VP0094	E-1d	West of AIISA1	0.004	33.748800	-117.038684
SW0016	E-1d	East of AIISA1	0.32	33.734494	-117.031394
SW0017	E-1d	East of AIISA1	0.02	33.734598	-117.030218
SW0019	E-1d	G, H	0.12	33.738439	-117.052279
SW0028	E-1d	West of AIISA1	0.25	33.745065	-117.041600
AW0001	E-1a	B	0.02	33.686084	-117.080038
AW0003	E-1b	East of AIISA1	0.40	33.718689	-117.043245
AW0004	E-1b	East of AIISA1	0.12	33.719603	-117.041935
AW0005	E-1b	East of AIISA1	6.94	33.719678	-117.035716

TABLE 4.
Isolated Wetland Included in the Wetland Delineation Report

Wetland ID	Figure[1]	Roadway Segment	Acreage[2]	Latitude	Longitude
VP0001	E-1a	South of AIISA1	0.51	33.718934	-117.059853
VP0068	E-1d	East of AIISA1	0.04	33.733942	-117.030191
AW0006	E-1b	East of AIISA1	0.44	33.720001	-117.040581
AW0007	E-1b	East of AIISA1	0.27	33.720666	-117.040018
AW0008	E-1b	East of AIISA1	0.44	33.721395	-117.038729
AW0009	E-1d	AIISA1	0.35	33.736660	-117.045617
AW0016	E-1e	M	0.12	33.794248	-117.008124
CP0001	E-1e	J, K	0.40	33.780200	-117.029137
CP0003	E-1e	M	0.35	33.794664	-117.010302
CP0004	E-1e, E-1f	M	3.36	33.799923	-117.004683
CP0008	E-1f	L, M	0.52	33.818146	-117.004666

[1] Figure number refers to the figures included in the final Jurisdictional Wetlands and Others Water Delineation Report
[2] Represents delineated acreage of the feature only – does not include impacts

TALBE 5: Jurisdictional Waters of the U.S.

Waters_Name	Cowadin_C	HGM_Cod	Area (acre:	Linear (ft)	Waters Ty	Latitude(dd nad83)	Longitude dd nad83)	Local_Waterway
VP0002	R		0.22		RPWWD	33.722207	-117.050887	San Jacinto River
VP0003	R		0.004		RPWWD	33.722314	-117.045150	San Jacinto River
VP0004	R		0		RPWWD	33.722379	-117.044967	San Jacinto River
VP0005	R		0.004		RPWWD	33.722405	-117.044970	San Jacinto River
VP0006	R		0		RPWWD	33.722516	-117.050732	San Jacinto River
VP0007	R		0.01		RPWWD	33.722549	-117.050840	San Jacinto River
VP0008	R		0.002		RPWWD	33.722553	-117.050946	San Jacinto River
VP0009	R		0.07		RPWWD	33.722579	-117.050717	San Jacinto River
VP0010	R		0.89		RPWWD	33.722590	-117.052015	San Jacinto River
VP0011	R		0.004		RPWWD	33.722726	-117.042342	San Jacinto River
VO0012	R		0		RPWWD	33.722815	-117.043874	San Jacinto River
VP0013	R		0.02		RPWWD	33.722900	-117.051080	San Jacinto River
VP0014	R		0.79		RPWWD	33.723188	-117.052049	San Jacinto River
VP0015	R		0.45		RPWWD	33.723447	-117.050848	San Jacinto River
VP0016	R		0.05		RPWWD	33.723664	-117.051965	San Jacinto River
VP0017	R		0.3		RPWWD	33.725182	-117.045609	San Jacinto River
VP0018	R		0		RPWWD	33.725305	-117.044474	San Jacinto River
VP0019	R		0.37		RPWWD	33.725898	-117.047154	San Jacinto River
VP0020	R		0		RPWWD	33.726456	-117.041211	San Jacinto River
VP0021	R		0		RPWWD	33.727124	-117.040945	San Jacinto River
VP0022	R		0.002		RPWWD	33.727214	-117.040940	San Jacinto River
VP0023	R		0.02		RPWWD	33.727346	-117.040906	San Jacinto River
VP0024	R		0		RPWWD	33.727918	-117.049656	San Jacinto River
VP0025	R		0.67		RPWWD	33.727938	-117.046728	San Jacinto River
VP0026	R		0.07		RPWWD	33.728101	-117.049395	San Jacinto River
VP0027	R		0.002		RPWWD	33.728532	-117.040729	San Jacinto River
VP0028	R		0.01		RPWWD	33.729311	-117.047751	San Jacinto River
VP0029	R		0.002		RPWWD	33.729657	-117.043696	San Jacinto River
VP0030	R		0.02		RPWWD	33.729725	-117.047686	San Jacinto River
VP0031	R		0.05		RPWWD	33.729896	-117.043690	San Jacinto River
VP0032	R		5.8		RPWWD	33.730081	-117.028332	San Jacinto River
VP0033	R		0.4		RPWWD	33.730153	-117.037120	San Jacinto River
VP0034	R		0.01		RPWWD	33.730319	-117.036862	San Jacinto River
VP0035	R		0.1		RPWWD	33.730279	-117.043730	San Jacinto River
VP0036	R		0.02		RPWWD	33.730358	-117.047393	San Jacinto River
VP0037	R		0.01		RPWWD	33.730497	-117.036629	San Jacinto River

TABLE 5:(Continued)

VP0038	R	0.05	RPWWD	33.730600	-117.044855	San Jacinto River
VP0039	R	0.02	RPWWD	33.730664	-117.036545	San Jacinto River
VP0040	R	0.02	RPWWD	33.730750	-117.036323	San Jacinto River
VP0041	R	6.67	RPWWD	33.730721	-117.045740	San Jacinto River
VP0042	R	0.02	RPWWD	33.730921	-117.036191	San Jacinto River
VP0043	R	0.77	RPWWD	33.731075	-117.046726	San Jacinto River
VP0044	R	0.01	RPWWD	33.731141	-117.036209	San Jacinto River
VP0045	R	0.02	RPWWD	33.731575	-117.046850	San Jacinto River
VP0046	R	6.77	RPWWD	33.731732	-117.042608	San Jacinto River
VP0047	R	0.25	RPWWD	33.732000	-117.032038	San Jacinto River
VP0048	R	0.02	RPWWD	33.732009	-117.033743	San Jacinto River
VP0049	R	0.1	RPWWD	33.731993	-117.046756	San Jacinto River
VP0050	R	0.05	RPWWD	33.732025	-117.047137	San Jacinto River
VP0051	R	0.01	RPWWD	33.732239	-117.033634	San Jacinto River
VP0052	R	0	RPWWD	33.732246	-117.047198	San Jacinto River
VP0053	R	0.02	RPWWD	33.732419	-117.046932	San Jacinto River
VP0054	R	1.04	RPWWD	33.732539	-117.031939	San Jacinto River
VP0055	R	0.1	RPWWD	33.732574	-117.037932	San Jacinto River
VP0056	R	0.05	RPWWD	33.732592	-117.046823	San Jacinto River
VP0057	R	0.02	RPWWD	33.732606	-117.045729	San Jacinto River
VP0058	R	0.02	RPWWD	33.732697	-117.046110	San Jacinto River
VP0058a	R	0.02	RPWWD	33.732729	-117.047083	San Jacinto River
VP0059	R	0.01	RPWWD	33.732728	-117.046199	San Jacinto River
VP0060	R	0.02	RPWWD	33.732735	-117.046934	San Jacinto River
VP0061	R	0.05	RPWWD	33.732983	-117.036171	San Jacinto River
VP0062	R	1.66	RPWWD	33.733217	-117.031768	San Jacinto River
VP0063	R	3.34	RPWWD	33.733314	-117.041826	San Jacinto River
VP0064	R	0.004	RPWWD	33.733387	-117.035228	San Jacinto River
VP0065	R	1.24	RPWWD	33.733364	-117.045636	San Jacinto River
VP0066	R	2.62	RPWWD	33.733577	-117.047037	San Jacinto River
VP0067	R	0.01	RPWWD	33.733689	-117.033714	San Jacinto River
VP0069	R	0.02	RPWWD	33.734127	-117.033418	San Jacinto River
VP0070	R	0.02	RPWWD	33.734170	-117.034374	San Jacinto River
VP0074	R	0.02	RPWWD	33.734502	-117.039044	San Jacinto River
VP0076	R	0	RPWWD	33.734567	-117.033285	San Jacinto River
VP0078	R	0.17	RPWWD	33.735090	-117.039136	San Jacinto River
VP0079	R	0.02	RPWWD	33.735210	-117.041689	San Jacinto River

TABLE 5: (Continued)

VP0080	R	0.002	RPWWD	33.735710	-117.041504	San Jacinto River
VP0081	R	0.002	RPWWD	33.735892	-117.041436	San Jacinto River
VP0082	R	0.004	RPWWD	33.736144	-117.041324	San Jacinto River
VP0083	R	0	RPWWD	33.744249	-117.036804	San Jacinto River
VP0084	R	0.004	RPWWD	33.744279	-117.037231	San Jacinto River
VP0085	R	0.01	RPWWD	33.745041	-117.038158	San Jacinto River
VP0087	R	0.05	RPWWD	33.745491	-117.037889	San Jacinto River
VP0088	R	0.05	RPWWD	33.745736	-117.037546	San Jacinto River
VP0095	R	0.02	RPWWD	33.749400	-117.036294	San Jacinto River
VP0096	R	0.01	RPWWD	33.769090	-117.031739	San Jacinto River
VP0097	R	0.02	RPWWD	33.769112	-117.033081	San Jacinto River
VP0098	R	0.02	RPWWD	33.769290	-117.032978	San Jacinto River
VP0099	R	0.002	RPWWD	33.769450	-117.031612	San Jacinto River
VP0100	R	0.02	RPWWD	33.769555	-117.031378	San Jacinto River
VP0101	R	0.02	RPWWD	33.769553	-117.032382	San Jacinto River
VP0102	R	0	RPWWD	33.769742	-117.032596	San Jacinto River
VP0103	R	0.02	RPWWD	33.769936	-117.032248	San Jacinto River
VP0104	R	0.07	RPWWD	33.769977	-117.033082	San Jacinto River
VP0105	R	0.44	RPWWD	33.770017	-117.031586	San Jacinto River
VP0106	R	0.02	RPWWD	33.770077	-117.032355	San Jacinto River
VP0107	R	0.02	RPWWD	33.770204	-117.032315	San Jacinto River
VP0108	R	1.9	RPWWD	33.770788	-117.032467	San Jacinto River
VP0109	R	1.98	RPWWD	33.773603	-117.034721	San Jacinto River
VP0110	R	0.01	RPWWD	33.773989	-117.034583	San Jacinto River
VP0111	R	0.02	RPWWD	33.774069	-117.034816	San Jacinto River
VP0112	R	0.02	RPWWD	33.783131	-117.029879	San Jacinto River
SW0003	R	0.32	RPWWD	33.708388	-117.0455854	San Jacinto River
SW0004	R	0.02	RPWWD	33.717965	-117.032151	San Jacinto River
SW0005	R	1.46	RPWWD	33.719733	-117.0475113	San Jacinto River
SW0006	R	0.3	RPWWD	33.720743	-117.0321569	San Jacinto River
SW0007	R	0.39	RPWWD	33.723412	-117.0497368	San Jacinto River
SW0008	R	0.15	RPWWD	33.725500	-117.0446427	San Jacinto River
SW0009	R	1.01	RPWWD	33.725644	-117.0449274	San Jacinto River
SW0010	R	0.07	RPWWD	33.726040	-117.0448578	San Jacinto River
SW0011	R	0.05	RPWWD	33.727819	-117.049693	San Jacinto River
SW0012	R	0.05	RPWWD	33.728735	-117.0407819	San Jacinto River
SW0013	R	0.05	RPWWD	33.733182	-117.0342729	San Jacinto River

TABLE 5: (Continued)

SW0014	R	0.05	RPWWD	33.734300	-117.0446441	San Jacinto River
SW0015	R	0.15	RPWWD	33.734494	-117.0313941	San Jacinto River
SW0018	R	1.14	RPWWD	33.738439	-117.0522797	San Jacinto River
SW0020	R	0.001	RPWWD	33.739647	-117.0395121	San Jacinto River
SW0021	R	0	RPWWD	33.739787	-117.0393402	San Jacinto River
SW0022	R	0.002	RPWWD	33.740080	-117.0400005	San Jacinto River
SW0023	R	0.01	RPWWD	33.742853	-117.0414056	San Jacinto River
SW0024	R	0.17	RPWWD	33.743518	-117.033243	San Jacinto River
SW0025	R	0.02	RPWWD	33.743495	-117.0402312	San Jacinto River
SW0026	R	0.12	RPWWD	33.744305	-117.0401552	San Jacinto River
SW0027	R	1.41	RPWWD	33.745068	-117.0415994	San Jacinto River
SW0029	R	1.8	RPWWD	33.755610	-117.0375078	San Jacinto River
SW0030	R	0.05	RPWWD	33.755915	-117.037497	San Jacinto River
SW0031	R	0.02	RPWWD	33.773151	-117.0350771	San Jacinto River
SW0032	R	0.35	RPWWD	33.717965	-117.032151	San Jacinto River
SW0033	R	0.15	RPWWD	33.785047	-117.0299197	San Jacinto River
SW0034	R	0.02	RPWWD	33.787196	-117.0307131	San Jacinto River
SW0035	R	0.15	RPWWD	33.817677	-117.0051338	San Jacinto River
SW0036	R	0.05	RPWWD	33.823410	-117.0065883	San Jacinto River
SW0037	R	0.4	RPWWD	33.823423	-117.0052525	San Jacinto River
SW0038	R	0.15	RPWWD	33.829631	-117.0039129	San Jacinto River
SW0039	R	0.57	RPWWD	33.832093	-117.0038795	San Jacinto River
AW0017	R	0.15	RPWWD	33.81968279	-117.005384	San Jacinto River
AW0018	R	0.69	RPWWD	33.82038306	-117.0048222	San Jacinto River
AW0019	R	0.35	RPWWD	33.82050516	-117.0040207	San Jacinto River
AW0020	R	0.05	RPWWD	33.82120515	-117.0048914	San Jacinto River
AW0021	R	8.82	RPWWD	33.82624597	-117.0050714	San Jacinto River
AW022	R	0.27	RPWWD	33.83102435	-117.0046909	San Jacinto River
RP0001	R	0.52	RPW	33.80134626	-117.0025044	San Jacinto River
RP0002	R	2.6	RPW	33.81870202	-117.0073896	San Jacinto River
RP0003	R	2.29	RPWWD	33.83072596	-117.0031455	San Jacinto River
RP0004	R	0.84	RPWWD	33.83113079	-117.0039472	San Jacinto River
DD0001	R	0.1	RPW	33.695945	-117.083750	San Jacinto River
DD0002	R	0.2	RPW	33.696436	-117.091555	San Jacinto River
DD0003	R	0.1	RPW	33.697398	-117.084546	San Jacinto River
DD0004	R	0.62	RPW	33.698601	-117.086127	San Jacinto River
DD0005	R	0.04	RPW	33.701306	-117.050086	San Jacinto River

TABLE 5: (Continued)

DD0006	R	0.12	RPW	33.703722	-117.076173	San Jacinto River
DD0007	R	0.02	RPW	33.708564	-117.045466	San Jacinto River
DD0008	R	0.04	RPW	33.716149	-117.050051	San Jacinto River
DD0009	R	0.5	RPW	33.716796	-117.054951	San Jacinto River
DD0010	R	0.02	RPWWD	33.719302	-117.032459	San Jacinto River
DD0011	R	0.08	RPW	33.720258	-117.050199	San Jacinto River
DD0012	R	0.02	RPWWD	33.721926	-117.047219	San Jacinto River
DD0013	R	0.34	RPW	33.722592	-117.045553	San Jacinto River
DD0014	R	0.23	RPW	33.723159	-117.050027	San Jacinto River
DD0015	R	0.13	RPW	33.724794	-117.050168	San Jacinto River
DD0016	R	0.002	RPWWD	33.726068	-117.047523	San Jacinto River
DD0017	R	0.03	RPW	33.726217	-117.044027	San Jacinto River
DD0018	R	0.59	RPWWD	33.726281	-117.048654	San Jacinto River
DD0019	R	0.25	RPW	33.729108	-117.041243	San Jacinto River
DD0020	R	0.09	RPWWD	33.729707	-117.041919	San Jacinto River
DD0021	R	0.01	RPWWD	33.730255	-117.045118	San Jacinto River
DD0022	R	0	RPWWD	33.730445	-117.045193	San Jacinto River
DD0023	R	0.07	RPWWD	33.731048	-117.046903	San Jacinto River
DD0024	R	0.09	RPW	33.731979	-117.032631	San Jacinto River
DD0026	R	0.07	RPWWD	33.732833	-117.041334	San Jacinto River
DD0027	R	0.02	RPWWD	33.732824	-117.044437	San Jacinto River
DD0028	R	0.07	RPWWD	33.734178	-117.043659	San Jacinto River
DD0029	R	0.22	RPWWD	33.734682	-117.044141	San Jacinto River
DD0030	R	0.02	RPW	33.735706	-117.032605	San Jacinto River
DD0031	R	0.45	RPW	33.729285	-117.040294	San Jacinto River
DD0032	R	0.32	RPW	33.736596	-117.030569	San Jacinto River
DD0034	R	1.16	RPWWD	33.740618	-117.041964	San Jacinto River
DD0035	R	0.02	RPW	33.744020	-117.031916	San Jacinto River
DD0037	R	0.22	RPWWD	33.752307	-117.036310	San Jacinto River
DD0042	R	0.23	RPW	33.769221	-117.035949	San Jacinto River
DD0043	R	0.27	RPW	33.770884	-117.033486	San Jacinto River
DD0044	R	0.07	RPWWD	33.771138	-117.031959	San Jacinto River
DD0045	R	0.22	RPWWD	33.771224	-117.033303	San Jacinto River
DD0046	R	0.12	RPW	33.772794	-117.028818	San Jacinto River
DD0048	R	0.03	RPWWD	33.773077	-117.034145	San Jacinto River
DD0049	R	0.1	RPWWD	33.773964	-117.033340	San Jacinto River
DD0050	R	0.32	RPW	33.776384	-117.033534	San Jacinto River

TABLE 5: (Continued)

DD0051	R	0.19	RPW	33.787336	-117.029231	San Jacinto River
DD0054	R	0.1	RPW	33.801345	-117.002192	San Jacinto River
DD0055	R	0.39	RPW	33.805520	-117.007063	San Jacinto River
DD0056	R	1.02	RPW	33.809074	-117.004840	San Jacinto River
DD0057	R	0.63	RPW	33.809236	-117.006853	San Jacinto River
DD0058	R	0.1	RPW	33.815721	-117.003538	San Jacinto River
DD0060	R	0.02	RPWWD	33.817317	-117.005329	San Jacinto River
DD0061	R	0.01	RPWWD	33.818325	-117.006677	San Jacinto River
DD0062	R	0.21	RPWWD	33.818493	-117.007693	San Jacinto River
DD0064	R	0.07	RPW	33.821906	-117.003944	San Jacinto River
DD0065	R	0.15	RPW	33.821955	-117.003552	San Jacinto River
DD0066	R	0.13	RPW	33.822772	-117.006122	San Jacinto River
DD0069	R	2.1	RPW	33.830503	-117.004135	San Jacinto River
DD0070	R	0.29	RPW	33.833378	-117.004893	San Jacinto River
CP0002	R	0.17	RPW	33.786422	-117.031762	San Jacinto River
CP0005	R	2.12	RPW	33.801699	-117.001550	San Jacinto River
CP0006	R	1.73	RPW	33.817191	-117.003992	San Jacinto River
CP0007	R	0.27	RPW	33.818272	-117.005863	San Jacinto River
CP0009	R	0.37	RPW	33.818646	-117.005603	San Jacinto River
Salt Creek Channel	R	13.1	RPW	33.699035	-117.085829	San Jacinto River
Hemet Channel	R	16.8	RPW	33.714488	-117.060430	San Jacinto River
Flood Control Channe	R	3.61	RPW	33.734813	-117.037226	San Jacinto River
OW0001	R	0.15	RPW	33.830859	-117.003148	San Jacinto River

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Coordination with the
United States Army Corps of Engineers
Preliminary Agreement on Purpose and Need
December 19, 2003

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HS, CB, BH, GQ

66600

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
P.O. BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

December 19, 2003

REPLY TO
ATTENTION OF:

Office of the Chief
Regulatory Branch

Mahfoud Licha
Federal Highway Administration
650 Capitol Mall, 4-100
Sacramento, CA 95814

Dear Mr. Licha:

At the request of the Federal Highway Administration (FHWA), the California Department of Transportation (Department) and the Riverside County Transportation Commission (RCTC), the U.S. Army Corps of Engineers (USACE) has been asked to participate in the evaluation of the purpose and need for the State Route 79 Project (Domenigoni Parkway to Gilman Springs Road).

We appreciate the opportunity for early involvement in the State Route 79 Project. Pursuant to the NEPA/CWA Section 404 Integration Process Memorandum of Understanding (MOU), the above agencies have also requested our concurrence on the purpose and need statements on the above project per your letter dated October 27, 2000. Although the MOU does not require our final concurrence on the purpose and need statements until the Draft EIS development, we are providing our preliminary agreement on the purpose and need statements by means of this response letter.

My staff has completed a review of the purpose and need statements. Our feedback during meetings, conference calls, and in previous written correspondence has precipitated revisions to several draft statements over the course of the past two months. We do not have any substantive objections to the most current version (dated December 18, 2003) of the purpose statement. As you may know, the overall project purpose provides for a more specific definition of the purpose and need of the project. It is important that the overall project purpose be specific enough to define the needs, but not so restrictive as to preclude all discussion of alternatives. The defined project purpose is used to evaluate practicable alternatives under the Section 404(b)(1) Guidelines of the Clean Water Act (CWA). Accordingly, we endorse the following language for the project purpose:

> *To construct a realigned SR 79 facility between Domenigoni Parkway and Gilman Springs Road that will increase capacity to facilitate the regional movement of people and goods for the planning design year of 2030, enhance safety, and protect right-of-way needed for the SR 79 facility improvements.*

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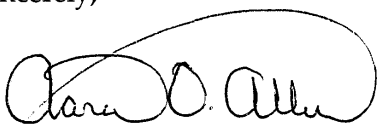
B.1.15.22

In accordance with the provisions of the MOU, we offer our preliminary agreement on the December 18, 2003 draft version of the Purpose and Need Statement. We appreciate your efforts to seek our early participation in this process and we look forward to our continued involvement with the SR 79 project. Should you have any questions, please contact Ms. Stephanie Hall of my staff at (213) 452-3410. Please refer to this letter and Corps reference number 200400289-SJH in your reply.

Sincerely,



Aaron O. Allen, Ph. D
Acting Chief, Regulatory Branch

Enclosure(s)

CC:
FHWA, Maiser Khaled
FHWA, Larry Vinzant
EPA, Liz Varnhagen
EPA, Mary Butterwick
USFWS, Doreen Stadtlander
USFWS, Karin Cleary Rose
RWQCB-Region 8, Adam Fischer
CDFG, Scott Dawson
Caltrans-District 8, Marie Petry
Caltrans-District 8, Aaron Burton
Caltrans, Susan Glasgow
RCTC, Hideo Sugita
RCTC, Cathy Bechtel
RCTC, Bill Hughes
RCTC, Gustavo Quintero
CH2M HILL, Rick Simon
CH2M HILL, Carolyn Washburn

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United States Fish and Wildlife Service

List of Proposed, Threatened, or Endangered Species

November 14, 2012

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

In Reply Refer To:
FWS-WRIV-09B0190-13SL0059

NOV 15 2012

Mr. Scott Quinnell
Senior Environmental Planner
California Department of Transportation - District 8
Environmental Planning (MS 1222)
464 West 4th Street, 6th Floor
San Bernardino, California 92401-1400

Subject: Request for a List of Proposed, Threatened, or Endangered Species Potentially Occurring in the vicinity of the SR-79 Realignment Project in Riverside County, California

Dear Mr. Quinnell:

This letter is in response to your request, received by our office on November 8, 2012, for information on federally endangered, threatened, proposed, and candidate species that may occur in the vicinity of the State Route 79 Realignment Project in Riverside County. To assist you in evaluating the potential occurrence of federally listed endangered, threatened, proposed, and candidate species that may occur in the vicinity of the proposed action, we are providing the enclosed list.

Because we do not have site-specific information for the proposed project, we recommend that you seek assistance from a biologist familiar with the habitat conditions and associated species in and around the project site to assess the actual potential for direct, indirect, and cumulative impacts likely to result from the proposed activity. We also suggest that you contact the California Department of Fish and Game regarding State-listed and sensitive species that may occur within the project area. Please note that State-listed species are protected under the provisions of the California Endangered Species Act.

As a reminder, if a proposed project is authorized, funded, or carried out by a Federal agency and may affect a federally listed species, then section 7 consultation pursuant to the Endangered Species Act of 1973 (Act), as amended, is required. If a proposed project does not involve a Federal agency, but is likely to result in the take of a listed animal species, then the project proponent should apply for an incidental take permit, pursuant to section 10 of the Act.

Please note that the Carlsbad Fish and Wildlife Office is hosting all critical habitat GIS data within our jurisdictional area on our website at http://www.fws.gov/carlsbad. Select the GIS DATA link to access current critical habitat layers.

Should you have any questions regarding the species listed or your responsibilities under the Act, please contact Sally Brown of this office at 760-431-9440, extension 278.

Sincerely,

Sally Brown

for Kennon A. Corey
Assistant Field Supervisor

Enclosure

Federally Endangered, Threatened, Proposed, and Candidate Species and Critical Habitat that May Occur in the Vicinity of the SR-79 Realignment Project in Riverside County, California
November 14, 2012

Common Name	Scientific Name	Federal Status	Critical Habitat in Vicinity
Plants			
Munz's onion	*Allium munzii*	endangered	none
thread-leaved brodiaea	*Brodiaea filifolia*	threatened	present
Slender-horned spine flower	*Dodecahema leptoceras*	endangered	N/A*
spreading navarretia	*Navarretia fossalis*	threatened	present
California Orcutt grass	*Orcuttia californica*	endangered	N/A
San Jacinto Valley crownscale	*Atriplex coronata var. notatior*	endangered	present
Invertebrates			
Riverside fairy shrimp	*Streptocephalus woottoni*	endangered	none
vernal pool fairy shrimp	*Branchinecta lynchi*	threatened	none
Quino checkerspot butterfly	*Euphydryas editha quino*	endangered	none
Birds			
coastal California gnatcatcher	*Polioptila californica californica*	threatened	none
least Bell's vireo	*Vireo bellii pusillus*	endangered	none
southwestern willow flycatcher	*Empidonax traillii extimus*	endangered	none
Mammals			
Stephens' kangaroo rat	*Dipodomys stephensi*	endangered	N/A
San Bernardino kangaroo rat	*Dipodomys merriami parvus*	endangered	none

* N/A = Not Applicable

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Transportation Conformity Working Group Concurrence

November 2008

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PROGRAMS

Compass Blueprint

Environment

Air Quality

Energy

Environmental Impact Reports

Environmental Justice

Intergovernmental Review

Regional Comprehensive Plan

Solid & Hazardous Waste Management

Water

Housing

Legislative

Transportation

RESOURCES

Data Center

Integrated Growth Forecast

Mapping & GIS

Modeling

Publications & Reports

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Press Room

TCWG Review of Qualitative Analyses

Qualitative PM Hot Spot Analysis Review

November 2008	Determination
Revised RIV62024 - State Route 79	Analysis deemed acceptable for NEPA circulation

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Chapter 6 List of Preparers

This chapter lists the Local Agency and State personnel, including consultants, who were primarily responsible for preparation of this Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) and/or the supporting Technical Studies, and/or the associated required quality assurance/quality control reviews.

Agencies

California Department of Transportation

Anwar Ali, Biological Studies, review of environmental documents

Maria Aranguiz, Traffic Forecasting, review of engineering documents

Jody Brown, North Region Environmental Coordinator, review of environmental documents

Jon Bumps, Design Oversight, review of engineering and environmental documents

Aaron Burton, Senior Environmental Planner, review of environmental documents

Eduardo Castaneda, Associate Environmental Planner, review of environmental documents

Meenu Chandan, Environmental Engineering, review of engineering documents

Ray Desselle, Office Chief, Landscape Architecture, review of environmental documents

Irene Dominguez, Associate Environmental Planner/Support A, review of environmental documents

Gabrielle Duff, Branch Chief, Cultural Studies and Paleontology, review of environmental documents

Jamal El Saleh, Regional Project Manager, oversight

Dicken Everson, Archaeology, review of environmental documents

Ed Farnaghi, Traffic Operations, review of engineering and environmental documents

Kourtney Graves, Sr., Environmental Planner, review of environmental documents

Rebecca Guirado, Right-of-Way, review of engineering documents

Christie Hammond, Branch Chief, Cultural Studies, review of environmental documents

Kerrie Hudson, Senior Environmental Planner, Branch Chief, Environmental Studies "A," review of environmental documents

Candice Hughes, Environmental Planner, review of environmental documents

Edison Jaffery, Environmental Engineering, review of engineering documents

Catherine Jochai, Office Chief, NPDES/Storm Water Quality, review of engineering and environmental documents

Gary Jones, District Native American Coordinator, review of environmental documents

Roy King, Hydraulics, review of engineering and environmental documents

Juan Lopez-Torres, Environmental Planner, review of environmental documents

Tony Louka, Branch Chief, Environmental Engineering, review of environmental documents

Orlando Palitang, Traffic Forecasting, review of engineering documents

Rodrigo Panganiban, Environmental Engineering, review of engineering documents

Hoang B. Pham, Environmental Engineering, review of engineering documents

Scott Quinnell, Biological Studies, review of environmental documents

Anthony Rizzi, Right-of-Way, review of engineering documents

Rosanna Roa, Hazardous Waste, review of environmental documents

John Rogers, Office Chief, Hydraulics, review of engineering and environmental documents

James Shankel, Branch Chief, Environmental Studies "C," review of engineering and environmental documents

John Stanton, Landscape Architecture, review of environmental documents

Karen Swope, District Native American Coordinator, review of environmental documents

Meardey Tim, Project Manager, oversight

Andrew Walters, Architectural Historian, review of environmental documents

Russell Williams, Branch Chief, Environmental Studies "A," review of environmental documents

City of San Jacinto

Tim Hults, City Manager, local coordination for environmental documentation

City of Hemet

Deanna Elliano, Community Development Director, local coordination for environmental documentation

Richard Masyczek, Contract Planner, local coordination for environmental documentation

County of Riverside (County)

Jim Force, Facilities Management, local coordination for environmental documentation

Burt Presnell, Principal Real Property Agent, local coordination for environmental documentation

Juan Perez, TLMA Transportation Director, local coordination for environmental documentation

Riverside County Transportation Commission (RCTC)

Cathy Bechtel, Project Development Director, oversight and review of environmental documents

Eliza Echevarria, Community Relations, community relations coordination

Mark Massman, Project Manager – RCTC/Bechtel, review of environmental documents

George Nomura, Project Manager – RCTC/Bechtel, review of environmental documents

Steve Keel, Project Coordinator – RCTC/Bechtel, review of environmental documents

Gustavo Quintero, Project Coordinator – RCTC/Bechtel, review of environmental documents

Consultants

CH2M HILL

Rebecca Anhorn Birtley, GIS Analyst. B.A., Geography, California State University, Fullerton; 8 years of experience. Contribution: Geographic Information System

Benjamin Beattie, Staff Engineer. B.S., Chemical Engineering, Georgia Institute of Technology; 6 years of experience. Contribution: Air Quality

Chad Blackney, Associate Engineer. M.S., Civil Engineering, University of Michigan; B.S., Civil Engineering, University of Michigan; 7 years of experience. Contribution: Engineering

Loren Bloomberg, Traffic Engineer. M.E., Civil Engineering, University of California, Berkeley; M.S., Civil Engineering, University of California, Berkeley; B.S., Systems Engineering, University of Virginia; 21 years of experience. Contribution: Traffic

Colleen Bredensteiner, GIS Analyst. B.A., Geography, California State University, Fullerton; 12 years of experience. Contribution: Geographic Information System

Kerry Byrne, Botanist. B.S., Environmental Biology and Management, University of California, Davis; 6 years of experience. Contribution: Botany

Alicia Cannon, Traffic Engineer. B.S., Civil Engineering, California State Polytechnic University, Pomona; 12 years of experience. Contribution: Project Engineer

Sophie Chiang, Associate Biologist. M.S., Environmental Science, California State University, Fullerton; B.A., Environmental Analysis & Design, University of California, Irvine; 12 years of experience. Contribution: Biology

Vania Climan, Project Controls Coordinator. 15 years of experience. Contribution: Project Controls.

Amy Clymo, Associate Air Quality Engineer. M.S., Civil and Environmental Engineering, University of California, Davis; B.S., Environmental Toxicology, University of California, Davis; 9 years of experience. Contribution: Air Quality

Nichole Coulter, Biologist. M.S., Bioscience and Biotechnology, Drexel University; B.S., Biology, Chestnut Hill College; 12 years of experience. Contribution: Biology

MariaElena Conserva, Staff Planner. Ph.D., Geography, University of California, Berkeley; M.A., Geography, University of California, Berkeley; B.A., Environmental Studies/Geography, University of California, Los Angeles; 11 years of experience. Contribution: Visual Impact Assessment

Jennifer Daigre, Traffic Engineer. B.S., Civil Engineering, Colorado State University; 8 years of experience. Contribution: Traffic

Lisa David, Associate Planner. M.S., Environmental Studies, California State University, Fullerton; B.A., English, California State University, Fullerton; 13 years of experience. Contribution: Cumulative Impacts

Ava Edens, Associate Biologist. B.A., Biology and Aquatic Ecology, University of California, Santa Barbara; 8 years of experience. Contribution: Biology

Farshad Farhang, Project Manager. M.B.A., California State University, Fresno; B.S., California State University, Fresno; 20 years of experience. Contribution: Noise

Jeff Friesen, P.E., Project Engineer. B.A.Sc., Civil Engineering, University of British Columbia; 16 years of experience. Contribution: Water Quality

Kirsten Garrison, Associate Project Manager. B.S., Environmental Horticulture, University of California, Davis; 11 years of experience. Contribution: Community Impact Assessment

Kevin Grant, GIS Analyst. B.A., Geography, University of California, Santa Barbara; 4 years of experience. Contribution: Geographic Information System

Tianpeng Guo, Project Engineer. Ph.D., Civil Engineering, Louisiana State University; M.S., Environmental Engineering, Tsinghua University; B.S., Material Science and Engineering, Zhejiang University; 9 years of experience. Contribution: Water Quality

Susie Hanson, Senior Editor. B.S., Education, Ball State University; 30 years of experience. Contribution: Publications

Wendy Haydon, Project Planner. M.S., Recreation Administration, California State University, Sacramento; B.A., Environmental Studies, California State University, Sacramento; 23 years of experience. Contribution: Community Impact Assessment

Robert Hernandez, Biologist. B.S., Wildlife Management, Minor in Natural Resources, Humboldt State University; 10 years of experience. Contribution: Biology

Kathleen Higgins, P.E., Project Manager. M.S., Civil Engineering, California State University, Long Beach; B.S. Civil Engineering, California State University, Long Beach; 28 years of experience. Contribution: QA/QC Review Water Quality

Amy Hiss, Senior Botanist. M.A., Ecology and Systematic Biology, San Francisco State University: B.S., Botany and Environmental Biology, Humboldt State University; 17 years of experience. Contribution: Biology

Gretchen Honan, Wetland Scientist. M.A., Marine Affairs, University of Rhode Island; B.A., Physical Geography, California State University, Long Beach; 23 years of experience. Contribution: Biology

Russell Huddleston, Wetlands Ecologist/Botanist. M.S., Ecology, University of California, Davis; B.S., Biology, Southern Oregon University; 11 years of experience. Contribution: Biology

Wilfred Hsu, P.E., Water Quality Task Lead. M.S., Civil and Environmental Engineering, University of California, Los Angeles; B.S., Civil and Environmental Engineering, University of California, Berkeley; 11 years of experience. Contribution: Water Quality Task Lead

Tom Ionta, Project Manager. B.S., Civil Engineering, University of Connecticut; 27 years of experience. Contribution: Project Management

Victor Leighton, Biologist. A.S., Forestry/Wildlife Biology, American River College; 15 years of experience. Contribution: Biology

Iosefa Matagi, Project Engineer. M.S., Water Resources Engineering, Utah State University; B.S., Civil Engineering, Utah State University; 6 years of experience. Contribution: Engineering

Lynn Matthews, Graphic Design/Publications Lead. B.A., English, Creative Writing, California State University, Long Beach; 32 years of experience. Contribution: Publications

Michael Maxwell, Staff Engineer. B.S., Environmental Engineering, University of California, Irvine; 6 years of experience. Contribution: Water Quality

Dan Medina, P.E., Principal Technologist. Ph.D., Hydrology and Hydraulics, Cornell University; B.S., Civil Engineering, Universidad de los Andes, Colombia; 22 years of experience. Contribution: QA/QC Review Water Quality

Dennis Mengel, Senior Habitat Management and Planning Technologist. Ph.D., Soil Science, North Carolina State University; M.S., Forest Resources. University of Idaho; B.S., Wildlife Biology, University of Idaho; 26 years of experience. Contribution: Biology

Robert Miller, Senior Technologist. M.S., Environmental Resources/Forest Ecology, Pennsylvania State University; B.S., Natural Resources Management, Rutgers University; 18 years of experience. Contribution: Community Impact Assessment, Noise

Tom Priestley, Principal Technologist. Ph.D., Environmental Planning, Department of Landscape Architecture, University of California, Berkeley; M.C.P., City Planning, Department of City and Regional Planning, University of California, Berkeley; M.L.A., Environmental Planning, Department of Landscape Architecture, University of California, Berkeley; B.U.P., Urban Planning, Department of Urban and Regional Planning, University of Illinois; 30 years of experience. Contribution: Visual Impact Assessment

Cindy Salazar, Associate Planner. M.S., Biological Science, California State University, Fullerton; B.S., Applied Geology, University of California, Irvine; 11 years of experience. Contribution: Community Impact Assessment

Joel Shaich, Wetland Ecologist. M.S., Environmental Science, State University of New York; B.A., History, Lewis and Clark College; 13 years of experience. Contribution: Biology

Rick Simon, Project Manager. B.S., Civil Engineering, Michigan State University; 30 years of experience. Contribution: Project Management.

Carolyn Trindle, Senior Technologist. M.A., Business Administration, Pepperdine University; M.A., Education, University of Missouri, Kansas City; B.A., Journalism, University of Missouri, Columbia; 28 years of experience. Contribution: QA/QC Review, Community Impact Assessment

David Vomacka, Senior Planner. Ph.D., Political Science/Quantitative Methods, Florida State University; M.A., Political Science/Public Opinion, Florida State University; B.S., Political Science, Florida State University; 31 years of experience. Contribution: Senior Reviewer

Carolyn Washburn, Senior Project Manager. Ph.D., University of Washington, Washington Cooperative Fish and Wildlife Research Unit; M.S., Botany, North Carolina State University; B.S., Biology, Rensselaer Polytechnic Institute; 20 years of experience. Contribution: Environmental Task Lead

Melissa Williams, Associate Planner. B.S., Biology, California State University, Fullerton; 10 years of experience. Contribution: Biology and Community Impact Assessment

MaryBeth Yansura, Air Quality Scientist. B.A., Chemistry, Rutgers University; 19 years of experience. Contribution: QA/QC Review, Air Quality

Fatuma Yusuf, Project Consultant. Ph.D., Economics, Washington State University; M.S., Statistics, Washington State University; M.A., Agricultural Economics, Washington State University; B.S., Range Management, University of Nairobi; 16 years of experience. Contribution: Community Impact Assessment

Hong Zhuang. Air Quality Engineer. M.S., Civil and Environmental Science and Engineering, California Institute of Technology; B.S., Master of Philosophy, (research degree) in Chemical Engineering, Hong Kong University of Science and Technology; Master of Philosophy, (research degree) in Chemical Engineering, Hong Kong University of Science and Technology; 15 years of experience. Contribution: Air Quality

Applied Earthworks

Peggy Beedle, Architectural/Landscape Historian. M.A., University of Wisconsin; 16 years of experience. Contribution: Architectural/Landscape Historian

Joan George, Archaeological Surveyor. B.S., University of California, Davis; 13 years of experience. Contribution: Archaeology

Susan Goldberg, Principal Archaeologist. M.S., Anthropology, University of Missouri, Columbia; B.A., Anthropology, Northwestern University; 37 years of experience. Contribution: Archaeology

Colleen Hamilton, Senior Architectural Historian/Historical Archaeologist. M.A., University of Missouri; 12 years of experience. Contribution: Archaeology

Melinda Horne, Senior Archaeologist. M.A., Geography, University of Utah; 34 years of experience. Contribution: Archaeology

Dennis McDougall, Associate Archaeologist. 35 years of experience. Contribution: Archaeology

Vanessa Mirro, Senior Archaeologist. M.A., Anthropology, Colorado State University; B.A., University of Western Ontario; 15 years of experience. Contribution: Archaeology

Michael Mirro, Senior Archaeologist. M.A., Anthropology, California State University, Los Angeles; B.S., Anthropology, Radford University; B.S., Crop and Soil Environmental Science, Virginia Polytechnic Institute and State University; 17 years of experience. Contribution: Archaeology

April Van Wyke, Senior Archaeologist. B.A., Anthropology, University of California, Santa Barbara; 17 years of experience. Contribution: Archaeology

Baxter Miller Landscape Architecture

Baxter Miller, Landscape architect. B.S., Landscape Architecture, California Polytechnical State University, San Luis Obispo; 26 years of experience. Contribution: Visual Impact Assessment

Entech

Sharif Carter, Noise Engineer. B.S., Mechanical Engineering; 14 years of experience. Contribution: Noise Study

Michelle Jones, Noise Engineer. B.S., Civil Engineering, University of Washington; 16 years of experience. Contribution: Noise Study

Epic Land Solutions

Duncan Bush, Project Manager. California State University, Long Beach. Contribution: Relocations

Lynette Overcamp, Project Manager. B.S., Business Administration, California State University, Dominguez Hills; 20 years of experience. Contribution: Relocations

Geographics

Dawn Hassett, Managing Partner. M.P.W., Writing, University of Southern California; 28 years of experience. Contribution: Public Outreach

Kimley-Horn

Jennifer Daigre, Traffic Engineer. B.S., Civil Engineering, Colorado State University; 8 years of experience. Contribution: Traffic

J.D. Douglas, Senior Project Manager. M.A., Urban Planning, University of California, Los Angeles; B.A., Geography and Political Science, University of California, Los Angeles; 30 years of experience. Contribution: Traffic

Ninyo and Moore

Catherine Gough, Senior Staff Environmental Scientist. B.A., Business Administration, California State University, Fullerton. Contribution: Hazardous Waste

Scott Johnson, Principal Geologist. B.S., Geology, University of California, Davis. Contribution: Hazardous Waste

Beth Padgett, Project Environmental Scientist. B.S., Geology: Structures and Tectonics, University of Idaho. Contribution: Hazardous Waste

Michael T. Pearce, Senior Engineer. M.S., Civil Engineering, University of California, Berkeley. Contribution: Hazardous Waste

David Shaler, Project Environmental Geologist. B.S., Geological Sciences, Sonoma State University; 20 years of experience. Contribution: Hazardous Waste

Jalal Vakili, Principal Engineer. Ph.D., Geotechnical Engineering, University of Paris. Contribution: Hazardous Waste

Julie Wozencraft, Project Environmental Scientist. M.P.H., Environmental Health and International Health, Loma Linda University; B.S., Health Sciences, Loma Linda University. Contribution: Hazardous Waste

Paleo Environmental Associates, Inc.

Bruce Lander, Senior Archaeologist. Ph.D., Paleontology, 1977, University of California, Berkeley; 34 years of experience. Contribution: Paleontology

Independent Consultants

Michelle Balk, Botanist. M.S., Biology, University of Akron (Ohio); B.S., Zoology, Iowa State University; 10 years of experience. Contribution: Biology

Pete Bloom, Consulting Biologist (Biological Subconsultant to CH2M HILL). Ph.D., Candidate, Wildlife Resources, University of Idaho, in progress; M.S., Biology, California State University, Long Beach; B.S., Zoology, California State University, Long Beach; 39 years of experience. Contribution: Biology.

David Bramlet, Consulting Botanist (Biological Subconsultant to CH2M HILL). B.S., Zoology. Coauthor, *The Vasular Plants of Western Riverside County, California, an Annotated Checklist*; 30 years of experience. Contribution: Biology

Daniel Grout, Senior Biologist, Grout Biological Services, (Biological Subconsultant to CH2M HILL). B.S., University of Wisconsin-Madison, Honors program Graduate; 23 years of experience. Contribution: Biology

J. Herbert Huddleston, Soil Scientist (Biological Subconsultant to CH2M HILL). Ph.D., Soil Science, Iowa State University; M.S., Soil Science, Cornell University; B.S., Agronomy, Cornell University; 43 years of experience. Contribution: Biology

Anthony Mann, Wildlife Biologist (Biological Subconsultant to CH2M HILL). B.A., Geography with minors in Biology, Environmental Studies, and Geology, California State University, Stanislaus; 16 years of experience. Contribution: Biology

Stephen Montgomery, Wildlife Biologist/President, SJM Biological Consultants, (Biological Subconsultant to CH2M HILL). M.S., Biology/Ecology, Utah State University; B.S., Wildlife Biology, Utah State University; 36 years of experience. Contribution: Biology

Rick Reifner, Consulting Botanist (Biological Subconsultant to CH2M HILL). B.S., Biology, Towson State University, Maryland; 33 years of experience. Contribution: Biology

Fred Roberts, Consulting Botanist (Biological Subconsultant to CH2M HILL). B.A., Geography, University of California, Santa Barbara. Coauthor, *The Vasular Plants of Western Riverside County, California, an Annotated Checklist*; 31 years of experience. Contribution: Biology

Chapter 7 Distribution List

This Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) has been made available for review by elected officials, federal, state, and local agencies, interested parties, and the general public. The notification process announcing the availability of this Draft EIR/EIS is summarized below.

7.1 Federal Register Notice of Availability

Availability of this Draft EIR/EIS and information regarding the review period and public hearing schedule was transmitted for publication in the *Federal Register* following approval by the Department for the Draft EIR/EIS prepared for this proposed Project to proceed to circulation.

7.2 Notice of Completion

The Notice of Completion announcing release of this Draft EIR/EIS was filed with the State Clearinghouse and Planning Unit (SCH) within the Governor's Office of Planning and Research, following approval by the Department for the Draft EIR/EIS prepared for this proposed Project to proceed to circulation.

7.3 Notice of Availability

Following approval by the Department for the Draft EIR/EIS prepared for this Project to proceed to circulation, the Notice of Availability for this Draft EIR/EIS, containing the project description, the locations where this Draft EIR/EIS can be reviewed, the comment period, and the invitation to the public hearing was published in the *Press Enterprise*, *La Prensa*, and the *Valley Chronicle*. Notice of this information was also mailed (postcards) to all contacts included in the Draft EIR/EIS Notice Distribution List in Section 7.4.

The Draft EIR/EIS is available for review at the California Department of Transportation District 8 office at 464 West Fourth Street, San Bernardino, CA 92401, on weekdays from 9 a.m. to 3 p.m. There are also hard copies available at the Riverside County Transportation Commission, 4080 Lemon Street, Third Floor, Riverside, CA 92501, Monday through Thursday from 8 a.m. to 5 p.m.; the Hemet Library, 300 E. Latham Avenue, Hemet, CA 92543; and the San Jacinto Public Library, 500 Idyllwild Drive, San Jacinto, CA 92583, during business hours. An electronic copy is available online at *http://www.sr79project.info/*.

7.4 Draft EIR/EIS Notice Distribution List

Following approval by the Department for the Draft EIR/EIS prepared for this Project to proceed to circulation, the following elected officials, federal, state, and local agencies, interested parties, and the general public received either a copy (hard copy or electronic) of the Draft EIR/EIS or a notice informing them of its availability (postcard).

7.4.1 Elected Officials

The Honorable Dianne Feinstein
United States Senate
Los Angeles Office
11111 Santa Monica Blvd., Suite 915
Los Angeles, CA 90025

The Honorable Barbara Boxer
United States Senate
Inland Empire Office
3403 10th Street, Suite 704
Riverside, CA 92501

The Honorable Raul Ruiz
U.S. House of Representatives
36th District
777 East Tahquitz Canyon Way
Palm Springs, CA 92262

The Honorable Mark Takano
U.S. House of Representatives
41st District
3403 10th Street, Suite 610
Riverside, CA 92501

The Honorable Ken Calvert
U.S. House of Representatives
42nd District
4160 Temescal Canyon Road, Suite 214
Corona, CA 92883

The Honorable Bill Emmerson
California State Senate
District 23
8577 East Haven Avenue, Suite 210
Rancho Cucamonga, CA 91730

The Honorable Brian Nestande
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73-710 Fred Waring Drive, Suite #116
Palm Desert, CA 92260

The Honorable Jose Medina
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The Honorable Kevin Jeffries
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Riverside, CA 92501

The Honorable John Tavaglione
Riverside County Board of Supervisors
District 2
4080 Lemon Street, 5th Floor
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The Honorable Jeff Stone
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District 3
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The Honorable John Benoit
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District 4
4080 Lemon Street, 5th Floor
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The Honorable Marion Ashley
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District 5
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The Honorable Daryl Busch
Mayor
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101 North D Street
Perris, CA 92570

The Honorable Mark Yarbrough
Mayor Pro Tem
City of Perris
101 North D Street
Perris, CA 92570

The Honorable Rita Rogers
Perris City Council
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Perris, CA 92570

The Honorable Al Landers
Perris City Council
101 North D Street
Perris, CA 92570

The Honorable Julio Rodriguez
Perris City Council
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Perris, CA 92570

The Honorable Mark Bartel
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San Jacinto, CA 92583

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Mayor Pro Tem
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The Honorable Andrew Kotyuk
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The Honorable Scott Miller
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The Honorable Roger Berg
Mayor
City of Beaumont
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The Honorable Joseph DeConinck
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Blythe, CA 92225

The Honorable Ella Zanowic
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City of Calimesa
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Calimesa, CA 92320

The Honorable Mary Craton
Mayor
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31516 Railroad Canyon Road
Canyon Lake, CA 92587

The Honorable Greg Pettis
Cathedral City City Council
City of Cathedral City
68-700 Avenida Lalo Guerrero
Cathedral City, CA 92234

The Honorable Steven Hernandez
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City of Coachella
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Coachella, CA 92236

The Honorable Scott Matas
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Mayor Pro Tem
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The Honorable Larry Smith
Mayor Pro Tem
City of Hemet
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Hemet, CA 92543

The Honorable Douglas Hanson
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City of Indian Wells
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Indian Wells, CA 92210

The Honorable Glenn Miller
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Indio, CA 92201

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Lake Elsinore, CA 92530

The Honorable Scott Mann
Mayor
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Menifee, CA 92586

The Honorable Tom Owings
Mayor
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The Honorable Rick Gibbs
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Murrieta, CA 92562

The Honorable Berwin Hanna
Mayor Pro Tem
City of Norco
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Norco, CA 92860-1169

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Mayor
City of Palm Desert
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Palm Desert, CA 92260

The Honorable Ginny Foat
Palm Springs City Council
City of Palm Springs
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Palm Springs, CA 92263

The Honorable Ted Weill
City of Rancho Mirage
City of Rancho Mirage
69-825 Highway 111
Rancho Mirage, CA 92270

The Honorable Steve Adams
Riverside City Council
City of Riverside
3900 Main Street, 7th Floor
Riverside, CA 92522

The Honorable Ron Roberts
Temecula City Council
City of Temecula
41000 Main Street
Temecula, CA 92589

The Honorable Ben Benoit
Wildomar City Council
City of Wildomar
23873 Clinton Keith Road, Suite 211
Wildomar, CA 92595

7.4.2 Federal Agencies

Cesar Perez
Federal Highway Administration
650 Capitol Mall, Suite 4-100
Sacramento, CA 95814

U.S. Environmental Protection Agency
(EPA), Office of Federal Activities
(Mail Code 2252-A)
EIS Filing Section
401 M Street, SW
Washington, DC 20460

Susan Sturges
U.S. Environmental Protection Agency
(EPA), Region IX
75 Hawthorne Street
San Francisco, CA 94105

Eric Raffini
U.S. Environmental Protection Agency (EPA), Regional Office
600 Wilshire Blvd., Suite 1460
Los Angeles, CA 90017

Federal Transit Administration, Region IX
201 Mission Street, Suite 2210
San Francisco, CA 94105

Director, Office of Environmental Policy and Compliance, Department of Interior, Main Interior Building, MS 2340
1849 "C" Street, NW
Washington, DC 20240

Jim Bartel
U.S. Fish & Wildlife Service (Carlsbad)
6010 Hidden Valley Road
Carlsbad, CA 92011

Director, Office of Environmental Compliance, U.S. Department of Energy
1000 Independence Avenue, SW, Rm 4G-O
Washington, DC 20585

Federal Railroad Administration, Office of Policy and Plans
400 – 7th Street, SW
Washington, DC 20590

Director, Office of Environmental Affairs, Department of Health and Human Services
200 Independence Avenue, SW, Rm 537 F
Washington, DC 20201

Centers for Disease Control, Environmental Health and Injury Control, Special Programs Group, Mail Stop F-29
1600 Clifton Road
Atlanta, GA 30333

U.S. Army Corps of Engineers, Los Angeles District
Attention: Stephanie Hall
CESPL-CO-R
915 Wilshire Blvd., Suite 1101
Los Angeles, CA 90017

Susan Meyer, Regulatory Branch
U.S. Army Corps of Engineers
CESPL-RG Building 230 (Bldg.T214)
Ft. Shafter, HI 96858-5440

Environmental Clearance Officer, Department of Housing and Urban Development
450 Golden Gate Avenue, P.O. Box 36003
San Francisco, CA 94102

Natural Resources Conservation Service–Program Delivery Point
950 Ramona Boulevard, Suite 6
San Jacinto, CA 92582-2571

Natural Resources Conservation Service–Riverside Area Office
4500 Glenwood Drive
Riverside, CA 92501-3042

Chief, Airports Branch, Federal Aviation Administration
5885 West Imperial Highway
Los Angeles, CA 90045

Regional Director
Federal Emergency Management Agency
Region IX, Bldg. 105
Presidio, CA 94129

National Park Service, Pacific Great Basin System Support Office
1111 Jackson Street, Suite 700
Oakland, CA 94607

USDA Forest Service
Pacific Southwest Research Station
Riverside Fire Lab
4955 Canyon Crest Drive
Riverside, CA 92507-6099

Manager
USDA Forest Service
Cleveland National Forest
1147 East 6th Street
Corona, CA 91719

District Ranger
U.S. Forest Service, Cleveland National Forest
1147 East 6th Street
Corona, CA 91719

U.S. Indian Affairs Bureau
2038 Iowa Avenue, Suite 101
Riverside, CA 92507-2401

7.4.3 State Agencies

Director
Department of Water Resources
1416 Ninth Street
Sacramento, CA 95814

Director
State Department of Housing and Community Development
P.O. Box 997413
Sacramento, CA 95899-7413

Executive Office
State Lands Commission
100 How Avenue, Suite 100
Sacramento, CA 95825

Director
Department of Fish and Wildlife
1416 Ninth Street, 12th Floor
Sacramento, CA 95814

Director
Department of Parks and Recreation
915 I Street, 5th Floor
Sacramento, CA 95814

Executive Office
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Director
Department of Conservation
801 K Street MS 24-01
Sacramento, CA 95814

Executive Office
Integrated Waste Management Board
8800 Cal Center Drive
Sacramento, CA 95826

Secretary
Resources Agency
1416 Ninth Street
Sacramento, CA 95814

Executive Office
State Air Resources Board
1001 I Street
Sacramento, CA 95812

Executive Director
Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Director
Department of Health Services
714/744 P Street
Sacramento, CA 95814

Chief, Bureau of School Planning
Department of Education
721 Capitol Mall
Sacramento, CA 95814

Director
Department of Food and Agriculture
1220 N. Street
Sacramento, CA 95814

Executive Director
Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Executive Secretary
Native American Heritage Commission
915 Capitol Mall, Rm 364
Sacramento, CA 95814

Chief, Environmental Planning and Management
Department of General Services
400 R Street, Suite 5100
Sacramento, CA 95814

Department of Toxic Substances Control –
CEQA Tracking Center, Office of Environmental Planning and Analysis
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P.O. Box 806 (1001 I Street)
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Budget, Analysis, and Planning
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Capital and Physical Planning
3637 Canyon Crest Drive, Bannockburr
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California Native Plant Society
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Sacramento, CA 95816-5113

Conservation Committee Chair
California Native Plant Society
4477 Picacho Drive
Riverside, CA 92507

California Wildlife Federation
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Sacramento, CA 95814

California Department of Transportation
Division of Environmental Analysis
Attn: Division Chief
Headquarters Environmental Program
1120 N Street, Mail Station 27, POB 942874
Sacramento, CA 94274-0001

Office of Public Affairs
California Highway Patrol
P.O. Box 942898
Sacramento, CA 94298-0001

7.4.4 Regional/County/City Agencies

Program Manager
Metro CEQA Review Coordination
One Gateway Plaza
Los Angeles, CA 90012-2952

Executive Director
San Bernardino Associated Governments
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San Bernardino, CA 92401-1715

Government and Public Affairs
Southern California Association of Governments
3600 Lime Street, Suite 216
Riverside, CA 92501

Intergovernmental Review
Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017-3435

Manager, Environmental Division
Southern California Association of Governments
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Los Angeles, CA 90017-3435

Executive Director
Western Riverside Council of Governments
4080 Lemon Street, 3rd Floor
Riverside, CA 92501

Program Supervisor – CEQA Section,
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4182

Office of Education,
County of Riverside
3939 13th Street
Riverside, CA 92502-0868

Director
County of San Bernardino
Transportation Department
825 E. 3rd Street, Room 143
San Bernardino, CA 92415-0835

Chairman
County Service Area 128 (East)
20850 Oaknoll Drive
Lake Mathews, CA 92570

Chairman
County Service Area 128 (West)
21200 Ridgedale
Perris, CA 92570

Executive Director
Riverside County Farm Bureau
21160 Box Spring Road, #102
Moreno Valley, CA 92557

General Manager/Chief Engineer
Riverside County Flood Control &
Water Conservation District.
1995 Market Street
Riverside, CA 92501

Riverside County Habitat Conservation Agency
4080 Lemon Street, 12th Floor
Riverside, CA 92501

County Superintendent of Schools
Riverside County Office of Education
P.O. Box 868
Riverside, CA 92502-0868

Director
Riverside County Transportation and Land Management Agency
4080 Lemon Street, 14th Floor
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Western Riverside County
Regional Conservation Authority
3403 Tenth Street, Suite 320
Riverside, CA 92501

City Manager
City of Banning
99 East Ramsey Street
Banning, CA 92220

City Manager
City of Beaumont
550 East 6th Street
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City Manager
City of Hemet
445 East Florida Avenue
Hemet, CA 92543

City Manager
City of Moreno Valley
14177 Frederick Street
Moreno Valley, CA 92530

City Manager
City of Murrieta
26442 Beckman Court
Murrieta, CA 92562

Director, Public Works Department
City of Riverside
3900 Main Street
Riverside, CA 92522

City Manager
City of San Jacinto
595 S. San Jacinto Avenue
Building A
San Jacinto, CA 92583

Headquarters,
Riverside County Fire Department
210 West San Jacinto Avenue
Perris, CA 92570

Riverside County Sheriff's Department
4095 Lemon Street
Riverside, CA 92501

Chief Executive Officer
Southern California Regional Rail Authority
700 South Flower Street
26th Floor
Los Angeles, CA 90017

Chief Executive Officer
Riverside Transit Agency
1825 Third Street
Riverside, CA 92517-1968

Principal Development
Riverside County Economic Development Agency
P.O. Box 1180
Riverside, CA 92502

President/CEO
San Jacinto Valley Chamber of Commerce
615 N. San Jacinto Street
Hemet, CA 92543

Membership Executive
San Jacinto Valley Chamber of Commerce
615 N. San Jacinto Street
Hemet, CA 92543

Board of Directors
Hemet San Jacinto Valley Chamber of Commerce
615 N. San Jacinto Street
Hemet, CA 92543

Executive Director
Riverside Land Conservancy
4075 Mission Inn Avenue
Riverside, CA 92501

District Conservationist
Riverside Corona Resource Conservation District
4500 Glenwood Drive, Building A
Riverside, CA 92501-3042

Executive Officer
RWQCB – Santa Ana Region 8
3737 Main Street, Suite 500
Riverside, CA 92501-3339

Mark Brown
Santa Ana Regional Water Quality Control Board
3737 Main Street, #500
Riverside, CA 92501

San Diego Regional Water Quality Control Board
9174 Sky Park Court, Suite 100
San Diego, CA. 92123-4340

Chairman
March Joint Powers Authority
23555 Meyer Drive
Riverside, CA 92518

Public Works Director
City of San Jacinto Public Works Department
270 Bissell Place
San Jacinto, CA 92582

Director, County of Riverside Public Works Department
3900 Main Street
Riverside, CA 92522

Director, County of Riverside
Department of Building Service
3133 7th Street
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7.4.5 Native American Contacts

Southern California Agency
Bureau of Indian Affairs
1451 Research Park Drive, Suite 100
Riverside, CA 92507

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Agua Caliente Band of Cahuilla Indians
Tribal Historic Preservation Office
5401 Dinah Shore Drive
Palm Springs, CA 92264

Judy Stapp, Director of Cultural Affairs
Cabazon Band of Mission Indians
84-245 Indio Springs Parkway
Indio, CA 92203

Luther Salgado, Chairperson
Cahuilla Band of Indians
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Bernie Acuna, Tribal Councilman
Gabrielino-Tongva Tribe
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Los Angeles, CA 90067

Samuel Dunlap, Tribal Chair
Gabrielino-Tongva Tribe of Los Angeles
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Highland, CA 92346

James Ramos, Chairperson
San Manuel Band of Mission Indians
26569 Community Center Drive
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John Marcus, Chairperson
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Cindi Alvitre
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6602 Zelzah Avenue
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7.4.6 School Districts

Superintendent
San Jacinto Unified School District
2045 S. San Jacinto Avenue
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Superintendent
Riverside Unified School District
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Riverside, CA 92501

Superintendent
Hemet Unified School District
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Hemet, CA 92545

7.4.7 Interested Parties

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Autumn DeWoody
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SPRINT
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Mike Luker
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Eastern Municipal Water District
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Manager
AT&T
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Frank D. Marshall
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Ann L. Turner McKibben, President
Friends of the Northern San Jacinto Valley
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Moreno Valley, CA 92552-9097

President/CEO
Metropolitan Water District
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Los Angeles, CA 90012

Museum of Vertebrate Zoology
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Berkeley, CA 94720

Leonard Nunney
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University of California Riverside
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Anthony Pack
Deputy Gen. Manager of Operations/Administration
Eastern Municipal Water District
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Perris, CA 92572-8300

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Chair
Sierra Club
3435 Wilshire Blvd, Suite 320
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President
Jensen Alvarado Ranch Association
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Riverside, CA 92509

Lily Quiroa
Waste Management–El Sobrante Landfill
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Corona, CA 92883

Riverside County Flood Control
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President
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Thomas A. Scott
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Appendix A CEQA Checklist

Supporting documentation of all California Environmental Quality Act (CEQA) checklist determinations is provided in Chapter 3 and 4 of this Environmental Impact Report/Environmental Impact Statement (EIR/EIS). Documentation of "No Impact" determinations is provided at the beginning of Chapter 3 and 4. Discussion of all impacts, avoidance, minimization, and/or mitigation measures is under the appropriate topic headings in Chapter 3 and 4.

CEQA Environmental Checklist

08-RIV-79	R15.78/R33.80	08-494000
Dist.-Co.-Rte.	P.M/P.M.	E.A.

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS – Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☒	☐	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☒	☐	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

I. AESTHETICS – Would the project:

a) Have a substantial adverse effect on a scenic vista?

Potentially Significant Impact: The Project would not be visible from most of the Diamond Valley Lake area due to topography. However, the Project would be visible from the Clayton A. Record, Jr. Viewpoint. The Project may also be visible from parts of the North Hills Trail, which runs along the north rim of the lake. Users of these facilities would be able to see the Project as a small element in the middle ground to background zones of these

views and could be sensitive to the change in views caused by removal of large areas of hillside, creation of large, visually prominent cut slopes, creation of large fill slopes in specific areas, and construction of large overcrossing structures. Of the four Build alternatives evaluated, Build Alternative 2b would produce a lower degree of significant visual impact than the others. Minimization and mitigation measures VIS-1 through VIS-29 will be implemented to address views of the Project from scenic vistas.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Potentially Significant Impact: State Route 79 (SR 79) has not been recognized as a State Scenic Highway; however, within the Project area, it intersects the part of State Route 74 (SR 74) that is an Eligible State Scenic Highway.

The various Build alternatives would result in different degrees of exposure to existing viewer groups. Build Alternative 2b would result in the least overall exposure. Green Acres residents would have close-range views of Build Alternatives 1a and 1b because those alternatives require cuts along the West Hemet Hills immediately adjacent to the Green Acres community. Winchester residents would have midrange views of all four Build alternatives, but close-range views of Build Alternatives 1a and 2a. All four Build alternatives would be visible to travelers along State Eligible Scenic Highway SR 74. However, Build Alternatives 1a and 1b would be more visible to roadway users as a frontal view than the side view created by Build Alternatives 2a and 2b.

However, no mitigation measures can be taken to fully reduce the impact of the removal of large segments of the existing hillsides. Therefore, despite commitments to mitigation measures VIS-11 through VIS-16, the visual impacts associated with removal of large segments of existing hillsides (particularly the West Hemet Hills), as viewed from Eligible State Scenic Highway SR 74, would remain potentially significant.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Potentially Significant Impact: All four Build alternatives would impart a more developed character to the landscape and would affect the character of most of the Project area fairly equally. Although Design Option 1b1 would be visible from Green Acres, it would be the least visible design option or Build alternative from Winchester, Hemet, and San Jacinto. Design Option 2b1 would not be visible from Green Acres, but it would be visible from parts of Winchester and would likely also be visible from parts of Hemet and San Jacinto. Note that the design options would change their respective Build alternatives only in the southern part of the Project. North of Devonshire Avenue, Design Option 1b1 would be the same as Build Alternative 1b and Design Option 2b1 would be the same as Build Alternative 2b, so visual impacts would be the same as well.

All of the Build alternatives and both design options would alter the natural ridgelines and cause scarring. Build Alternatives 1a and 1b would cause more visible scarring but less ridgeline alteration than Build Alternatives 2a and 2b.

Design Options 1b1 and 2b1 would also result in high levels of adverse change in visual quality. However, because they would require less road cutting through the West Hemet Hills than the Build alternatives, they would cause the least amount of adverse change in the southern part of the Project. Like Build Alternatives 1a and 1b, Design Option 1b1 would cause scarring along the north and west slopes of the West Hemet Hills, but it would

cause less scarring on the west slope than the Build alternatives. Like Build Alternatives 2a and 2b, Design Option 2b1 would require removal of a substantial portion of the southern peak of the West Hemet Hills, but would require less material removal. The difference in visual quality between Design Options 1b1 and 2b1 would be marginal.

No mitigation measures can be taken to fully reduce the impact of the removal of large segments of the existing hillsides, creation of high fill slopes, and construction of major overcrossing structures and noise barriers that dominate local views and restrict views of distant landscape elements. Therefore, despite implementation of mitigation measures VIS-1 through VIS-28, the impacts to visual character and quality would remain potentially significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant with Mitigation Incorporated: Glare associated with windshields and reflective construction equipment and materials would be present during Project construction. However, this impact would be temporary in nature and would be limited to the local Project area; this impact would be, therefore, less than significant.

The Project would be within the area of light pollution influence of Mount Palomar Observatory, which would be about 35 km (22 mi) to the south. Therefore, the Project will implement mitigation measure VIS-29 to reduce impacts at the observatory to less than significant levels.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☒	☐

II. AGRICULTURE RESOURCES – Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Less Than Significant Impact: The Build alternatives and design options would result in the conversion of farmland, as discussed in Section 4.2.11.

The combined direct and indirect impacts of each of the Build alternatives would amount to less than 1 percent of the important farmlands in Riverside County (Table 3.1-16 [Volume 1, Section 3.1]). Assuming that indirect impacts would be minimized, the Build alternatives would affect less than 0.2 percent of the total important farmlands in the county.

Further, these impacts must be considered in the context of the changes in land use in the Project area. In the general plans of the City of San Jacinto, City of Hemet, and the County of Riverside (San Jacinto 2006, Hemet 1992, County 2003), there is a consensus that development pressure will continue to convert farmlands to nonagricultural uses. Consequently, a substantial proportion of existing farmlands have been designated for conversion to nonagricultural uses (Figure 3.1-9 [Volume 1, Section 3.1]). The conversion of these farmlands to nonagricultural uses is addressed under CEQA in the environmental impact reports prepared for all of the general plans. Roughly 90 to 95 percent of the existing farmlands that would be in each Build alternative are in planned farmland conversion areas. Thus, most of the existing farmlands that would be directly or indirectly affected by one of the Build Alternatives are expected to be converted to a nonagricultural use in time, based on population growth and development pressure in the area, regardless of the Project.

The Project would have a minor effect on prime, unique, and other important farmlands on parcels that are zoned to remain agricultural (Table 3.1-15 [Volume 1, Section 3.1]). The Build alternatives would have impacts ranging from 29 to 31 ha (66 to 72 ac) on zoned agricultural lands, less than 0.01 percent of the total prime, unique, and important farmland in Riverside County (which total about 173,600 ha [428,990 ac]).

Given the relatively small amount of farmland that would be affected by the Project beyond the impacts accounted for in the general plans, the impact to farmlands as a result of any of the Build alternatives would be less than significant.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Less Than Significant Impact: The Build alternatives would result in the conversion of zoned agricultural lands and lands under Williamson Act contracts, as discussed in Section 4.2.1.1.

Zoning

In City of Hemet jurisdiction, the Build alternatives would permanently impact about 7 ha (17 ac) of zoned farmlands. According to the Hemet General Plan, the total amount of zoned farmlands in the city of Hemet is 743 ha (1,837 ac). Therefore, the amount of zoned farmlands that would be impacted by the Project represents less than 1 percent of the total zoned farmland in the city of Hemet. The Project is also included in the Transportation Element of the City of Hemet 1992 General Plan.

The City of San Jacinto does not contain zoned farmlands in its current General Plan. Therefore, the Project is consistent with City zoning.

In Riverside County jurisdiction, Roadway Segments I (all Build alternatives and design options), J (Build Alternatives 1a and 2b and Design Option 2b1), and K (Build Alternatives 1b and 2a and Design Option 1b1) would permanently impact 22 to 24 ha (55 to 60 ac) of zoned farmlands. The total amount of zoned farmlands in the county is 72,915 ha (180,178 ac). Therefore, the amount of zoned farmlands that could be impacted by the Project represents less than 0.01 percent of the total zoned farmland in Riverside County. Additionally, the Project is included in the Circulation Element of the Riverside County General Plan.

Because of the relatively small area of zoned farmlands that would be affected and design efforts to minimize direct and indirect impacts to all farmlands consistent with local and regional land use policies, the impact to zoned agricultural land would be less than significant.

Williamson Act

All Build alternatives would impact Williamson Act lands, as shown in Tables 3.1-15, 3.1-16, and 3.1-17 in Chapter 3 (Volume 1, Section 3.1). A full discussion of the impacts to Williamson Act lands is provided in Section 3.1.3.3 (Volume 1).

The locations of the Build alternatives are not based primarily on cost, nor are there other reasonably feasible alternatives. The Build alternatives were chosen based on various environmental studies, design restrictions, cost, and federal, state, local agency, and public feedback. (The extensive process that resulted in the Build alternatives being analyzed in this Draft EIR/EIS is summarized in Section 1.1.1.1 [Volume 1], and the Project alternatives are

the subject of Chapter 2 [Volume 1) It is not practicable to avoid locating this Project on land covered by a Williamson Act contract. Therefore, the Project is in compliance with the requirements of CGC Section 51292. If properties restricted by Williamson Act contracts are acquired for the Project, the Department and Riverside County Transportation Commission (RCTC) will notify the California Department of Conservation (CDC) within 10 days.

The Project impact to Williamson Act land would therefore be less than significant, and no mitigation is proposed. However, measure AG-3 would be implemented to ensure that all applicable government codes regarding acquisition of Williamson Act lands are adhered to.

c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

Less Than Significant Impact: The Project would realign and widen existing SR 79 from two to four lanes, which would increase capacity and facilitate planned development. Additionally, some existing farmlands would be bisected by the Project, which could impact the viability of the individual farm and indirectly cause conversion of these farmlands to nonagricultural use. However, as a general rule, the agricultural use of remaining lands would be maintained by providing access as part of the Project, thereby minimizing these indirect impacts. Furthermore, based on available general plan data from the City of San Jacinto and the County of Riverside and current zoning data for the City of Hemet, many of the existing farmlands in the study area will be converted to nonagricultural lands as a result of other, separate projects. Therefore, the Project impact would be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

III. AIR QUALITY – Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact: For a project to be found in conformance with the Federal Clean Air Act (CAA) Amendments of 1990, the project must come from an approved transportation plan and program such as the Regional Transportation Plan (RTP) and the Federal Transportation Improvement Program (FTIP). The CAA Amendments of 1990 require that transportation plans, programs, and projects that are funded by or approved under Title 23 of the United States Code (USC) (the Federal Transit Act) conform to state or federal air quality plans. The Project is included in the list of baseline projects in the Southern California Association of Governments (SCAG) 2011 FTIP; therefore, the Project meets the conformity requirements for the regional analysis. Inclusion of the Project in a conforming FTIP demonstrates that the Project would not cause a significant regional ozone (O_3), carbon monoxide (CO), particulate matter less than 10 micrometers in aerodynamic diameter (PM_{10}), or particulate matter less than 2.5 micrometers in aerodynamic diameter ($PM_{2.5}$) impact. Because the Project was evaluated in the 2011 FTIP, it is also included in the South Coast Air Quality Management District (SCAQMD) 2007 Air Quality Management Plan and would be consistent with the applicable air quality management plan.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Potentially Significant Impact: The Department has not formally adopted significance thresholds under CEQA for evaluating air quality impacts from construction. The SCAQMD CEQA significance thresholds for construction emissions are presented in Table A-1. Construction emissions were considered to be significant if the emissions would be expected to contribute to an existing violation of an air quality standard.

Table A-1 SCAQMD Significance Thresholds for Construction

Pollutant	Mass Daily Thresholds (lbs/day)
NO_X	100
VOC	75
PM_{10}	150
$PM_{2.5}$	55
SO_X	150
CO	550
Lead	3

Source: SCAQMD, 2011

The Project would create short-term potentially significant air quality impacts from construction-related activities. Project construction would result in temporary emissions of CO, oxides of nitrogen (NO_X), reactive organic gas (ROG), $PM_{2.5}$, and PM_{10}. These emissions would come from stationary or mobile-powered onsite construction equipment such as signal boards, excavators, backhoes, or graders. Emissions from construction were evaluated using the Roadway Construction Emissions Model, version 6.3.2, developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD 2009) and are presented in Table A-2. Construction activities are expected to occur during a 39- to 40-month period for 5 days per week and up to 24 hours per day. This intensive construction schedule, in addition to the construction equipment and hauling requirements, would be expected to result in elevated emissions of O_3 precursors (NO_X and ROG), PM_{10}, and $PM_{2.5}$ that could contribute to an existing violation of an ambient air quality standard. Existing concentrations of O_3, PM_{10}, and $PM_{2.5}$ exceed the California ambient air quality standards, so mitigation measures would be implemented to reduce ozone precursor (NO_X and ROG), PM_{10}, and $PM_{2.5}$ emissions during construction. However, NO_X emissions would remain elevated after implementation of mitigation measures AQ-1 through AQ-9 and are expected to substantially contribute to existing O_3 violations. Therefore, the air quality impacts from NO_X emissions during construction would be potentially significant.

Table A-2 Summary of Maximum Daily Construction Emissions by Alternative

Alternative	Maximum Daily Emissions (lb/day)				
	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$
Alternative 1a	120	1,644	455	54	22
Alternative 1b (including Design Option 1b1)	126	1,725	475	53	22
Alternative 2a	137	1,880	514	56	24
Alternative 2b (including Design Option 2b1)	126	1,724	474	52	22

Source: Roadway Construction Emissions Model, version 6.3.2.

Note: Emissions represent the maximum daily emissions expected to occur during the grading/excavation phases of the Project. Emissions from other phases (clearing/grubbing, drainage/utilities/subgrade, and paving) would be less than the values shown in the table.

The emissions model does not estimate SO_2 emissions; however, ultra low sulfur diesel in the only type of diesel fuel available for use in California.

Detailed fugitive dust emission estimates associated with individual material-handling operations and/or activity/vehicle types cannot be conducted with the current version of the model (SMAQMD 2009).

Fugitive Dust Emissions from Construction

Potential sources of fugitive dust during construction would include grading, material handling, travel on unpaved roads, and blasting activities. The methodology in the Roadway Construction Emissions Model to estimate

fugitive dust emissions is a simplified methodology that involves estimates of the maximum area (acreage) of land disturbed daily (SMAQMD 2009). The Project would include fugitive dust emissions from sources not included in the model; however, the measures described below would be implemented to reduce fugitive dust emissions from sources not included in the model, such as material handling. Therefore, fugitive dust emissions from construction would have a less than significant impact on air quality with implementation of the measures described below.

Excavation activities associated with the Project would include blasting for rock removal. These techniques may be required with all of the Build alternatives and design options in the southern part of the Project (Roadway Segments A, B, D, G, or H). Blasting operations have the potential to create fugitive dust emissions; therefore, nonstandard special provisions (NSSPs) will be implemented to reduce fugitive dust emissions, including the use of blasting mats and watering the area before and after blasting. These measures are expected reduce the air quality impact from blasting operations to less than significant.

The standard conditions listed in Section 3.2.6.4 (Volume 1, Section 3.2) will minimize the temporary impacts from fugitive dust and exhaust emissions during construction.

The Project will also implement minimization measures AQ-1 through AQ-9 to reduce air quality impacts during construction.

Operation of the proposed Project would not be expected to cause or contribute to an exceedance of the standards for the nonattainment pollutants because the proposed Project is included in the conforming RTP and FTIP. Therefore, the impact from emissions during operation would be less than significant.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Potentially Significant Impact: The Project would be located in a California nonattainment area for PM_{10}, $PM_{2.5}$, and O_3. Construction of the Project and other projects would occur in the area at the same time. According to the CEQA guidelines (California Code of Regulations [CCR] Title 14, Chapter 3, Article 20, Section 15355), a cumulative impact is "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." For example, it would be expected that Project construction would overlap with construction of the Mid County Parkway project. Mitigation measures would be implemented to reduce PM_{10} and $PM_{2.5}$ emissions to a less than significant level. However, NO_X emissions would remain elevated after implementation of mitigation measures. Because NO_X emissions from Project construction would be expected to result in a potentially significant impact to air quality when considered along with construction of the Mid County Parkway Project, the Project would be expected to have a short-term potentially significant cumulative impact to air quality. The Project is included in the list of projects in the conforming SCAG 2011 FTIP and the SCAQMD 2007 Final Air Quality Management Plan (AQMP) Transportation Conformity Budgets. This means the emissions from the Project have been included as part of the attainment plan for the South Coast Air Basin. Therefore, operation of the Project would be expected to have a less than significant cumulative impact to air quality.

In summary, NO_X emissions from construction of the Project may cause or contribute substantially to an exceedance of an air quality standard and may result in a short-term cumulatively substantial net increase in

emissions of a nonattainment pollutant (O_3). Operation of the Project would be expected to have a less than significant impact to air quality.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact: Construction of the Project may expose sensitive receptors in the vicinity of the Project area to short-term elevated diesel PM_{10} levels. However, the PM_{10} concentrations would be considered less than substantial because the cancer risk posed by inhalation of diesel PM_{10} is based on long-term exposure (70 years). SCAQMD recently completed the Multiple Air Toxics Exposure Study III (MATES-III), which is a monitoring and risk evaluation study conducted periodically in the South Coast Air Basin (SCAQMD 2008). The MATES-III study included a monitoring program, an updated emissions inventory of toxic air contaminants (TACs), and a modeling effort to characterize risk across the basin (SCAQMD 2008). Compared to previous studies of air toxics in the basin, the MATES-III study found decreasing risks for air toxics exposure (SCAQMD 2008). Although the study showed that exposure to emissions of air toxics is being reduced overall, the study concludes that the risks remain unacceptable and are higher near areas such as ports and transportation corridors (SCAQMD 2008). Based on the results of the MATES-III study, the estimated existing cancer risk in the area near the Project is approximately 300 in 1 million (SCAQMD 2008). In addition, vehicle emissions are expected to decrease in time with compliance with United States Environmental Protection Agency (USEPA) and California Air Resources Board regulations for cleaner fuels and cleaner engines (Federal Highway Administration [FHWA] 2006). For these reasons, pollutant concentrations would be expected to be lower in the future than the existing condition. Therefore, sensitive receptors would not be expected to be exposed to substantial pollutant concentrations during construction or operation of the Project.

e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact: During Project construction, objectionable odors could occur due to diesel-powered equipment and road-building activities, such as paving and asphalting. Such odors, however, would be short term and limited to the area where the activity is. As much as possible, construction equipment and trucks would be located or rerouted away from local neighborhoods or sensitive receptor areas. Therefore, odor impacts during construction would be temporary and less than significant. During Project operation, odorous emissions from vehicle travel would decrease from existing conditions because cleaner engines and cleaner fuels would be used in the future. Therefore, air quality impacts associated with odors during Project operation would be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☒	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

IV. BIOLOGICAL RESOURCES – Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Potentially Significant Impact: All Build alternatives and both design options would impact special-status plant and animal species and/or their habitats. The impact would be potentially significant, as discussed in Section 4.2.3.3.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

Less Than Significant Impact with Mitigation Incorporated: All Build alternatives and design options would have a less than significant impact on sensitive natural communities and critical habitat with mitigation measures incorporated, as discussed in Section 4.2.2.2.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Potentially Significant Impact: Each Build alternative and design option would have a significant impact on federally protected wetlands. All Build alternatives or design options would obtain a Section 404 Individual Permit from the United States Army Corps of Engineers (USACE) and a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB) for impacts to waters of the United States/State. Impacts to wetlands will be mitigated through creation, restoration, enhancement and preservation of comparable aquatic resources. Details about wetland mitigation, including ratios, types of mitigation, and locations, will be developed in coordination with the federal agencies during the federal permit process. Therefore, impacts to federally protected wetlands are expected to be potentially significant unless mitigation is incorporated, as discussed in Section 4.2.3.3.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Potentially Significant Impact: Five categories of wildlife were assessed for the Project: (1) Passive Dispersers, (2) Insects, (3) Small Mammals, Reptiles, and Amphibians, (4) Large Mammals, and (5) Avian Wildlife. Potentially significant permanent (both direct and indirect) and temporary impacts to all of these wildlife categories may occur from each Build alternative and design option, as discussed in Section 4.2.3.3.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than Significant Impact: Two local tree preservation policies are in effect in the Project study area. The first policy is discussed in Section 3.3.1.3 (Volume 2, Section 3.3) and refers to the Riverside County Oak Tree Ordinance that protects native oak trees with diameters greater than 5.1 centimeters (2 inches) at breast height.

The second policy is from the Biological Resources component of the City of Hemet General Plan (Hemet 1992), which contains onsite construction guidelines that specify “mature trees of 6 inches diameter or greater shall be protected from indiscriminate cutting or removal.”

These ordinances do not apply to the Project (a state project); however, RCTC will consider the requirements of the ordinances during final design of the Project. The Project is expected to have a less than significant impact on local tree preservation policies.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less Than Significant Impact: The proposed Project lies within the boundaries of the Western Riverside County MSHCP and the Stephen's Kangaroo Rat HCP. The Project's consistency with these plans would be similar regardless of the Build alternative that is chosen. A detailed discussion of the Project's consistency with these applicable plans is provided in Section 3.3.1.3 (Volume 2, Section 3.3). Because the Project would be consistent with the criteria in these HCPs, the impact would be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒[a]	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

[a]This is a preliminary conclusion (see discussion below).

Because the evaluation of impacts to cultural resources under CEQA is being conducted in conjunction with the Section 106 process under the National Historic Preservation Act (NHPA) and that process is being phased, CEQA evaluations are not complete. Thus, determinations presented in the checklist, and the discussions of them, are considered preliminary. Additional historical resources could be identified during subsequent evaluations, in which case those would be addressed in the Final EIR/EIS and revised CEQA checklist (see Section 3.1.8.2 [Volume 1] for an explanation of the phased approach being utilized for the Project).

V. CULTURAL RESOURCES – Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Less Than Significant Impact (Preliminary Conclusion): Archaeological resources that may qualify as historical resources are discussed under question V.b, which addresses all archaeological resources in the Area of Potential Effects (APE).

Two historical resources were identified in the APE. One, the Colorado River Aqueduct (CRA) (CA-RIV-6726H), is eligible for the National Register of Historic Places (NRHP) (is a historic property through the Section 106 process) and the California Register of Historical Resources (CRHR) (is a historical resource through the CEQA process). Because the effect determinations are handled concurrently for the Section 106 and CEQA processes, the CEQA impact significance assessment for the CRA has been deferred until the Section 106 Finding of Effect has been completed (see Section 3.1.8 [Volume 1, Section 3.1]). The second historical resource, the CBJ Dairy, is not NRHP eligible but has been determined to be a historical resource under CEQA. Therefore, the CEQA effect determination for this resource is presented below.

The Project would have an impact to the setting of the property (i.e., its immediate surroundings) due to incorporation of its eastern edge into the Project, as well as due to the construction of a grade-separated interchange (8 m [27 ft] in height). Because the property is important because of its association with important events and not for its architecture, such changes to the setting of the property would not constitute a substantial

impairment of the integrity of the property that would be considered adverse. Therefore, the Department has determined that the Project would have a less than significant impact on this historical resource.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less Than Significant with Mitigation Incorporated (Incomplete Conclusion): Archaeological site CA-RIV-6907/H consists of 26 outcrops with 50 milling slicks, a complex lithic scatter containing both ground and flaked stone artifacts, a dry-laid rock wall, evidence of historical rock quarrying, and historical refuse. These components of the site are well outside the Project Impact Area (PIA). Although there is potential that artifacts may exist in subsurface context in the PIA, this portion of the site was destroyed during construction of Domenigoni Parkway. The damaged portion of the site has lost integrity and no longer contributes to the potential CRHR eligibility of the site. The undamaged portion of the site will be presumed eligible for the purposes of the Project and will be protected in place as an Environmentally Sensitive Area (ESA) and monitoring. Therefore, the Project would have a less than significant impact on this archaeological site, with mitigation incorporated (establishment of an ESA).

The Project has the potential for significant impacts to 28 other archaeological sites in the Project APE, which include 22 prehistoric sites, 4 historical archaeological sites, and 2 multicomponent sites if any of those are determined to be historical resources after further evaluation following identification of a Preferred Alternative. All except one of the 22 prehistoric sites are bedrock milling sites without visible associated intact archaeological deposits. The other prehistoric site, an isolated human burial, CA-RIV-5786, was previously determined eligible for the NRHP and CRHR at the time of discovery, but was completely removed at that time. Due to the loss of its integrity, the NRHP/CRHR status of this site will be reevaluated. Four of the sites are historical archaeological sites, with features or deposits that may be associated with historical farmsteads. The historical components of the two multicomponent sites (CA-RIV-5829/H and CA-RIV-7894/H) were determined to be noncontributing elements, but the prehistoric components must still be evaluated. Subsurface excavations of five of these sites and evaluation of the others in a regional context with further Native American consultation will be required to determine their CRHR eligibility.

If any of these archaeological sites is found to qualify as a historical resource during evaluation after identification of a Preferred Alternative, specific avoidance, minimization, and/or mitigation measures for the Project will be included in the Final EIR/EIS and CEQA checklist to address any significant impacts. At a minimum, these would include data recovery by qualified professionals, analysis, reporting, and curation to ensure that impacts are reduced to a level that is less than significant (see CR-1 through CR-4 in Section 3.1.8.4 [Volume 1, Section 3.1]).

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant with Mitigation Incorporated: Paleontological resources (including an undetermined number of fossilized remains and unrecorded fossil sites, associated fossil specimen data and corresponding geologic and geographic site data, and the fossil-bearing strata) would be adversely affected by the permanent direct and indirect impacts resulting from earth-moving activities during construction of the Project.

The potential impacts of earth-moving activities on the paleontological resources of each rock unit exposed in the Project area were assessed in Section 3.2.4.3 (Volume 1, Section 3.2). The significance of a rock unit reflects its

paleontological or scientific importance and impact sensitivity, which, in turn, reflect the potential for fossil sites being encountered.

Southern California Batholith. There would be no impacts to paleontological resources from earth-moving activities in the parts of the Project area where the Southern California Batholith is at or near the surface. Because it originated from a molten state deep in the crust of the earth, this rock unit does not contain fossils.

Older Alluvium. Any impacts to paleontological resources from earth-moving activities in the parts of the Project area where the older alluvium is at or near the surface would be less than significant because this rock unit is generally too coarse grained to contain fossils.

Younger Alluvium. Any impacts to paleontological resources from earth-moving activities that extend less than 1.2 m (4.0 ft) below the present ground surface (bgs) in the parts of the Project area where the younger alluvium is at or near the surface would be less than significant. At such shallow depths, this rock unit is probably too young to contain remains old enough to be fossilized.

In the parts of the Project that would be adjacent or very close to hills composed of granitic rocks from the Southern California Batholith, the younger alluvium is probably too coarse grained to contain fossilized remains. Any such remains would have been destroyed by deposition of the cobbles and boulders that constitute the younger alluvium in these areas. For this reason, there is only a low potential for scientifically important fossilized remains to be encountered by earth-moving activities in these parts of the Project, so any impacts in these areas would be less than significant.

However, earth-moving activities that extend more than 1.2 m (4.0 ft) bgs in the parts of the Project area where the younger alluvium is at or near the surface could encounter paleontological resources. Based on a review of the previously recorded sites, particularly sensitive areas would be near the Eastside Pipeline between Cottonwood Avenue and Domenigoni Parkway and near Domenigoni Parkway between Winchester Road and Warren Road. Other parts of the Project area could be as sensitive, but have no previously recorded fossil sites.

Direct impacts to the paleontological resources in the Project area would be mostly from earth-moving activities (particularly excavation that is more than 1.2 m (4.0 ft) bgs) in previously undisturbed fine-grained strata, making the strata and their resources permanently unavailable for future scientific investigation. The attendant loss of any fossil specimen and site, associated data, and the fossil-bearing stratum would be a significant impact. Earth-moving activities would be more than 1.2 m (4.0 ft) bgs during construction of roadway segments, bridges, grade-separated interchanges, aqueduct crossings, hydrology facilities, constructed traffic detours, connections to Hemet channel, utility relocations, and other Project features.

Indirect impacts would result from unauthorized fossil collecting by construction personnel, rock hounds, and amateur and commercial fossil collectors who would be afforded easier access to fossil-bearing strata by earth-moving activities. Unauthorized fossil collecting would be temporary, but would also result in the permanent loss of fossils and sites and associated data. The loss of these additional paleontological resources would be another significant impact.

All potential impacts resulting from earth-moving activities in fine-grained strata at depths greater than 1.2 m (4.0 ft) would be unavoidable and significant to paleontological resources. Mitigation measure PALEO-1 and

PALEO-1a through PALEO-1h would ensure that impacts are reduced to a level that is less than significant. Other measures may be added as Project design progresses.

d) Disturb any human remains, including those interred outside of formal cemeteries?

No Impact: The records search conducted for the Project, as detailed in Section 3.1.8.2 (Volume 1), revealed that a prehistoric site with human remains within the APE had been documented in 1995. Site CA-RIV-5786 (an isolated prehistoric burial feature) was considered eligible for NRHP/CRHR inclusion at the time of discovery (McDougall 1995). However, this feature was removed entirely during emergency recovery excavations conducted in 1995 during construction of Domenigoni Parkway. No other human remains have been documented within the APE. Furthermore, no human remains are anticipated in the types of archaeological sites that have been documented in the APE. Therefore, the Project would have no impact on human remains.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the county coroner contacted. Pursuant to Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), which will then notify the most likely descendent (MLD). At this time, the person who discovered the remains will contact the District 8 Native American coordinator, so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 will be followed as applicable.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS – Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☒	☐	☐	☐
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☒	☐	☐	☐
ii) Strong seismic ground shaking?	☒	☐	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☒	☐	☐	☐
iv) Landslides?	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☒	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐

VI. GEOLOGY AND SOILS – Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Potentially Significant Impact: The Project is located in a seismically active area, as is the majority of Southern California. In addition to the San Jacinto Fault Zone crossing the northern portion of the Project study area, the Project study area is situated between two other major active fault zones—the Elsinore Fault Zone to the southwest and the San Andreas Fault Zone to the northeast. Numerous other active and potentially active faults and fault zones are located within the general region. The California Geological Survey (CGS) has designated Earthquake Fault Zones (formerly known as Alquist-Priolo Special Studies Zones) for the San Jacinto, Elsinore, and San

Andreas Fault zones located within or near the study area. These faults have high rates of slip (displacement) and are accumulating strain energy to be released in earthquakes.

Surface fault rupture can have significant impacts. The location of the Project in relation to known active and potentially active faults indicates that the Project would not be exposed to a greater seismic risk than other sites in the region. The northern portion of the Build alternatives (specifically, Roadway Segments L and M) crosses an active splay of the San Jacinto Fault Zone known as the Casa Loma Fault. The Casa Loma Fault has been zoned as an Earthquake Fault, and estimates suggest that the fault zone could produce a maximum moment magnitude (M_{MAX}) 6.9 earthquake. Mitigation measure GEO-1 would address surface fault rupture.

Although seismic hazards may be reduced by implementing mitigation, seismic impacts are unavoidable and would have a potentially significant impact.

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

ii) Strong seismic ground shaking?

Potentially Significant Impact: Based on review of the 2007 Caltrans Deterministic PGA Map, the preliminary peak ground accelerations (PGA) across the study area range from approximately 0.3 g to 0.5 g. The Department also requires a probabilistic assessment of seismic risk. Probabilistic peak ground accelerations may be greater than those shown on the Department's Deterministic PGA Map. Therefore, the Project could be impacted by strong ground motions as a result of a significant earthquake in the area. Mitigation measure GEO-2 would address seismic ground shaking.

Although seismic hazards may be reduced by the implementation of mitigation measures, they would still have a potentially significant impact.

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

iii) Seismic-related ground failure, including liquefaction?

Potentially Significant Impact: According to the Liquefaction Susceptibility Map (County of Riverside Transportation and Land Management Agency [RTLMA] 2002, Earth Consultants International 2000), most of the Project study area is located in areas considered moderately to highly susceptible to liquefaction. These areas are considered very highly susceptible to liquefaction and are mapped near the northern and southern ends of the Project.

There is a relatively high probability that the Project area will experience a significant earthquake. Extended duration of ground shaking could result in liquefaction and settlement of saturated subsurface materials and/or manmade fills. The potential damaging effects of liquefaction include differential settlement, loss of ground support for foundations, ground cracking, and heaving and cracking of pavement and structure slabs. Mitigation measure GEO-3 would address seismic-related ground failure, including liquefaction.

Although liquefaction may be reduced by implementing mitigation, it would still have a potentially significant impact.

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

iv) Landslides?

Less Than Significant with Mitigation Incorporated: The hills to the west and east of the Project are composed of resistant crystalline granitic bedrock. These materials are not typically prone to landslides, but may be subject to rock fall, rock slides, or other rock slope failures. A slope stability analysis, including an evaluation of the potential for rock slope failures, will be considered during design and construction. Slope failure may be reduced by implementing mitigation measures; however, slope failure is still considered a potentially significant impact. Mitigation measure GEO-6 would address the potential for slope instability or landslides.

The risk of loss, injury, or death associated with landslides is considered a less than significant impact with mitigation incorporated.

b) Result in substantial soil erosion or the loss of topsoil?

No Impact: Soil erosion refers to the process by which soil or earth material is loosened or dissolved and removed from its original location. Erosion can occur by many different processes, but along the Project, it is more likely to occur where bare soil is exposed to wind or moving water. The Coachella Valley, the Santa Ana River channel, and areas in the vicinity of the city of Hemet have been identified as zones of high wind erosion susceptibility. Bare soil along these portions of the Build alternatives may be subject to wind erosion. However, the Project will not subject soils to greater amounts of erosion than that which currently exists; therefore, soil erosion is not considered a significant impact.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Landslide – Less Than Significant with Mitigation Incorporated: A slope stability analysis, including an evaluation of the potential for rock slope failures, will be considered during design and construction. Slope failure may be reduced by implementing mitigation measures; however, slope failure is still considered a potentially significant impact. Mitigation measure GEO-6 would address the potential for slope instability or landslides.

The risk of loss, injury, or death associated with landslides would be a less than significant impact with mitigation incorporated.

Lateral spreading, subsidence, liquefaction – Potentially Significant Impact: Most of the Project study area is mapped within areas considered moderately to highly susceptible to liquefaction, as noted in response to question VI (a) (iii). The potential damaging effects of liquefaction include lateral spreading and subsidence, leading to loss of ground support for foundations, ground cracking, and heaving and cracking of pavement and structure slabs. Mitigation measure GEO-3 would address liquefaction and its effects.

Although liquefaction may be reduced by implementing mitigation, it would still have a potentially significant impact.

Subsidence or collapse – Less Than Significant With Mitigation Incorporated: Portions of the study area are largely underlain by alluvial deposits that are potentially compressible and may include layers of collapsible soil. These soils may subside or collapse due to increased foundation and embankment loads, storm water infiltration, and groundwater removal during construction. This settlement could impact new and existing facilities such as utilities and existing structures. Mitigation measures GEO-4 and GEO-7 would address the potential for subsidence or collapse.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant with Mitigation Incorporated: Expansive soils generally result from specific clay minerals that have the capacity to shrink or swell in response to changes in moisture content. Shrinking or swelling of subgrade soils can lead to damage to pavement and engineered structures including cracking and tilting. Expansive soils may be present in the alluvial deposits and in weathered portions of the Cretaceous rock along the Project. Expansive soils may be reduced through mitigation, but even with mitigation, expansive soils are still considered a potentially significant impact. However, impacts would be less than significant after implementation of mitigation measure GEO-5.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Less Than Significant Impact: The Project would not construct septic tanks, and use of existing septic tanks during construction is not expected. Waste produced during Project construction would be collected and pumped out by qualified contractors and would be disposed of in accordance with all applicable regulations and codes. Therefore, the Project would have a less than significant impact on alternative waste water disposal systems.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?: b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.			

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☒	☐	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☒	☐	☐

VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact: Potential short-term hazards associated with the Project involve the transport of fuels, lubricating fluids, solvents, aerially deposited lead (ADL) removal, potential removal of total petroleum hydrocarbon (TPH) from the former Mobil gas station, and other potentially hazardous materials during construction. However, construction would not involve handling significant amounts of these substances beyond what is typically required for a project of this nature. For construction activities in the vicinity of the former Mobil gas station, workers would be notified that there is a potential for encountering petroleum hydrocarbon related

chemical constituents in the area and that proper health and safety precautions should be taken during construction. Additionally, all storage, handling, and disposal of hazardous materials are regulated by the USEPA, California Department of Toxic Substances Control (DTSC), Occupational Safety and Health Administration, the city fire departments, and the county fire department. As such, all chemicals used during construction of the Project would be used and stored in compliance with applicable requirements. Compliance with applicable laws and regulations governing the use, storage, and transportation of hazardous materials would minimize the potential for significant safety impacts to occur. Therefore, impacts would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant with Mitigation Incorporated: The Project vicinity contains areas of recognized environmental conditions that would be encountered by the Build alternatives. These sites include but are not limited to:

- Former Mobil gasoline station site located at 2070 North Sanderson Avenue
- Various agricultural areas
- Lands contaminated with aerially deposited lead
- Buildings identified for demolition that are constructed with asbestos-containing materials or lead-based paint
- Lands with unknown or previously unidentified hazardous materials
- Areas of contaminated groundwater

The following measure, in addition to HAZMAT-1 through HAZMAT-5, would address hazards involving the release of hazardous materials into the environment.

- **Site Closure for Mobil Gas Station.** Demolish and remove this gasoline station and all components. An integral part of this process would be removal of all fuel USTs, associated piping and systems, and obtaining formal UST removal case closure from the Riverside County Department of Environmental Health (RCDEH) with concurrence from the Regional Water Quality Control Board (RWQCB). The Mobil gasoline station was acquired and demolished by RCTC after the initial observation. RCTC completed remediation of the site after the Project baseline date of January 30, 2007.

Potential hazardous material releases are considered a less than significant impact with mitigation incorporated.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Potentially Significant Impact: Construction of the Project has the potential to emit hazardous materials during preparation and excavation activities. The Winchester Elementary School is the closest school facility to the Project. Located at 28751 Winchester Road, it would be about 0.40 km (0.25 mi) west of the southern portion of Build Alternatives 1a and 2a. Although mitigation measures HAZMAT-1 through HAZMAT-5 are proposed to address the risk of hazardous materials releases, the potential for impacts cannot be fully reduced. Therefore, risks to Winchester Elementary School would remain potentially significant.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less Than Significant with Mitigation Incorporated: A search of hazardous materials facility databases showed that the Project area contains a limited number of listed sites that handle, use, or dispose of hazardous materials or sites that have experienced a hazardous materials incident (FirstSearch™ 2007). The potential for worker and public exposure to these sites is considered a less than significant impact. Mitigation measures HAZMAT-2 and HAZMAT-3 would address Project impacts to sites included on hazardous material site lists compiled pursuant to Government Code Section 65962.5. In addition, for construction activities in the vicinity of the former Mobil gas station, workers would be notified that there is a potential for encountering petroleum hydrocarbon-related chemical constituents in the area and that proper health and safety precautions should be taken during construction. With these mitigation measures, impacts would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

Less Than Significant Impact: The Project would be located within the Hemet-Ryan Airport Influence Area and, therefore, is subject to regulations governing issues such as development intensity, density, height of structures, and noise. SR 79 and the airport already exist, and the proposed Project would not result in any additional safety hazards for people residing or working in the area.

The design of the Project would ensure that no structures would be in conflict with safety zones in the Hemet-Ryan Airport Influence Area. Therefore, the impact would be less than significant.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact: The Project would not be located within the vicinity of a private airstrip. Therefore, no impacts would be expected to occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant with Mitigation Incorporated: The Project would intersect the service areas for the California Highway Patrol (CHP), Hemet Police Department (HPD), and Riverside County Sheriff's Department (RCSD). In addition, the CHP would be responsible for primary patrol of the realigned SR 79.

Project construction could temporarily disrupt circulation patterns and affect the ability of fire and police to respond to emergency calls. Fire protection that is provided by the Hemet Fire Department (HFD) and Riverside County Fire Department (RCFD) has the potential to be impacted. Because California Department of Forestry and Fire Protection operations at Ryan Air Attack Base are aerial rather than ground based, the Project would not interfere with these emergency operations.

No police stations are in the Project study area. However, police protection provided by the CHP, HPD, and RCSD has the potential to be impacted if patrol routes are affected by traffic delays and detours during Project

construction. Mitigation measure SERV-2 will ensure that potential Project impacts to emergency response are less than significant.

The Project would improve the geometry and efficiency of SR 79, enhancing the capability for emergency response and evacuation. Mitigation measure SERV-1 will ensure that potential permanent Project impacts to emergency response are less than significant.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

- **Less Than Significant with Mitigation Incorporated:** The Project is located in a region surrounded by residences intermixed with naturally vegetated areas. The Project may expose people or structures to loss, injury, or death involving wildland fires because portions of the new roadway would be constructed in undeveloped areas adjacent to wildlands, where environmental conditions might present a high fire hazard. Mitigation measure BIO-7 would be implemented to reduce the risk of wildland fires to a less than significant level.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIX. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

VIX. HYDROLOGY AND WATER QUALITY – Would the project:

a) Violate any water quality standards or waste discharge requirements?

Less Than Significant with Mitigation Incorporated: Temporary impacts could occur from all the Build alternatives during construction of the Project. Temporary impacts would be associated with storm water quality

and include the potential for increased sediment and pollutant loading to surface water and groundwater from storm water surface runoff. Disturbance of soil from site grading, excavation, and modification to the landscape could increase the potential that storm water runoff would contribute sediments into receiving waters. Pollutant loading into receiving waters also could occur from accidental discharge of waste products during construction, such as petroleum byproducts from vehicles and equipment. These temporary impacts are considered to be a potentially significant impact related to water quality standards. Mitigation measure WQ-1 is proposed to address these impacts.

With implementation of mitigation measure WQ-1, water quality will be protected from Project-related construction activities. Therefore, the Project is not expected to result in a significant adverse impact related to a violation of any water quality standards or waste discharge requirements.

Permanent impacts would result from increased storm water runoff from the Project site primarily because of the increase in impervious ground cover. Potential water quality impacts include increased concentrations of any of the following types of pollutants entering surface waters or groundwater; total suspended solids (TSS), nutrients (nitrogen/phosphorus), pesticides, metals, pathogens, trash, biochemical oxygen demand (BOD), and total dissolved solids (TDS). However, implementation of mitigation measures WQ-1 through WQ-5 will protect water quality from Project-related permanent impacts.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Less Than Significant Impact: Construction of the Project would not result in a depletion of groundwater supplies, and the Project would not interfere with groundwater recharge. Even though the Project proposes to increase impervious surface area, the amount of impervious surface area compared to the area of the groundwater basin results in a negligible impact to groundwater recharge. Therefore, impacts would be less than significant.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less Than Significant with Mitigation Incorporated: The Project would not substantially alter the existing drainage pattern of the site or area. Storm water conveyance facilities are required as part of the Project to ensure proper onsite drainage for the Project and maintain existing offsite water flows in the Project area. Onsite storm water is considered to be surface runoff that originates from paved areas of the Project, while offsite flows are defined as effluent that is generated from areas outside the Project facilities. The existing drainage patterns will be maintained by the storm water conveyance facilities. Additionally, mitigation measures WQ-1, WQ-2, WQ-3, WQ-4, and WQ-5 would further limit the movement of sediment onsite or offsite. Therefore, the Project is not anticipated to have a significant impact associated with altering the existing drainage pattern of the area and would not result in substantial erosion or siltation onsite or offsite with the implementation of mitigation measures.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less Than Significant Impact: The Project would not substantially alter the existing drainage pattern of the site or area. Storm water conveyance facilities are required as part of the Project to ensure proper onsite drainage for the Project and maintain existing offsite water flows in the Project area. The existing drainage patterns will be maintained by the storm water conveyance facilities. Therefore, the Project is not expected to have a significant impact associated with altering the existing drainage pattern of the area and would not result in flooding onsite or offsite.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant with Mitigation Incorporated: Runoff water could exceed the capacity of existing roadside ditches in the area. Even though existing roadside ditches already flood during current conditions, the Project could increase that flow even more. To mitigate potential runoff flow to less than significant, mitigation measure WQ-4 would be implemented. Specifically, detention basins and overflow risers will be designed such that pre-Project flow conditions will be maintained. Therefore, impacts would be less than significant with mitigation incorporated.

f) Otherwise substantially degrade water quality?

Less Than Significant Impact: Refer to response VIX(a), above, which addresses impacts to water quality. No other impacts to water quality are anticipated.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact: No housing development will be associated with the Project. Therefore, no impacts would occur.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Less Than Significant Impact: The Project would include the construction of a new roadway alignment within a 100-year floodplain, but the existing flow would be maintained by the proposed drainage conveyance facilities. The Project would not substantially alter the existing drainage pattern of the site or area. Storm water conveyance facilities are required as part of the Project to ensure proper onsite drainage for the Project and maintain existing offsite water flows in the Project area. The existing drainage patterns will be maintained by the storm water conveyance facilities. Therefore, the Project is not expected to have a significant impact associated with impeding or redirecting flood flows within a 100-year flood hazard area.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact: The Project does not involve construction near a levee or dam. Therefore, there would be no impacts associated with risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam.

j) Inundation by seiche, tsunami, or mudflow?

No Impact: Based on the location of the Project site, it is not likely that it would be inundated by a seiche, tsunami, or mudflow. Therefore, no impacts would occur.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	☐	☒	☐	☐
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☒	☐	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐

X. LAND USE AND PLANNING – Would the project:

a) Physically divide an established community?

Less Than Significant with Mitigation Incorporated: Communities that would be adjacent to or traversed by the Build alternatives (or design options) include Winchester, Rural Winchester, Green Acres, Emerging Hemet, Tres Cerritos Hills, Emerging San Jacinto, Emerging Sunrise, and Gateway Specific Plan/River, as discussed in Section 4.2.2.7. However, except for Rural Winchester, the Project's potential to divide or disrupt these communities is low, either because the roadway would generally be located along the periphery of these communities, outside existing developed areas within these communities, or otherwise would not affect vehicular and pedestrian access within these communities. The Project would traverse the central portion of the community of Rural Winchester and pass through agricultural, commercial/industrial, residential, rural residential, services/ facilities, and undeveloped areas. The Project would require that access be terminated along East Grand Avenue and Milan Road, west of Stueber Lane, thereby dividing the community of Rural Winchester. However, the Project would not block any existing roadways that provide east-west vehicular access. In addition, to enhance nonvehicular community interaction, mitigation measure COM-1 would be implemented. Therefore, impacts would be less than significant..

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant with Mitigation Incorporated: Applicable land use plans include SCAG Regional Comprehensive Plan and Guide, SCAG Regional Transportation Plan, Riverside County General Plan, City of Hemet General Plan, and the City of San Jacinto General Plan.

Southern California Association of Governments

The Build alternatives and design options would be consistent with and help further the goals of the Regional Comprehensive Plan and Guide (RCPG). In addition, the Project is designated a future transportation corridor in

the Regional Transportation Plan (RTP). Therefore, the Build alternatives and design options would be consistent with SCAG goals and policies.

Riverside County General Plan

Because the County of Riverside has not identified a Locally Preferred Alternative for the SR 79 Project in its General Plan or Area Plans, the Build alternatives and design options would be inconsistent with Riverside County policies LU 6.1 and Harvest Valley/Winchester Area Plan (HVWAP) 6.1 and 11.1. Implementation of mitigation measure LU-6 would reduce the impacts to less than significant.

City of Hemet General Plan

The Project as currently defined is not addressed by the City of Hemet 1992 General Plan. However, the Project has been closely coordinated with the City of Hemet in consideration of its ongoing growth and development. In 2008, the City adopted a Locally Preferred Alternative (LPA) for the Project by resolution (Hemet 2008). The portions of Build Alternatives 2a and 2b (including Design Option 2b1) within City jurisdiction are consistent with the LPA adopted by the City. Build Alternatives 2a and 2b (including Design Option 2b1) would be generally consistent with the City of Hemet goals and policies that are applicable to the Project, but Build Alternatives 1a and 1b (including Design Option 1b1) would not. Implementation of mitigation measures LU-1, LU-3, and LU-4 would reduce the impacts from Build Alternatives 1a and 1b (including Design Option 1b1) to less than significant.

City of San Jacinto General Plan

The Project has been closely coordinated with the City of San Jacinto in consideration of its ongoing growth and development, and the portion of Build Alternatives 1b and 2b (including Design Options 1b1 and 2b1) in City jurisdiction are identified in the San Jacinto General Plan as its LPA. Build Alternative s 1b and 2b (including Design Option 1b1 and 2b1) would be generally consistent with the City of San Jacinto goals and policies that are applicable to the Project, but Build Alternatives 1a and 2a would not. Implementation of mitigation measures LU-2 and LU-5 would reduce the impacts from Build Alternatives 1a and 2a to less than significant.

County of Riverside Circulation Element

Although the Project has been closely coordinated with Riverside County, Design Option 2b1 would introduce a major highway into areas that are designated for uses that are generally incompatible with a major transportation facility. Building Design Option 2b1 would require the County to amend their General Plan Land Use and Circulation elements to reflect the Project along this alignment.

Design Option 2b1 would include cul-de-sacs on Olive Avenue and Simpson Road. The cul-de-sacs would be on the east and west sides of realigned SR 79 at Olive Avenue and Simpson Road. The access modifications to Olive Avenue and Simpson Road would permanently sever a County-designated “Collector” and “Major Roadway,” respectively. This action would require coordination with Riverside County to assess appropriate actions related to the classification (or reclassification) of these roadways as part of the County’s approved circulation system. Implementation of mitigation measure LU-6 would reduce the impacts to less than significant.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Less Than Significant Impact: The proposed Project would be within the boundaries of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) and the Stephens' Kangaroo Rat Habitat Conservation Plan (HCP). These plans are described in Section 3.1.1.2 (Volume 1, Section 3.1), and a discussion of the Project's consistency with these plans is provided in Section 3.3.1.3 (Volume 2, Section 3.3). Because the Project would be consistent with the criteria in these HCPs, the impact would be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

XI. MINERAL RESOURCES – Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact: Riverside County has extensive deposits of clay, limestone, iron, sand, and aggregates. Currently, most of the mineral resource extraction in western Riverside County takes place in unincorporated areas of the county (RCIP 2003). The MSHCP designates approximately 19,700 acres of land categorized as Mineral Resource Zone-2 (MRZ-2), which indicates that the zone has significant mineral deposits. Currently, no areas designated MRZ-2 are in the Project study area. The MRZ-2 area nearest to the Project is located in the unincorporated part of the county about 8 km (5 mi) northwest of the northern end of the Project study area (RCIP 2003). The Project is not located within the boundaries of the Mineral Resource Zones as indicated in the MSHCP. Therefore, no impacts associated with mineral resources that would be of value to the region and the residents of the state would occur.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact: The MRZ-2 area nearest to the Project is located in the unincorporated part of the county about 8 km (5 mi) northwest of the northern end of the Project study area (RCIP 2003). The Project is not located within the boundaries of the Mineral Resource Zones as indicated in the MSHCP. Therefore, no impacts associated with mineral resources of a locally important mineral resource recovery site would occur.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE – Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

XII. NOISE – Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Potentially Significant Impact: With all Build alternatives and design options, the Project would result in future peak-hour traffic noise levels that approach or exceed the Department noise abatement criterion (NAC) of 67 A-weighted decibels (dBA). Although feasible and reasonable noise abatement measures in the form of noise barriers would be implemented for some residential areas, the noise barriers would not reduce noise levels below the NAC for exterior areas of all receivers behind the noise barriers. In addition, areas that would not have noise barriers, because of not being reasonable to build, would still experience noise levels exceeding the NAC. Furthermore, noise levels generated by construction activities and machinery during construction of the Project could exceed the local restrictions. The City of Hemet and the City of San Jacinto have established restrictions as to what time of day construction activities can occur. To meet schedule, the Project construction would need exemptions from such restrictions. Although construction activities are expected to be temporary and mitigation measures will be implemented to minimize construction noise levels, local noise criteria could be exceeded at times.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

No Impact: Operation of the Project is not expected to cause excessive groundborne vibration or noise levels. Therefore, no such impacts are expected from traffic movement on the future alignment of SR 79. During construction, pile-driving has the most potential for creating groundborne vibration. However, with the combination of distance from the nearest receivers and measures to be taken during construction, groundborne vibration would not be a disturbance.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Potentially Significant Impact: All Project alternatives and design options would realign SR 79 through areas where there is currently no highway. Therefore, as expected, ambient noise levels would increase at many noise-sensitive locations along all of the Build alternatives and design options. The Department defines a "substantial" increase in noise levels as an increase of 12 dBA or more above existing noise levels. At the noise-sensitive areas identified in the community of Winchester, future traffic noise levels with recommended noise abatement would increase up to 14 dBA with Build Alternative 1a, up to 32 dBA with Build Alternative 1b, up to 12 dBA with Build Alternative 2a, and up to 25 dBA with Build Alternative 2b.

Compared to Build Alternative 1b noise levels, future noise levels with Design Option 1b1 would be up to 4 dBA higher at the receivers in the southwestern quadrant of the intersection at Winchester Road and Newport Road, up to 3 dBA higher at homes east of future SR 79 between Newport Road and Patton Avenue, up to 2 dBA lower or higher at the residences in the vicinity of the Ranchland Road interchange, and virtually the same at the mobile homes and residences near the SR 79/Florida Avenue interchange.

Future noise levels with Design Option 2b1 would be the same or up to 4 dBA higher than noise levels with Build Alternative 2b. At most of the receiver locations along the Design Option 2b1 alignment, future traffic noise levels would substantially exceed existing noise levels.

Such increases are considered substantial by Department definition.

In the city of Hemet, future traffic noise levels with recommended noise abatement would increase up to 30 dBA with each of the Build alternatives. In the city of San Jacinto, future traffic noise levels with the recommended noise abatement would increase up to 17 dBA with Build Alternatives 1a and 2a and up to 26 dBA with Build Alternatives 1b and 2b. These increases in noise levels are considered to be substantial by Department definition.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Potentially Significant Impact: Construction would occur relatively close to noise-sensitive areas along the Project corridor. Construction noise levels at the exterior of residences in the community of Winchester are estimated to reach the mid 90-dBA range at some locations. Such noise levels would be substantially above existing ambient noise levels in the area.

Receivers closest to the Project in the western portion of the city of Hemet would be affected by noise from construction activities. These are single-family residences, horse ranches, agricultural land, and undeveloped land.

Receivers located near excavation activities could experience prolonged noise impacts from the transport of fill. Heavy trucks, bulldozers, and equipment used for placing topsoil, grading, and finishing slopes would generate noise levels ranging from 83 dBA to 95 dBA. Receivers located near the proposed interchange at SR 74 and realigned SR 79 (Build Alternatives 1a and 1b and Design Option 1b1) would experience maximum noise levels in the upper 90-dBA range. Even receivers located farther away from the Project at the Winchester Road and SR 74 intersection would experience noise levels in the low 80-dBA range. These ranges are substantially above existing ambient noise levels.

Receivers adjoining the Project in the city of San Jacinto are single-family residences, a poultry farm, and a lakeside recreational campground. Roadway excavation, involving the use of compactors, bulldozers, and scrapers, would be the noisiest construction activity in the area. Highest construction noise levels could at times reach the upper 90-dBA range. Even receivers in rural areas removed from roadway excavation activities could experience noise levels in the low 80-dBA range. Noise levels as high as 98 dBA would be experienced at receivers located near the construction of the future interchange at Cottonwood Avenue. Receivers located farther north near the intersection of Cottonwood Avenue and Sanderson Avenue could experience noise levels ranging from 74 dBA to 86 dBA. These construction noise levels would present substantial increases above existing ambient noise levels in the area.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact: The Project would not result in creation or displacement of an airport, and it would not place any individuals within an airport noise exposure area.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact: This question is not applicable to the SR 79 Realignment Project.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING – Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☒	☐	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☒	☐	☐

XIII. POPULATION AND HOUSING – Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact: The Project does not involve construction of new homes or businesses and is proposed to improve regional traffic and circulation in response to existing and projected growth. It is not expected to stimulate growth or to cause any significant impacts to growth. The Project has been closely coordinated with Riverside County and the Cities of Hemet and San Jacinto in consideration of their ongoing growth and development. The County of Riverside and the City of San Jacinto have identified policies specific to the development of an SR 79 transportation corridor (Riverside County HVWAP 7.1 and City of San Jacinto 3.1 through 3.3), and the City of San Jacinto has incorporated a Locally Preferred Alternative for the Project in its General Plan (San Jacinto 2006). Additionally, the City of Hemet has identified a Locally Preferred Alternative via resolution (Hemet 2008). Therefore, no impacts would occur.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Less Than Significant with Mitigation Incorporated: The Project could displace some residences and businesses, as shown in Table A-4 (page 39) and summarized in Table 4.2-3 (Chapter 4). However, sufficient resources would be available to provide satisfactory replacements for Project-related residential and business relocations. In addition, mitigation measure RELOC-1 would be implemented to address relocations required by the Project.

Impacts associated with relocations required as a result of the Project would be less than significant with mitigation incorporated.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Less Than Significant with Mitigation Incorporated: As shown in Table A-4, the Project would displace some residences and businesses and, therefore, some residents and employees. However, sufficient resources are

available to provide satisfactory replacements for Project-related residential and business relocations. Construction of replacement housing would not be required (Department 2006). Based on the locations of the Project alignments, the projected number of relocations, and implementation of mitigation measure RELOC-1, impacts related to the Project as a whole would be less than significant.

Table A-3 Number of Displacements by Project Alternative

Affected Environment	**Project Alternative 1a** Roadway Segments A, E, G, I, J, L, N	**Project Alternative 1b** Roadway Segments B, C, G, I, K, M, N	**Project Alternative 2a** Roadway Segments A, F, H, I, K, L, N	**Project Alternative 2b** Roadway Segments B, D, H, I, J, M, N
Residential Units				
Single Family	26	22	17	14
Multifamily	0	0	0	0
Mobile Home	16	15	22	15
Total Residential Units	42	37	39	29
Number of Residents	134	106	107	75
Commercial Units				
Retail	5	5	5	4
Nonprofit	2	1	2	1
Service	7	8	7	8
Total Commercial Units	14	14	14	13
Number of Employees	89	90	89	86
Total Units Displaced	56	51	53	42
Total Persons Displaced[a]	223	196	196	161

Source: Community Impact Assessment, August 2010, and Draft Relocation Impact Report, July 2010

[a]Some of these persons may also be residential displacements.

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☒	☐	☐
Police protection?	☐	☒	☐	☐
Schools?	☐	☒	☐	☐
Parks?	☐	☒	☐	☐
Other public facilities?	☐	☒	☐	☐

XIV. PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection and Police protection?

Less Than Significant with Mitigation Incorporated: A detailed description of fire and police services is presented in Section 3.1.5 (Volume 1, Section 3.1). Construction of the Project would be associated with traffic delays and detours that could affect emergency response times. Implementation of mitigation measures SERV-1 and SERV-2 would reduce the impacts to less than significant.

During Project operation, the completed SR 79 would provide an alternative transportation route, enabling traffic to travel longer distances at higher speeds. Although the Project also could attract higher traffic volumes, with the potential need for increased fire and police response, mitigation measure SERV-2 would reduce any potential impacts to emergency response to a less than significant level.

Schools?

Less Than Significant with Mitigation Incorporated: A detailed discussion about schools in the Project area is presented in Section 3.1.4 (Volume 1, Section 3.1). The Project would bisect school attendance areas and could disrupt access to schools, but implementation of mitigation measures COM-2 and COM-3 would reduce potential access impacts to less than significant.

Parks?

Less Than Significant with Mitigation Incorporated: Existing parks would be located adjacent to all of the Build alternatives (Ambassador Street Sports Field and Tamarisk Park), and use of these parks during construction may not be desirable due to noise and aesthetics. However, use of the parks during construction would not be physically impeded. In addition, another neighborhood park is available in the same residential area, less than 300 m (984 ft) away. Implementation of mitigation measure LU-7 would reduce these temporary impacts to a less than significant level.

Other public facilities?

Less Than Significant with Mitigation Incorporated: The Project has the potential to impede the use of bike paths and trails during both construction and operation. In addition, access to community service facilities such as daycares, retirement/assisted living centers, community centers, airports, museums, post offices, and waste disposal facilities could be affected. The Project could temporarily and permanently impact the use of several trails and bike paths during construction, as presented in Section 3.1.1.3 (Volume 1, Section 3.1). Implementation of mitigation measures COM-3 and LU-5 would reduce both the temporary and permanent impacts to a less than significant level.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☒	☐	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

XV. RECREATION

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less Than Significant with Mitigation Incorporated: Based on the nature of the Project, it would not introduce substantial numbers of new residents to the area that would increase the use of existing parks or recreation facilities.

The Project would be immediately west of a neighborhood park located along Cherry Laurel Lane (Tamarisk Park) and another adjacent to Cottonwood Avenue (Ambassador Street Sports Field). Use of these parks during construction of any one of the Build alternatives may not be desirable due to noise and aesthetics. However, the Project would not encroach onto the park property and would not impact the continued use of the parks during construction or operation. In addition, another neighborhood park is available in the same residential area, less than 300 m (984 ft) away. Implementation of minimization measure LU-7 would reduce the impacts to less than significant.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact: The Project would not require the construction of new parks or recreation facilities or the expansion of existing facilities. Therefore, no impacts would occur.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC -- Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☒	☐
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☒	☐	☐
f) Result in inadequate parking capacity?	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☒	☐

XVI. TRANSPORTATION/TRAFFIC -- Would the project:

a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

Less Than Significant Impact: Except on some portions of local roads and the current SR 79 alignment, existing roadways in the Project study area operate at Level of Service (LOS) C or better. The highest traffic volumes in the area are on Florida Avenue between Winchester Road and San Jacinto Street (where SR 79 and SR 74 are collocated). Other roadways with high daily traffic volume include portions of Sanderson Avenue, State Street, and Domenigoni Parkway. See Section 3.1.6.2 (Volume 1) for a discussion of existing conditions on local roads.

Intersections in the Project study area were analyzed under current traffic conditions. Of the 30 intersections analyzed, 8 intersections have LOS D or worse during either the morning or afternoon peak hours, or both. The remaining 22 intersections have LOS C or better in both peak hours. Impacts to traffic load and capacity during construction would be less than significant, and the Project would result in beneficial improvements. A discussion of traffic volumes and the results of intersection analyses are provided is provided in Section 4.2.1.8 for the 2035 Build Alternative.

In general, the Project will result in positive impacts on traffic. Project implementation would improve and increase capacity on SR 79 to facilitate regional movement of people and goods. Therefore, impacts would be less than significant.

b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

Less Than Significant Impact: Impacts to existing LOS during construction would be less than significant, and implementation of the Project would result in beneficial improvements to LOS and overall traffic congestion. A discussion of LOS is provided below for the proposed Build Alternative.

Build Alternatives Segment LOS

Construction of the Build Alternative would improve 10 of the 14 deficient segments from unacceptable LOS (D, E, or F) to LOS C or better. The following roadway segments will operate at LOS D or worse under the 2035 Build Alternative conditions:

- Florida Avenue between Sanderson Avenue and State Street
- Florida Avenue between State Street and San Jacinto Street
- San Jacinto Street between Menlo Avenue and Commonwealth Avenue
- Sanderson Avenue between Ramona Expressway and Gilman Springs Road

In general, the Project will result in positive impacts on traffic. Project implementation would improve LOS in the Project area. Without implementation of the Project, the Project area will operate at LOS D or worse with the projected daily volumes under the 2035 predicted volume. The traffic analysis shows that construction of the Project will improve operations on SR 79 by relieving congestion and improving intersection operations. Therefore, impacts to LOS and overall congestion from Project implementation would be less than significant.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Less Than Significant Impact: The Project would not constitute a new obstruction to navigable air space and would not create potentially significant air traffic-related impacts.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact: Design features identified for the Project are not expected to increase hazards, and all are compatible with current highway standards. In addition, the traffic analysis shows construction will improve operations and safety on SR 79 by relieving congestion and improving intersection operations. As a result, the number of accidents is anticipated to decrease following the enhanced traffic flow within the corridor.

During construction, the work area will be delineated with lane closure devices approved by Department traffic standards or other approved traffic control standards following the governing agency request, using such guidance as necessary from the *Manual of Uniform Traffic Control Devices* and *Work Area Traffic Control Handbook.*

Impacts to vehicle, pedestrian, and bicycle safety as a result of construction and operation of the proposed Project would be less than significant.

e) Result in inadequate emergency access?

Less Than Significant with Mitigation Incorporated: The Project would bisect the service areas for Hemet Fire Department (HFD) and Riverside County Fire Department (RCFD). Because California Department of Forestry and Fire operations at Ryan Air Attack Base are aerial based, the Project would not interfere with these emergency operations. The Project also would bisect the service areas for the California Highway Patrol (CHP), Hemet Police Department (HPD), and Riverside County Sheriff's Department (RCSD). In addition, the CHP would be responsible for primary patrol of realigned SR 79.

Construction of the Project would be associated with traffic delays and detours that could affect emergency response times. Implementation of mitigation measure SERV-2 would reduce the impacts to less than significant.

During Project operations, the completed SR 79 would provide an alternative transportation route enabling traffic to travel greater distances at higher speeds. Although these improvements could attract higher traffic volumes with the potential for increased fire and police response, mitigation measure SERV-1 would reduce any potential impacts to emergency response to a less than significant level.

f) Result in inadequate parking capacity?

No Impact: Project construction and operation would not create a demand for offsite parking facilities. Construction workers would park in designated areas within the Project ROW and other direct impact areas and would not utilize offsite parking facilities. Therefore, there would be no impact on parking capacity.

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

Less Than Significant Impact: The Project would be constructed as a limited access expressway with a State Route designation. Alternative transportation facilities typical of local roadways such as bus routes, turnouts, and bicycle racks would not be associated with the Project. In addition, Project crossings of existing transportation routes that support alternative transportation would be designed and constructed so as not to conflict with continued operation of these facilities. Therefore, impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☒	☐	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☒	☐	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact: Based on the nature of the Project, it would not produce wastewater requiring municipal treatment. Because wastewater treatment requirements would not be applicable to the Project, no impacts would occur. In addition, the Project would be required to comply with the storm water treatment requirements of the applicable Regional Water Quality Control Board (RWQCB) including:

- The General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 99-08-DWQ, NPDES No. CAS000002) will be acquired for most construction activities greater than 0.405 ha (1 ac), that are part of a Common Plan of Development exceeding 2 ha (5 ac), or have the potential to significantly impair water quality. At the time of writing this report, the draft of the new General Construction National Pollutant Discharge Elimination System (NPDES) Permit that will supersede 99-08-DWQ had been released for review but not finalized. A Notice of Intent (NOI) must be submitted to the State Water Board a minimum of 30 days before the start of construction. The Department Statewide Storm

Water Permit (NPDES No. CAS000003) will not be used for this project because the Department is not the lead agency for construction.

- Following construction, the Department Statewide Storm Water Permit (NPDES No. CAS000003) will be used for the operation and maintenance of the Project.

Within the San Jacinto Watershed in the Santa Ana RWQCB (Region 8), the Regional Board adopted an NPDES permit (State Water Board Order No. 01-34, NPDES No. CAG618005) for the discharge of storm water runoff from new developments exceeding 2 ha (5 ac). Until recently, this permit superseded the General Permit (NPDES No. CAS000002). On February 3, 2005, the RWQCB Santa Ana Region adopted Order No. R8-2005-0038 as an amendment to the Basin Plan, which eliminates this requirement for dischargers who implement a Water Quality Control Plan and obtain coverage under the General Permit.

If discharges result in soil disturbance in an area of 0.405 ha (1 ac) of total land area or more due to construction activity, clearing, grading, and excavation, the discharges must by law comply with the provisions of an NPDES Permit and develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). Soil disturbances of less than 0.405 ha (1 ac) do not currently require coverage under an NPDES permit and, therefore, do not require the development of an SWPPP. In such situations, however, the Department requires that a water pollution control program (WPCP) be developed. The Department may require that an SWPPP be developed in such situations should the risk to water quality be significant (Department 2007a). In all cases for this project, soil disturbances are expected to exceed 0.405 ha (1 ac), so an SWPPP will be required. Because compliance with these applicable regulations is required as a condition of permit approval by the RWQCB, impacts to water quality would be less than significant.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact: Based on the nature of the Project, it would not require the construction of new water or wastewater treatment facilities or the expansion of existing facilities. Therefore, no impacts to these types of facilities would occur.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant with Mitigation Incorporated: Storm water conveyance facilities are required as part of the Project to ensure proper drainage and maintain existing offsite water flows. The storm water conveyance facilities will maintain existing drainage patterns and prevent erosion, siltation, and flooding. However, because construction of these facilities will be conducted in accordance with applicable RWQCB requirements, including the implementation of best management practices (BMPs), this is not anticipated to result in substantial adverse impacts. Implementation of mitigation measure WQ-1 would reduce the impacts to less than significant.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less Than Significant Impact: Limited quantities of water are anticipated to be needed for dust control during construction and for irrigation during operation. Sufficient water supplies are expected to be available for these

activities. Potable water is not required for irrigation or dust control activities, and several sources of gray water (nonpotable) are available in the Project vicinity, such as from the Eastern Municipal Water District facilities. The Project would not require a permanent, municipal water supply and would not require new or expanded water entitlements. Therefore, impacts to water supplies would be less than significant.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact: Based on the nature of the Project, it would not require the use of wastewater treatment facilities. Therefore, no impacts to these types of facilities would occur.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less Than Significant with Mitigation Incorporated: Operation and maintenance of the Project is expected to produce a small amount of refuse, debris, and landscape trimmings over the life of the Project. This would not occur along the entire alignment at the same time, and the amount of material produced would represent a small contribution to the overall planned capacity at Lamb Canyon Landfill. The estimated closure date for the Lamb Canyon Landfill is the first quarter of 2023, which is 12 years before the 20-Year Design Horizon of the Project. Other disposal options would be available for the Project in the event Lamb Canyon Landfill is unavailable and/or the facility is closed before Project construction is completed. These options include disposal at other Riverside County Waste Management Department facilities or transport to a waste facility outside Riverside County. However, because the specific quantities of material requiring disposal are not known, mitigation measure COM-4 would reduce the impacts to less than significant.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact: The Project would comply with all federal, state, and local statutes and regulations related to solid waste. Therefore, no impacts would occur.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant with Mitigation Incorporated: As discussed in detail in Section IV, Biological Resources, the Project has the potential to impact areas that support sensitive natural plant communities, special-status plant and animal species, and wetland and other waters habitat. However, as previously discussed in Section IV, Biological Resources, the Project lies within the boundary of the Western Riverside County MSHCP and is defined as a Covered Project. Inclusion in the MSCHP as a Covered Project commits the Project to incorporate all required mitigation measures to ensure conservation of the species covered by the MSHCP. The Project also incorporates mitigation to address potentially significant impacts for sensitive species, habitats, and communities not covered by the MSHCP. With incorporation of mitigation, the Project's potential to significantly degrade the quality of the environment through substantial reduction of species, populations, or habitat, would be less than significant. The Project also incorporates mitigation to address potential impacts to wildlife movement, including blocking, altering, or dissuading use of existing linkages or corridors. Therefore, impacts to sensitive biological species, habitats, and populations would be less than significant.

As discussed in Section V, Cultural Resources, the Project has the potential to impact two historical resources and additional information from five archaeological sites (CA-RIV-5462, -7909H, -8156H, -8157H, and -8162/H) is required to determine California Register of Historic Places (CRHP) eligibility. However, the Project will

incorporate mitigation to address potentially significant impacts to important prehistoric and historic resources, or avoid these resources entirely. Therefore, the Project's potential to significantly impact important prehistoric and historic resources would be less than significant.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Potentially Significant Impact: As discussed in under Cumulative Impacts (see Draft EIR/EIS Section 3.6 for a detailed discussion of cumulative impacts), the assessment of Project-related direct and indirect impacts concluded that adverse cumulative effects would not be associated with the following resources:

- Land Use, including parks and recreation
- Growth
- Farmlands/Timberlands
- Community Impacts, including community cohesion, community services/ relocations, and environmental justice
- Cultural Resources (To date, cumulative impacts to cultural resources have been determined to be less than significant.)
- Utilities/Emergency Services
- Traffic and Transportation/Pedestrian and Bicycle Facilities
- Hydrology and Floodplain
- Water Quality and Storm Water Runoff
- Geology/Soils/Seismic/Topography
- Hazardous Waste/Materials
- Air Quality during operation of the Project
- Noise and Vibration
- Energy

The Project could contribute to cumulative effects as follows:

- Visual/aesthetics and community character through alteration of the visual character and quality of the San Jacinto Valley
- Air Quality during construction of the Project
- Paleontological resources through destruction and damage of these resources during excavation activities
- Species not covered in the MSHCP and wetlands and other waters through habitat removal and/or degradation

The Project would incorporate measures to minimize and mitigate Project-related impacts and to lessen the potential cumulative effects to these resources. Despite measures to address visual/aesthetics, air quality during

construction, and paleontological resources, the impacts would remain significant and, therefore, potentially cumulatively significant. However, the Project-specific mitigation for species not covered in the MSHCP and wetlands and other waters is expected to reduce the Project's contribution to potential cumulative effects to less than significant level. These conclusions are discussed in more detail below. Because cultural resources evaluations have not been completed, the cumulative impacts to historical resources cannot be fully assessed until a Preferred Alternative has been identified (see Section 3.6] for a detailed discussion of cumulative impacts). To date, cumulative impacts to cultural resources have been determined to be less than significant.

Visual/Aesthetics

The Project would incorporate specific design elements to reduce the visual effect the Project would have on its surroundings, including embankment development and design, rock weathering, and landscaping. However, due to the ongoing change to visual character in the San Jacinto Valley, the Project would contribute to the cumulative effect of declining rural and agricultural values in the San Jacinto Valley, which directly contribute to the visual character and quality of the area. This impact is considered significant.

Air Quality

The Project would incorporate both standard conditions and mitigation measures during construction to reduce the impact on air quality. The Project is located in an area designated as nonattainment of the California ozone (O_3) air quality standards, and construction of the Project would result in elevated NO_X emissions. Therefore, construction of the Project is expected to contribute to existing violations of the O_3 standards. This short-term impact would be potentially significant.

Community Character

The Project would incorporate specific design elements to reduce the effect the Project has on its surroundings, including embankment development and design, rock weathering, and landscaping. The general plans of the local jurisdictions indicate their intent to support future growth and change. Most noticeably, this has resulted in the conversion of open space and agriculture to more urban uses, such as housing developments and commercial centers. In addition, the proposed Project would realign an existing roadway in a rural area. This permanent change to the visual character and quality of the San Jacinto Valley would be a significant impact.

Paleontology

The Project would incorporate specific elements into construction and operation to avoid and/or minimize the effect of Project activities on paleontological resources, including implementation of a Paleontological Mitigation Plan (PMP). However, inadvertent discovery of previously unknown paleontological resources, with possible damage to or destruction of them, would remain a potentially significant cumulative effect.

Species Not Covered by the MSHCP

Coordination with appropriate resource agencies will identify appropriate minimization measures for impacts to the regionally significant Robinson's peppergrass after the Preferred Alternative is identified. This Project-specific mitigation would be expected to reduce the Project's contribution to potential cumulative effects to less than significant.

The Project would incorporate specific minimization measures, such as preconstruction surveys and nest exclusion, to address impacts to nesting and foraging raptors. However, due to the ongoing loss of nesting raptors in western Riverside County and Southern California, the Project would contribute to the cumulative effect of declining nesting raptor populations and reproductive success in the region.

The Project would incorporate specific mitigation measures to improve bat roosting sites and habitat. Measures would include installing a bat-friendly gate on a nearby mine adit to limit to limit human disturbance and improve the quality of this mine roost site. In addition, as part of landscape design for the Project, mature plantings of native deciduous trees would be incorporated to provide suitable habitat for vegetation-roosting bats. This Project-specific mitigation would reduce the Project's contribution to potential cumulative effects to less than significant.

Wetlands and Other Waters

The Project would create, enhance, and/or preserve wetland areas as required by state and federal permits. Permits would be based on the Preferred Alternative for the Project. The Project would incorporate engineering controls and best management practices, such as culvert design and placement and erosion control (e.g., silt fencing), to minimize altered hydrology and roadway runoff. This Project-specific mitigation is expected to reduce the Project's contribution to potential cumulative effects to less than significant.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact: Implementation of the Project would result in direct and indirect effects. The Project would be associated with short-term construction-related effects, such as air pollutant emissions, noise, and temporary disruption to recreational uses, as well as potential long-term losses of agricultural, biological, community cohesion, cultural, paleontological, and visual resources. However, the Project proposes avoidance, minimization, and mitigation measures to address these potential adverse environmental impacts. In addition, these potential impacts should be considered in concert with the long-term transportation and safety benefits to human beings associated with the Project.

Existing SR 79 serves as a commuter and interregional route linking rural areas of San Diego County to the communities of western Riverside County. The portion of SR 79 proposed for realignment also serves inter-regional traffic connecting the communities of Winchester, Hemet, and San Jacinto to Temecula and Murrieta in the south and Beaumont in the north. The use of SR 79 is changing because of widespread and rapid growth occurring in the area. The level of service (LOS) during certain periods decreases to a point that traffic demand is in excess of the capacity of the existing facility. Inadequate control of access has contributed to disorderly and inefficient movement of vehicles (Department 1992 and 1999). In addition, fatality and injury accident rates on the majority of SR 79 between Domenigoni Parkway and Gilman Springs Road are higher than the comparable statewide average. The proposed Project would serve to improve traffic conditions in the region by providing a direct and continuous north-south route with limited access between Domenigoni Parkway and Gilman Springs Road. This would allow efficient and safe movement of regional travel between these two locations.

Therefore, and due to proposed avoidance, minimization, and mitigation measures, these potential direct and indirect environmental effects to human beings would be less than significant.

Appendix B Resources Evaluated Relative to the Requirements of Section 4(f)

This section of the document discusses parks, recreational facilities, wildlife refuges and historic properties found within or adjacent to the project area that do not trigger Section 4(f) protection either because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, 4) the project does not permanently use the property and does not hinder the preservation of the property, or 5) the proximity impacts do not result in constructive use. This section also discusses 28 archaeological sites, for which Section 4(f) protection has not been made because they have not been evaluated for eligibility to the National Register of Historic Places.

The potential protected Section 4(f) resources examined were:

- 5 publicly owned parks and recreation areas
- 12 built historic resources and recreation areas
- Approximately 31 archaeological sites, consisting of 22 prehistoric archaeological sites, 6 historical archaeological sites, and 3 multicomponent archaeological sites containing both prehistoric and historical resources. This information is included in Tables B-1 and B-2.

Because the Section 106 effect finding has been deferred until after identification of the Preferred Alternative, the evaluations for the 28 archaeological resources (out of the 31 archaeological sites noted above) have been deferred until a Preferred Alternative is identified for the Project. Therefore, Section 4(f) impacts for these 28 cultural resources cannot be determined at this time. Per 23 CFR 774.13 (a)(1), the Department will evaluate and make its effect determination through consultation under 36 CFR 800.5 with the SHPO that the proposed work will not adversely affect the historic qualities of the facility that caused it to be on or eligible for the NRHP. This determination will be made after identification of the Preferred Alternative, in conjunction with SHPO concurrence with the other cultural resource consultation, prior to the Final EIR/EIS, and will be presented in the Supplemental Draft EIR/EIS.

Figure B-1, Existing State Route 79, Figure B-2, Southwestern Riverside County Multi-Species Reserve, Figure B-3, Section 4(f) Resources Analyzed, and Figure B-4, View of Existing SR 79 from the Clayton A. Record, Jr. Viewpoint, are included at the end of this appendix for reference. Meetings with the parties in responsible charge of these facilities are summarized in Appendix I. In addition, the California Department of Transportation (Department) and Riverside County Transportation Commission (RCTC) have met with the tribes to seek their input on evaluations of prehistoric sites. Representatives from the Cahuilla Band, Soboba Band, Pechanga Band, and Santa Rosa Band attended a meeting in Hemet, California, on September 14, 2009, to discuss approaches for evaluating sites from both the tribes' perspective and the archaeological perspective. Study areas were identified for each resource subject to evaluation under Section 4(f). For public parks, recreation areas, and wildlife and waterfowl refuges, the study area is 0.8 kilometer (km) (0.5 mile [mi]) beyond the Project Impact Area. Figure B-3, Section 4(f) Resources Analyzed, shows these study areas, which are hereinafter collectively referred to as the "Section 4(f) study area" or "study area."

For cultural resources, the Area of Potential Effects (APE), as defined in 36 CFR 800.16, is the area within which the undertaking has the potential to directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. The Project footprint, which includes all potential permanent and temporary impacts, encompasses approximately 686 ha (1,695 ac) and constitutes the Project's area of direct impact. The APE also includes additional areas outside the area of direct impact where potential indirect effects (visual, atmospheric, access, etc.) on archaeological and built environment properties may occur. The APE, therefore, was extended to include the entirety of archaeological sites and of legal property boundaries of all parcels containing structures, excluding portions of large rural or undeveloped parcels that had no structures. Thus the APE encompasses approximately 1,023 ha (2,527 ac).

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

Publicly Owned Parks and Recreation Areas

Parks and recreation land must be publicly owned and open to the public to qualify as a Section 4(f) resource. Privately owned parks and recreation land, even if open to the public, do not qualify as Section 4(f) resources.

Ambassador Street Sports Field

Ambassador Street Sports Field qualifies for Section 4(f) protection because it is a publicly owned recreation facility that has been officially designated by the City of San Jacinto as a park and recreation area (Appendix I). Organized and informal team sports, including soccer games and practice, are principal activities.

Facilities, Functions, and/or Activities Potentially Affected

Ambassador Street Sports Field is located southwest of the intersection of Ambassador Street and Cottonwood Avenue and northwest of the intersection of Ambassador Street and Gladiolus Way, within a neighborhood development, as shown in Figure B-3, Section 4(f) Resources Analyzed. The City of San Jacinto owns the 1.6-hectare (ha) (3.9-acre [ac]) park, which includes two sets of soccer goals, benches, and tables for spectators. Organized soccer games and team practice, as well as informal recreational play, occur in the park. During heavy rainfall, the field serves as a detention basin for storm water and temporarily disrupts access to the field for recreational uses.

There are no intersecting Project roadway segments. The closest roadway segments, L and M, would be adjacent to the park, but would not require temporary or permanent acquisition of any land in the park. Reconstruction of a short segment of Cottonwood Avenue adjacent to the sports field would also not require temporary or permanent acquisition of any land in the park.

Accessibility

Pedestrian access is available through several portals from either Ambassador Street or Gladiolus Way, and on-street parking is available along either road. There is no vehicle access onto Ambassador Street Sports Field. Ambassador Street links Cottonwood Avenue and Gladiolus Way.

Access to Ambassador Street Sports Field would be unchanged. During construction, potential users of the field coming from the west along Cottonwood Avenue may experience minor short-term inconvenience due to construction activities. These inconveniences might include temporary barriers, narrow lanes, and short-term stoppage for the movement of construction traffic. As part of standard requirements for the Project, a traffic management plan will be prepared to address access and circulation during construction. With implementation of the traffic management plan, the Project would not adversely alter access or traffic circulation along Cottonwood Avenue or Ambassador Street.

Access to Ambassador Street Sports Field will continue with or without implementation of the Project. The Build alternatives would not substantially impair access to the sports field. Therefore, the provisions of Section 4(f) are not triggered.

Visual

The Build alternatives would be visible from the Ambassador Street Sports Field, but use of the sports field is not dependent on views to or from the facility. The focus of protection for the sports field under Section 4(f) is recreation; construction and operation of the Project would not impact continued use of the facility as a sports field. The Build alternatives would not substantially impair visibility from the Ambassador Street Sports Field. Even if noise walls were installed to the west of the park and altered the views from the park, views are not important to the recreation use of the park, which is the Section 4(f) qualifying aspect. Therefore, the provisions of Section 4(f) are not triggered.

Noise

The Noise Study Report of July 2010 analyzed noise impacts to sensitive receivers within 152.4 m (500 ft) of the Project right-of-way (ROW). Construction activities would adversely impact receivers located within 76.2 m (250 ft) of the Project. The sports field would be located adjacent to the Build alternatives along the areas of minor construction on Cottonwood Avenue, within the noise study area. The closest noise receiver (1A-L2/1B-M15/2A-L9/2B-M13 – single-family residence) would be located less than 30.5 m (100 ft) to the south. The noise experienced at the residence is representative of the sports field. This receiver would experience a future noise level of 65 A-weighted decibels (dBA) with implementation of any of the four Build alternatives. While this level does not exceed the Federal Highway Administration (FHWA) noise abatement criterion of 67 dBA for this type of land use, it is a sizeable increase above existing noise levels of 50 dBA. The noise increase would not impair use of the sports field because it is used as a soccer playing and practice field. Quiet is not a criterion that is important to these uses and is not a criterion that qualified the park as a Section 4(f) property. Noise levels would not be so severe that the activities, features, or attributes that qualify the Ambassador Street Sports Field for protection under Section 4(f) are substantially impaired. Noise from construction or operation of any of the Build alternatives would not substantially impair use of the sports field. Therefore, the provisions of Section 4(f) are not triggered.

Vegetation and Wildlife

The Ambassador Street Sports Field is a fenced, mowed field located in a developed area. The analysis of vegetation and wildlife impacts provided in the Natural Environment Study (NES) of April 2010 did not identify sensitive vegetation or wildlife species within the sports field property. In addition, the activities, features, or

attributes that qualify the Ambassador Street Sports Field for protection under Section 4(f) are not related to vegetation and wildlife. Therefore, the provisions of Section 4(f) are not triggered.

Air Quality

The analysis of air quality impacts provided in the Final Air Quality Technical Report of September 2009 showed that the Project would be in conformity with localized PM_{10} and $PM_{2.5}$ requirements. It would not cause or contribute to any new localized PM_{10} or $PM_{2.5}$ violations, would not increase the frequency or severity of any existing violations of the PM_{10} or $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS), and would not delay timely attainment of the PM_{10} or $PM_{2.5}$ NAAQS.

During construction, users of the sports field could experience minor short-term (hours to days) annoyance from fugitive dust due to construction activities, but this would not be in violation of standards and would not impair use of the field. Mitigation, including compliance with applicable South Coast Air Quality Management District (SCAQMD) best available control measures (BACMs) and implementation of best management practices (BMPs) for dust control, would substantially reduce impacts from fugitive dust during construction. Air quality mitigation commitments are presented in Appendix E.

Exhaust from construction vehicles and equipment would remain temporarily adverse after mitigation. Because Project construction activities in the immediate vicinity of the field along Cottonwood Avenue would be short term and of limited intensity and more intense activities for the relocated SR 79, such as construction of the mainline, are farther removed from the field, air quality impacts of the Build alternatives would not substantially impair the use of Ambassador Street Sports Field. The attainment plan for the region incorporates the operation emissions of the Project, as demonstrated by the Project being included in the 2011 Southern California Association of Governments (SCAG) Regional Transportation Improvement Program (RTIP) and the 2012 SCAG Regional Transportation Plan (RTP). The Build alternatives would not substantially impair the activities, features, or attributes that qualify the Ambassador Street Sports Field for protection under Section 4(f). Therefore, the provisions of Section 4(f) are not triggered.

Water Quality

During large storm events, the Ambassador Street Sports Field serves as a detention basin for storm water runoff from the adjacent residential developments. Although the Project has the potential to increase pollutant loadings to local surface waterways, treatment BMPs would minimize impacts to water quality. The treatment BMP strategy is to incorporate infiltration devices, sand filters, detention devices, and/or biofiltration swales and strips as part of the Project. Appendix E provides measures to address water quality. The Build alternatives would not affect water quality to a degree that would substantially impair activities, features, or attributes that qualify the Ambassador Street Sports Field related to water quality. Therefore, the provisions of Section 4(f) are not triggered.

Tamarisk Park

Tamarisk Park qualifies for Section 4(f) protection because it is a publicly owned recreation facility that has been officially designated by the City of San Jacinto as a park and recreation area (Appendix I). Active community sports, such as basketball games, are a primary activity.

Facilities, Functions, and/or Activities Potentially Affected

Tamarisk Park is located northwest of the corner of Cherry Laurel Lane and Coffeeberry Lane, within a residential neighborhood in San Jacinto, as shown in Figure B-3, Section 4(f) Resources Analyzed. The City of San Jacinto owns the 1.5 ha (3.7 ac) park, which includes a basketball court, sports field, playground for small children, picnic tables, and benches.

There are no intersecting roadway segments. The closest roadway segments, L and M (7.3 m [24 feet] away), would not require temporary or permanent acquisition of any land in the park. Reconstruction of a short segment of Cottonwood Avenue north of the park would also not require temporary or permanent acquisition of any land in the park.

Accessibility

Pedestrian access to Tamarisk Park is available from either Cherry Laurel Lane or Coffeeberry Lane, where a pullout parking area is available. Vehicular access to both Cherry Laurel Lane and Coffeeberry Lane is available from Centre Grove Way, which links to Cottonwood Avenue to the north.

Access to Tamarisk Park would be unchanged, although potential users of the park coming from the west along Cottonwood Avenue could experience minor short-term inconvenience due to construction activities (e.g., park users driving on Cottonwood Avenue might need to share the road with construction traffic, a minor short-term inconvenience). As part of standard requirements for the Project, a traffic management plan will be prepared to address access and circulation during construction. With implementation of the traffic management plan, the Project would not adversely alter access or traffic circulation along Cottonwood Avenue or other streets that access Tamarisk Park. Therefore, the Build alternatives would not substantially impair access to the park.

Visual

The Build alternatives would be visible from Tamarisk Park, but use of the park is not dependent on views to or from the facility. The park is used for recreation; construction and operation of the Project would not impair the activities, features, or attributes that qualify the park for Section 4(f) protection, nor would they impact continued use of the facility for recreation. The Build alternatives would not substantially impair visibility from Tamarisk Park. Therefore, the provisions of Section 4(f) are not triggered.

Noise

The Noise Study Report analyzed noise impacts to sensitive receivers within 152.4 m (500 ft) of the Project ROW. Construction activities would adversely impact receivers located within 76.2 m (250 ft) of the Project. The park would be located adjacent to the Build alternatives along the areas of minor construction on Cottonwood Avenue, within the noise study area. The closest noise receiver (1A L2/1B M15/2A-L9/2B-M13 – single-family residence) would be located less than 30.5 m (100 ft) to the south. Due to proximity, the noise experienced at the residence would be representative of the park. This receiver would experience a future noise level of 65 dBA with implementation of any of the four Build alternatives. Although this level does not exceed the FHWA noise abatement criterion of 67 dBA for this type of land use, it is a substantial increase above existing noise levels, measured at 50 dBA. However, noise levels are not so severe that the activities, features, or attributes that qualify Tamarisk Park for protection under Section 4(f) would be so substantially impaired that the value of the park in

terms of Section 4(f) significance would be meaningfully reduced or lost. Noise from construction or operation of any of the Build alternatives would not substantially impair use of the park. Therefore, the provisions of Section 4(f) are not triggered.

Vegetation and Wildlife

Tamarisk Park is located in a developed area, and the analysis of vegetation and wildlife impacts provided in the NES did not identify sensitive vegetation or wildlife species in the park. In addition, the focus of protection for the park under Section 4(f) is primarily recreation; vegetation and wildlife do not affect use of the park. The Build alternatives would not substantially impair the park related to vegetation and wildlife. Therefore, the provisions of Section 4(f) are not triggered.

Air Quality

The analysis of air quality impacts provided in the Final Air Quality Technical Report showed that the Project would be in conformity with localized PM_{10} and $PM_{2.5}$ requirements. It would not to cause or contribute to any new localized PM_{10} or $PM_{2.5}$ violations, would not increase the frequency or severity of any existing violations of the PM_{10} or $PM_{2.5}$ NAAQS, and would not delay timely attainment of the PM_{10} or $PM_{2.5}$ NAAQS.

During construction, users of the park could experience minor short-term annoyance from fugitive dust due to construction activities, but this would not be in violation of standards and would not impair use of the park or affect the activities, features, or attributes that qualify the property for protection under Section 4(f). Further, mitigation, such as compliance with applicable SCAQMD BACMs and implementation of BMPs for dust control, would substantially reduce impacts from fugitive dust during construction. Air quality mitigation commitments are presented in Appendix E.

Exhaust from construction vehicles and equipment would remain temporarily adverse after mitigation. The Build alternatives would not substantially impair Tamarisk Park because construction activities would be short term. The attainment plan for the region incorporates operation emissions of the Project, as demonstrated by the Project being included in the 2011 SCAG RTIP and 2012 SCAG RTP.

The Build alternatives would not substantially impair air quality at Tamarisk Park. Therefore, the provisions of Section 4(f) are not triggered.

Water Quality

Tamarisk Park is not associated with water resources that the Project could impact. The Build alternatives would not substantially impair the park related to water quality. Therefore, the provisions of Section 4(f) are not triggered.

Winchester Park/Francis Domenigoni Community Center

Winchester Park qualifies for Section 4(f) protection because it is a publicly owned recreation facility that has been officially designated by the Valley-Wide Recreation and Park District as a park and recreation area (Appendix I). Outside activities that contribute to the park qualifying for Section 4(f) status include baseball, tennis, softball, soccer, and basketball. The Francis Domenigoni Community Center is an indoor center that includes a variety of additional recreation activities.

Facilities, Functions, and/or Activities Potentially Affected

Winchester Park is a 7.1-ha (17.5-ac) facility located at 32665 Haddock Street in Winchester, as shown in Figure B-3, Section 4(f) Resources Analyzed. The Francis Domenigoni Community Center is a 1,161.29-square-meter (12,500-square-foot) facility located in park. The Valley-Wide Recreation and Park District, a public agency governed by an elected five-member board of directors, owns the park and community center. The park includes three lighted baseball diamonds, two soccer fields, one tennis court, an outdoor basketball court, picnic grounds, play area, and a parking lot. The community center is a multiuse facility used for classes in subjects such as crafts, dance, traffic school, exercise, and martial arts.

There would be no intersecting roadway segments, and the Project would not require temporary or permanent acquisition of any land. At its closest point to the Project, the facility would be approximately 305 m (1,000 ft) from Build Alternatives 1a and 2a and approximately 975 m (3,198 ft) from Build Alternatives 1b and 2b.

Accessibility

Vehicular and pedestrian access to the community center is from Haddock Street and would be unaffected by the Project. Modifying the alignment of SR 79 would alter regional access to the Haddock Street, but this should have no substantial impact on either the park or users of the facility. In addition, as part of standard requirements for the Project, a traffic management plan will be prepared to address access and circulation during construction. The Build alternatives would not substantially impair access to the park or the community center. Therefore, the provisions of Section 4(f) are not triggered.

Visual

Build Alternatives 1a and 2a would be visible from the Francis Domenigoni Community Center. Build Alternatives 1b and 2b also could be visible, but to a lesser extent, given their distance from the community center. In either case, the effect would not be substantial. Despite views of the Project afforded from the community center, the focus of protection for the park and community center is primarily recreation and is not related to views from the facility. In addition, use of the park or community center is not dependent on views to or from the Project. Therefore, the provisions of Section 4(f) are not triggered.

Noise

The Noise Study Report analyzed noise impacts to sensitive receivers within 152.4 m (500 ft) of the Project ROW. Adverse impacts during construction could affect receivers located within 76.2 m (250 ft) of the Project. The closest segment, Roadway Segment A, would be approximately 228.6 m (750 ft) from the park and outside the noise study area. The closest noise receiver (1A-A7/2A-A4 – Winchester Elementary School) would be located less than 30.5 m (100 ft) to the east. The noise level experienced at Winchester Elementary School would be representative of the level that would be experienced at the park/community center because the school would be closer to the Project. This school location would experience a future noise level of 71 dBA due to its proximity to Build Alternatives 1a and 2a. This exceeds the FHWA noise abatement criterion of 67 dBA for this type of land use. The noise abatement evaluation for Build Alternatives 1a and 2a determined that a barrier (1A-E1/2A-F1) 151 m (495 ft) long and 2.4 m (8 ft) high is both feasible and reasonable to abate noise impacts in this area, including potential impacts to the park/community center. Calculations based on preliminary design data indicate that barriers at these heights would reduce noise levels by 5 to 7 dBA. Because a noise barrier would abate noise

impacts, these alternatives are not expected to produce future noise levels in excess of the FHWA noise abatement criteria. The park is used for relatively robust activities (e.g., softball, baseball, tennis, basketball), and a quiet is setting is not an attribute that qualifies the property as a Section 4(f) resource. The forecast 71 dBA (without abatement) noise levels associated with the Build alternatives would not be sufficiently loud to limit the number, frequency, or enjoyment of the activities, features, or attributes that qualify Winchester Park and Francis Domenigoni Community Center for protection under Section 4(f). Noise levels of 64 dBA to 66 dBA (with abatement) would result in a lesser impact. There would be no substantial impairment to the park/community center related to noise. Therefore, the provisions of Section 4(f) are not triggered.

Vegetation and Wildlife

Winchester Park is an irrigated and managed lawn located within a developed area. The analysis of vegetation and wildlife impacts provided in the NES did not identify sensitive vegetation or wildlife species on the property. Vegetation and wildlife are not a focus the facility; the focus is recreation. The Build alternatives would not substantially impair the vegetation and wildlife related to the park or community center, and the vegetation and wildlife are not factors that qualify Winchester Park and Francis Domenigoni Community Center for protection under Section 4(f). Therefore, the provisions of Section 4(f) are not triggered.

Air Quality

The analysis of air quality impacts provided in the Final Air Quality Technical Report showed that the Project would be in conformity with localized PM_{10} and $PM_{2.5}$ requirements. It would not cause or contribute to any new localized PM_{10} or $PM_{2.5}$ violations, would not increase the frequency or severity of any existing violations of the PM_{10} or $PM_{2.5}$ NAAQS, and would not delay timely attainment of the PM_{10} or $PM_{2.5}$ NAAQS.

Even during construction, users of the park are unlikely to experience annoyance from fugitive dust due to the distance from the Project activities, which would be more than 225 m (750 ft) from Build Alternatives 1a and 2a and more than 975 m (3,200 ft) from Build Alternatives 1b and 2b. Beyond the effect of distance, mitigation, such as compliance with applicable SCAQMD BACMs and implementation of BMPs for dust control, would substantially reduce impacts from fugitive dust during construction. Air quality mitigation commitments are presented in Appendix E.

Because Project construction activities would be short term and some distance from Winchester Park, the Build alternatives would not substantially impair the activities, features, or attributes that qualify Winchester Park and Francis Domenigoni Community Center for protection under Section 4(f). The attainment plan for the region incorporates operation emissions of the Project, as demonstrated by the Project being included in the 2011 SCAG RTIP and 2012 SCAG RTP. Project operation would not contribute to an exceedance of CO, $PM_{2.5}$, or PM_{10} standards. Air quality effects related to the Build alternatives would not substantially impair use of the park or the community center. Therefore, the provisions of Section 4(f) are not triggered.

Water Quality

Winchester Park/Francis Domenigoni Community Center is not associated with water resources that the Project could impact. The Build alternatives would not substantially impair water quality resources related to the

activities, features, or attributes that qualify Winchester Park and Francis Domenigoni Community Center for protection under Section 4(f). Therefore, the provisions of Section 4(f) are not triggered.

Diamond Valley Lake Recreation Area

Diamond Valley Lake Recreation Area is a public property being developed as a recreation area. The recreation area surrounds a major water storage area. Current facilities that qualify the property for Section 4(f) protection are North Hills Trail, a pedestrian/equestrian facility, and Clayton A. Record, Jr. Viewpoint. All facilities are outside the Section 4(f) study area.

Facilities, Functions, and/or Activities Potentially Affected

Diamond Valley Lake is a public property operated by the Metropolitan Water District of Southern California (MWD). The primary purpose of the lake is as a major water storage area for Southern California. MWD, in partnership with a public agency, Valley-Wide Recreation and Park District, is developing recreation amenities around the lake. These include a marina, aquatic center, shoreline fishing area, and a trail system that runs through the hills that surround the lake. Clayton A. Record, Jr. Viewpoint is located on the northwestern edge of Diamond Valley Lake and provides panoramic views of the lake and surrounding countryside, including Mount San Jacinto and Mount San Gorgonio. North Hills Trail, a pedestrian/equestrian facility, is located in the hills north of Diamond Valley Lake, as shown in Figure B-3, Section 4(f) Resources Analyzed. Parking for vehicles and horse trailers, picnic, and restroom facilities are available at the North Hills West Trailhead.

The viewpoint would be approximately 1,127 meters (3,700 feet) from the limits of the easternmost construction area on East Newport Road and 1,645 meters (5,400 feet) from Roadway Segments A and B. The existing SR 79 is a minor feature visible in the distance from the viewpoint. Two benches at the viewpoint are both orientated toward the lake, which is the dominant feature of the area. Figure B-4 is a view from the viewpoint toward the west and existing SR 79. SR 79 runs across the image from left to right in the approximate center of the photo. The grounds of the Winchester Swap Meet, northeast of the intersection of existing SR 79 and East Newport Road, are more clearly visible from the viewpoint than the roadway features are.

The North Hills Trail is a 9.6-km (6-mi) -long pedestrian and equestrian trail that connects two 2-hectare (5-acre) trailheads at the northwestern and northeastern ends of Diamond Valley Lake. At its closest point to the Project, the North Hills West Trailhead would be approximately 259 meters (850 feet) southeast of Roadway Segment B. The trailhead includes parking for automobiles, pickups, and horse trailers. Other than providing access to the North Hills Trail, the trailhead and associated parking area are not features that add to the value of the trail in terms of Section 4(f) significance.

Accessibility

Access to the viewpoint and trail facilities off SR 79 is via East Newport Road to Construction Road. Construction of the new interchange at East Newport Road and SR 79 and whatever reconstruction would be necessary along East Newport Road could prove a minor inconvenience to users of the facilities whose progress might be slowed by construction traffic or activities for a moment, but would not limit access. As part of standard requirements for the Project, a traffic management plan will be prepared to address access and circulation during construction. With implementation of the traffic management plan, the Project would not alter access or traffic

circulation along East Newport Road or its intersection with SR 79/Winchester Road. The Build alternatives would not substantially impair access to the viewpoint or the trail. Therefore, the provisions of Section 4(f) are not triggered.

Visual

Portions of the Project and the altered landscape of the Project would be visible from the viewpoint and the North Hills Trail.

The Project would replace the existing four-lane undivided SR 79 and the at-grade intersection at East Newport Road with a four-lane divided highway and a bridge to carry East Newport Road over the realigned SR 79. With Build Alternatives 1a and 2a, the realigned SR 79 would be on the same alignment as the existing SR 79. With Build Alternatives 1b and 2b (including Design Options 1b1 and 2b1), the realigned SR 79 would be about 152.4 m (500 ft) east of the existing alignment.

From the viewpoint, the roadway would be comparable to the existing roadway. The bridge would be an additional man-made feature in the viewshed visible from the viewpoint. While visible, distance would minimize the impact of the bridge (see EIR/EIS Section 3.1.7, Visual/Aesthetics, and Figures 3.1-44 and 3.1-45 [Volume 1, Section 3.1]). The change in the view would affect only a small segment of the 360-degree panorama and would be in the direction away from views of the lake. This change would not be sufficient to limit the number, frequency, or enjoyment of the viewpoint. The change would not be so severe that the activities, features, or attributes that qualify the viewpoint as a Section 4(f) resource would be substantially impaired so that the value of the viewpoint in terms of Section 4(f) significance would be meaningfully reduced or lost. Therefore, the provisions of Section 4(f) are not triggered.

The highway improvements would also be visible from the trailhead and parking area, as is the existing highway. Once the trail leaves the parking area and proceeds east, features of the realigned SR 79 would be shielded behind existing terrain features and the limited change in elevation. The parking area is used for loading and unloading horse trailers, bicycles, and vehicles. The viewshed from the trailhead is not an attribute that qualifies the North Hills Trail as a Section 4(f) resource, and the limited change that would occur would not affect the recreation activities that qualify the North Hills Trail as a Section 4(f) property. Therefore, the provisions of Section 4(f) are not triggered.

Noise

The Noise Study Report analyzed noise impacts to sensitive receivers within 152.4 m (500 ft) of the Project ROW. Construction would adversely affect receivers located within 76.2 m (250 ft) of the Project. The viewpoint would be more than 1,645 m (5,400 ft) from the Build alternatives and outside the noise study area. The closest receiver to the viewpoint within the noise study area would be located approximately 1 km (0.6 mi) to the west (1A-A13/1B-B4/2A-A14/2B-B3 – single-family residence). The noise forecast at that location would not exceed the FHWA noise abatement criteria. Given that the viewpoint is located farther away from the Project than the closest representative receiver, noise would not adversely affect use of the viewpoint during construction or operation of the Project. Any project noise that might reach the viewpoint would not be sufficiently loud to substantially impair the value of the viewpoint in terms of its Section 4(f) significance. Therefore, the provisions of Section 4(f) are not triggered.

The closest receiver to the North Hills Trail is approximately 0.6 km (0.4 mi) to the south (1A-A13/1B-B4/ 2A-A14/2B-B3 – single-family residence). The noise forecast at the residence would not exceed the FHWA noise abatement criteria. Given that the trail would be farther from the Project than from this receiver that would not be adversely affected, noise would not adversely affect use of the trail during construction or operation of the Project. Noise impacts that might occur are not so severe that the activities that qualify the trailhead for Section 4(f) significance would be substantially impaired. Therefore, the provisions of Section 4(f) are not triggered.

Vegetation and Wildlife

The analysis of vegetation and wildlife impacts provided in the NES reported that direct and indirect biological impacts would be limited to study areas defined for wetlands and other waters of the United States, plant species, fairy shrimp, natural communities, sensitive animal species, and wildlife movement. The entire Diamond Valley Lake Recreation Area, including the Clayton A. Record, Jr. Viewpoint and the North Hills Trail, are located outside the biological study areas. The Build alternatives would not substantially impair the vegetation and wildlife related to the recreation area. Therefore, the provisions of Section 4(f) are not triggered.

Air Quality

The analysis of air quality impacts provided in the Final Air Quality Technical Report showed that the Project would be in conformity with localized PM_{10} and $PM_{2.5}$ requirements. It would not cause or contribute to any new localized PM_{10} or $PM_{2.5}$ violations, would not increase the frequency or severity of any existing violations of the PM_{10} or $PM_{2.5}$ NAAQS, and would not delay timely attainment of the PM_{10} or $PM_{2.5}$ NAAQS.

Even during construction, users of the recreation area are unlikely to experience annoyance from fugitive dust due to the distance from the Project activities. Beyond the effect of distance, mitigation, such as compliance with applicable SCAQMD BACMs and implementation of BMPs for dust control, would substantially reduce impacts from fugitive dust during construction. Air quality mitigation commitments are presented in Appendix E.

Because Project construction activities would be short term and some distance from Diamond Valley Lake Recreation Area, the Build alternatives would not substantially impair use of the viewpoint, the trail, or the remainder of the recreation area.

The Project is included in the 2011 SCAG RTIP and 2012 SCAG RTP; therefore, operation emissions are incorporated in the attainment plan for the region. Project operation would not result in an exceedance of CO, $PM_{2.5}$, or PM_{10} standards. The Build alternatives would not substantially impair the use of the viewpoint, the trail, or the remainder of the recreation area. Therefore, the provisions of Section 4(f) are not triggered.

Water Quality

The Final Water Quality Assessment Report of May 2008 concluded that construction and operation of the Build alternatives would not result in adverse water quality impacts with the implementation of BMPs, such as compliance with applicable water quality regulations, revegetation, slope stabilization, and water treatment facilities. Appendix E summarizes measures to address water quality. The Build alternatives would not substantially impair water quality at the viewpoint, the trail, or the remainder of the recreation area. Therefore, the provisions of Section 4(f) are not triggered.

Other Park/Recreation Areas Examined

Trails, paths, bikeways, and sidewalks that are primarily used for transportation generally do not meet the definition of a recreation area protected by Section 4(f). Section 4(f) would normally apply to bikeways (or portions thereof) designated or functioning primarily for recreation. If the recreational bikeway is simply described as occupying the highway rights-of-way and is not limited to any specific location within that right-of-way, a "use" of land would not occur (i.e., Section 4(f) would not apply), provided that adjustments or changes in the alignment of the highway or bikeway would not substantially impair the continuity of the bikeway.

The bikeways that intersect the Build alternatives are designated in the transportation elements of the general plans of the City of Helmet, the City of San Jacinto, or Riverside County and primarily qualify as part of the transportation network. They do not qualify as recreation facilities that would be covered by Section 4(f). Verbal information provided by the City of Helmet, the City of San Jacinto, or Riverside County confirms that the bike paths are part of the local transportation system and function primarily for transportation (Appendix I). Therefore, the provisions of Section 4(f) are not triggered.

Like bike paths, trails located within the ROW would not meet the requirements of recreation areas. Trails that intersect the Build alternatives occupy the ROWs of roadways and are not limited to any specific location within the ROW. Therefore, the provisions of Section 4(f) are not triggered.

The Southwestern Riverside County Multi-Species Reserve would be approximately one-quarter mile from Roadway Segment B, the closest location. No roadway segment would impact the reserve or come closer than one-quarter mile. The potential for the reserve to qualify as a Section 4(f) property was the subject of a meeting with the Riverside County Habitat Conservation Agency, a member of the Reserve Management Committee that directs actions of the reserve by unanimous vote. A summary of the meeting is included in Appendix I and indicates that the reserve is not part of a wildlife refuge. Therefore, the provisions of Section 4(f) are not triggered.

Potential Historic Properties

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act (49 USC 303), which regulates the “use” of land from historic properties. Under Section 4(f), actual use is the most common application of Section 4(f). As the term implies, the action involves the actual use of Section 4(f) lands by permanent incorporation of such lands into a transportation facility. Historic sites on or eligible for the National Register of Historic Places (NRHP) and archaeological sites on or eligible for the NRHP and which warrant preservation in place as determined by the Department and the official(s) with jurisdiction would classify as potential Section 4(f) resources. For historic properties, the official with jurisdiction would be the California State Historic Preservation Officer (SHPO).

Of the 12 properties evaluated below, 11 were determined to be ineligible for the NRHP and do not fall under the Section 4(f) criteria. One, the Colorado River Aqueduct (CRA [CA-RIV-6726H]), was determined to be eligible for listing on the NRHP, qualifying as a potential Section 4(f) resource. Another, the CBJ Dairy (P-33-15752), as well as 10 other resources, was determined ineligible for listing on the NRHP (see the SHPO concurrence letter at the end of Chapter 5).

Table B-1 Table of Built Cultural Resources

Name	Community	NRHP Eligible	Section 4(f) Applicability
Colorado River Aqueduct	San Jacinto, CA	Yes. It is eligible under Criterion A as a driving and enabling force for the economic development of Southern California, and under Criterion C as a marvel of civil engineering.	Yes, resource is on or eligible for the NRHP. In addition, it is anticipated that an actual use would occur under the criteria for Section 4(f).
Second San Diego Aqueduct Canal	San Jacinto, CA	No. The property is just one of many other similar properties constructed during the second half of the twentieth century. It is not significant in terms of the State Water Project.	No, resource is not on or eligible for the NRHP.
San Jacinto Valley Railway	San Jacinto, CA	No. The railway is a common spur line intended to serve a local community for transporting agricultural products.	No, resource is not on or eligible for the NRHP.
Vanderlinden Property	Hemet, CA	No. The property does not retain sufficient integrity to warrant listing in the NRHP.	No, resource is not on or eligible for the NRHP.
Reflection Lake Recreational Vehicle Resort	San Jacinto, CA	No. The property does not retain sufficient integrity to warrant listing in the NRHP.	No, resource is not on or eligible for the NRHP.
Shannon Drive Property	Winchester, CA	No. The property does not appear to be significant within the agricultural context of the area.	No, resource is not on or eligible for the NRHP.
Haddock Street Property	Winchester, CA	No. The property does not qualify as eligible under the four criteria. It is a vernacular structure and there is no important association with people or events in the region.	No, resource is not on or eligible for the NRHP.
Ramona Boulevard Property	San Jacinto, CA	No. The property does not appear to be significant within the context of agricultural development in the area.	No, resource is not on or eligible for the NRHP.
Braswell Property	San Jacinto, CA	No. The property does not appear to be significant within the agricultural context of the area.	No, resource is not on or eligible for the NRHP.
Bidondo Property	Hemet, CA	No. The property does not appear to be significant within the agricultural context of the area.	No, resource is not on or eligible for the NRHP.
Wilhelm Ranch	Hemet, CA	No. The property does not retain sufficient integrity to warrant listing on the NRHP.	No, resource is not on or eligible for the NRHP.
CBJ Dairy	San Jacinto, CA	No. The property does not retain sufficient integrity to warrant listing on the NRHP.	No, resource is not on or eligible for the NRHP.

Currently, the CRA is the only historic property (determined through compliance with the National Historic Preservation Act (NHPA) Section 106 process) known to qualify as a Section 4(f) historic site. The Project is not expected to have an adverse effect on the CRA. In accordance with 23 CFR 774.11e, this historic property is considered to be subject to the applicability of Section 4(f) to historic sites. However, per 23 CFR 774.13 (a)(1), the Department will make the determination through consultation under 36 CFR 800.5 with the SHPO that the proposed work will not adversely affect the historic qualities of the facility that caused it to be on or eligible for the NRHP. This determination will be made after the identification of the Preferred Alternative, in conjunction with SHPO concurrence with the other cultural resource consultation, prior to the Final EIR/EIS.

In addition, the Department notified the SHPO by letter dated May 20, 2008, that the Project would phase the evaluation stage of the Section 106 process, as allowed for in 36 CFR 800.4(b)(2) and 800.5(a)(3) and Section XII of the Programmatic Agreement (PA) between the Advisory Council on Historic Preservation, Federal Highway

Administration (FHWA), SHPO, and the Department. SHPO was also notified on June 24, 2010, that a supplemental Historic Property Survey Report (HPSR) would be submitted after the identification of the Preferred Alternative that would discuss and evaluate the remaining prehistoric and/or historical archaeological sites within the APE, possibly warranting additional Section 4(f) discussion. As part of the project development for this project it was determined by the Department and RCTC that the required Phase II archaeological excavations and associated cultural landscape/historic district analysis of 28 sites to further document the potential impacts will be completed between the Draft and Final EIR/EIS after the identification of the Preferred Alternative, in order to reduce the amount of disruption and impact to potentially sensitive sites.

In order for an unevaluated archaeological site within the APE to qualify as a Section 4(f) historic site, it must be eligible for the NRHP under Criteria A, B, or C. Section 4(f) does not apply to archaeological resources that are important chiefly because of what can be learned from data recovery and, thus, have minimal value for preservation in place (usually considered eligible under Criterion D) (23 CFR 774.13[b][1]). Table B-2 includes the identification of sites that would be evaluated as a part of a historic district. If the evaluation results in an NRHP-eligible historic district/cultural landscape under Criteria A, B, or C that includes one or more of these archaeological sites as contributing elements, then it is possible that those sites might be protected resources under Section 4(f). Please refer to Chapter 3, Section 3.1.8.3 (Volume 1) for additional discussion regarding potential cultural resources.

After completion of the Phase II technical study and evaluation, the Department and RCTC will circulate the revised Cultural Resources section and Appendix B of this Draft EIR/EIS, in order to meet our commitments of public comments and disclosure on the potential impacts to Section 4(f) resources if applicable (i.e., that the resource triggers the requirements of Section 4(f), such as actual use). The appropriate sections of the EIR/EIS will be revised accordingly based on our findings and coordination with SHPO. Circulation of these revised sections would occur after public comment on the Draft EIR/EIS but before the Final EIR/EIS, which would include the findings from the circulation of the revised sections.

Currently, out of the identified 31 archaeological resources in the APE, three sites were evaluated for the NRHP, CA-RIV-1418H, CA-RIV-6907/H, and CA-RIV-8158H. The two historical sites (CA-RIV-1418H and CA-RIV-8158H) were evaluated without testing and determined not eligible for NRHP listing. The intact portion of CA-RIV-6907/H (multicomponent site consisting of 26 outcrops with 50 milling slicks, a lithic scatter, a dry-laid rock wall, granite quarrying activities, and bottle fragments), to the north of the Project Impact Area (PIA), would be protected and is presumed to be a historic property eligible for the NRHP for the purposes of this Project, but will not be evaluated under Section 106. These components of the site are well outside the PIA. The site within the PIA has been subject to destruction by the construction of Domenigoni Parkway west of SR 79, completed in December 2007, and the portion within the PIA is no longer viable for data recovery. Therefore, there is no Section 4(f) use that would trigger the Section 4(f) criteria.

Table B-2 Summary of Potential Project-Related Impacts to Known Resources

Trinomial (CA-RIV-)	Site Type	Build Alternatives (Design Options)	Integrity	Data Potential	NRHP Eligible[a]
1418H	Rock retaining wall	1a, 2a	Moderately impaired	Historical settlement	No
5461	3 outcrops, 9 slicks, one milling slab	1a, 1b (1b1), 2a, 2b, (2b1)	Moderately impaired	Prehistoric subsistence	Section 106 Evaluation if 1a, 1b (1b1), 2a, 2b, (2b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
5462	9 outcrops with 18 slicks	1a, 1b (1b1), 2a, 2b, (2b1)	Moderately impaired	Prehistoric subsistence; technology	Section 106 Evaluation if 1a, 1b (1b1), 2a, 2b, (2b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
5786	Prehistoric burial and associated accoutrements. Data recovery undertaken (1995); impacts were mitigated	1a , 2a	Severely impaired	Prehistoric settlement, chronology, mortuary practices	Section 106 Evaluation if 1a, 2a identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
5790	2 outcrops with 2 slicks	1a, 2a	Moderately impaired	Prehistoric subsistence	Section 106 Evaluation if 1a, 2a identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
5791	5 outcrops/exposures with 9 slicks	1a, 2a	Retained	Prehistoric subsistence	Section 106 Evaluation if 1a, 2a identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
5829/H	Paved road and several refuse deposits; 3 bedrock outcrops/exposures with 5 milling slicks	1a, 2a	Moderately impaired	Prehistoric subsistence, historical development of transportation systems	Section 106 Evaluation if 1a, 2a identified as Preferred Alternative. Prehistoric component may be evaluated as contributor to a historic district.
5830	2 outcrops with 2 slicks	1a, 2a	Moderately impaired	Prehistoric subsistence	Section 106 Evaluation if 1a, 2a identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
6907/H	26 outcrops with 50 milling slicks, complex lithic scatter; rock wall, granite quarrying, 2 bottle fragments	1a, 2a	Moderately impaired	Prehistoric settlement and subsistence; historical settlement, economic patterns	Per Section 106 PA, Stipulation VIII.C.3, site considered eligible for purposes of undertaking and protected by establishment of Environmentally Sensitive Area
7885	1 outcrop with 1 slick	1a, 1b, (1b1)	Minimally impaired	Prehistoric subsistence	Section 106 Evaluation if 1a, 1b, (1b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
7887	1 outcrop with 1 slick	1a, 1b, (1b1)	Impaired	Prehistoric subsistence	Section 106 Evaluation if 1a, 1b, (1b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.

Table B-2 Summary of Potential Project-Related Impacts to Known Resources

Trinomial (CA-RIV-)	Site Type	Build Alternatives (Design Options)	Integrity	Data Potential	NRHP Eligible[a]
7888	4 outcrops with 5 slicks	2a, 2b, (2b1)	Retained	Prehistoric subsistence	Section 106 Evaluation if 2a, 2b, (2b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
7891	2 outcrops with 3 slicks	2a, 2b, (2b1)	Minimally to moderately impaired	Prehistoric subsistence	Section 106 Evaluation if 2a, 2b, (2b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
7893	2 outcrops with 2 slicks	1a, 1b, (1b1)	Minimally impaired	Prehistoric subsistence	Section 106 Evaluation if 1a, 1b, (1b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
7894/H	2 outcrops with 2 slicks; historical refuse scatters	2a, 2b, (2b1)	Retained (prehistoric component); moderately impaired (historical component)	Prehistoric subsistence; historical settlement, chronology	Section 106 Evaluation if 2a, 2b, (2b1) identified as Preferred Alternative. Prehistoric component may be evaluated as contributor to a historic district.
7907	8 outcrops with 13 slicks	1a, 2a	Moderately impaired	Prehistoric subsistence	Section 106 Evaluation if 1a, 2a identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
7908	6 outcrops with 8 slicks	1a, 2a	Retained	Prehistoric subsistence	Section 106 Evaluation if 1a, 2a identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
7909H	Oiled road surface, concrete rubble, landscaping	1a, 1b, (1b1), 2a, 2b, (2b1)	Impaired	Historical settlement	Section 106 Evaluation if 1a, 1b, (1b1), 2a, 2b, (2b1) identified as Preferred Alternative.
8140	2 outcrops with 4 slicks	1b, 2b, (2b1)	Moderately impaired	Prehistoric subsistence	Section 106 Evaluation if 1b, 2b, (2b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
8141	6 outcrops with 6 slicks	1b, 2b, (2b1)	Moderately impaired	Prehistoric subsistence	Section 106 Evaluation if 1b, 2b, (2b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
8142	2 outcrops and 1 granite exposure with 5 slicks	1b, 2b, (2b1)	Moderately impaired	Prehistoric subsistence	Section 106 Evaluation if 1b, 2b, (2b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
8143	3 outcrops with 4 slicks	1b, 2b, (2b1)	Minimally to moderately impaired	Prehistoric subsistence	Section 106 Evaluation if 1b, 2b, (2b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
8146	2 outcrops with 3 slicks	1a, 2a	Retained	Prehistoric subsistence	Section 106 Evaluation if 1a, 2a identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.

Table B-2 Summary of Potential Project-Related Impacts to Known Resources

Trinomial (CA-RIV-)	Site Type	Build Alternatives (Design Options)	Integrity	Data Potential	NRHP Eligible[a]
8147	1 outcrop with 2 slicks	1b, (1b1), 2b, (2b1)	Moderately impaired	Prehistoric subsistence	Section 106 Evaluation if 1b, (1b1), 2b, (2b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
8148	1 outcrop with 15 slicks	1b, (1b1), 2b, (2b1)	Retained	Prehistoric subsistence	Section 106 Evaluation if 1b, (1b1), 2b, (2b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
8156H	Refuse scatter	1a, 2b, (2b1)	Moderately impaired	Historical settlement, chronology	Section 106 Evaluation if 1a, 2b, (2b1) identified as Preferred Alternative.
8157H	Potential remnants of 1901 structure, rock alignments, landscaping	1a, 2a	Impaired	Historical settlement	Section 106 Evaluation if 1a, 2a identified as Preferred Alternative.
8158H	Structural remains, concrete stand pipe, landscaping associated with post-1943/53 farmstead	1a, 1b, (1b1) 2a, 2b, (2b1)	Impaired	Historical technology, economic patterns	No
8160	1 outcrop with 3 slicks	1b, (1b1), 2b, (2b1)	Minimally impaired	Prehistoric subsistence	Section 106 Evaluation if 1b, (1b1), 2b, (2b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.
8162/H	Refuse scatter (Prehistoric component was identified during testing and will be reported in the Supplemental HPSR.)	1a, 1b, (1b1), 2a, 2b (2b1)	Impaired	Historical settlement	Section 106 Evaluation if 1a, 1b, (1b1), 2a, 2b (2b1) identified as Preferred Alternative.
8169	10 outcrops with 31 slicks	1a, 1b, (1b1), 2a, 2b, (2b1)	Impaired	Prehistoric subsistence	Section 106 Evaluation if 1a, 1b, (1b1), 2a, 2b, (2b1) identified as Preferred Alternative. Site may be evaluated as contributor to a historic district.

Source: Final Archaeological Survey Report, March 2008

[a]The SHPO has requested an evaluation of existing data to determine if there is sufficient information to determine if a Native American cultural/historic properties district may exist and if so, would the resources in question, contribute to its significance. As such, sites containing bedrock milling features will be evaluated as potential contributors to a historic "thematic" district.

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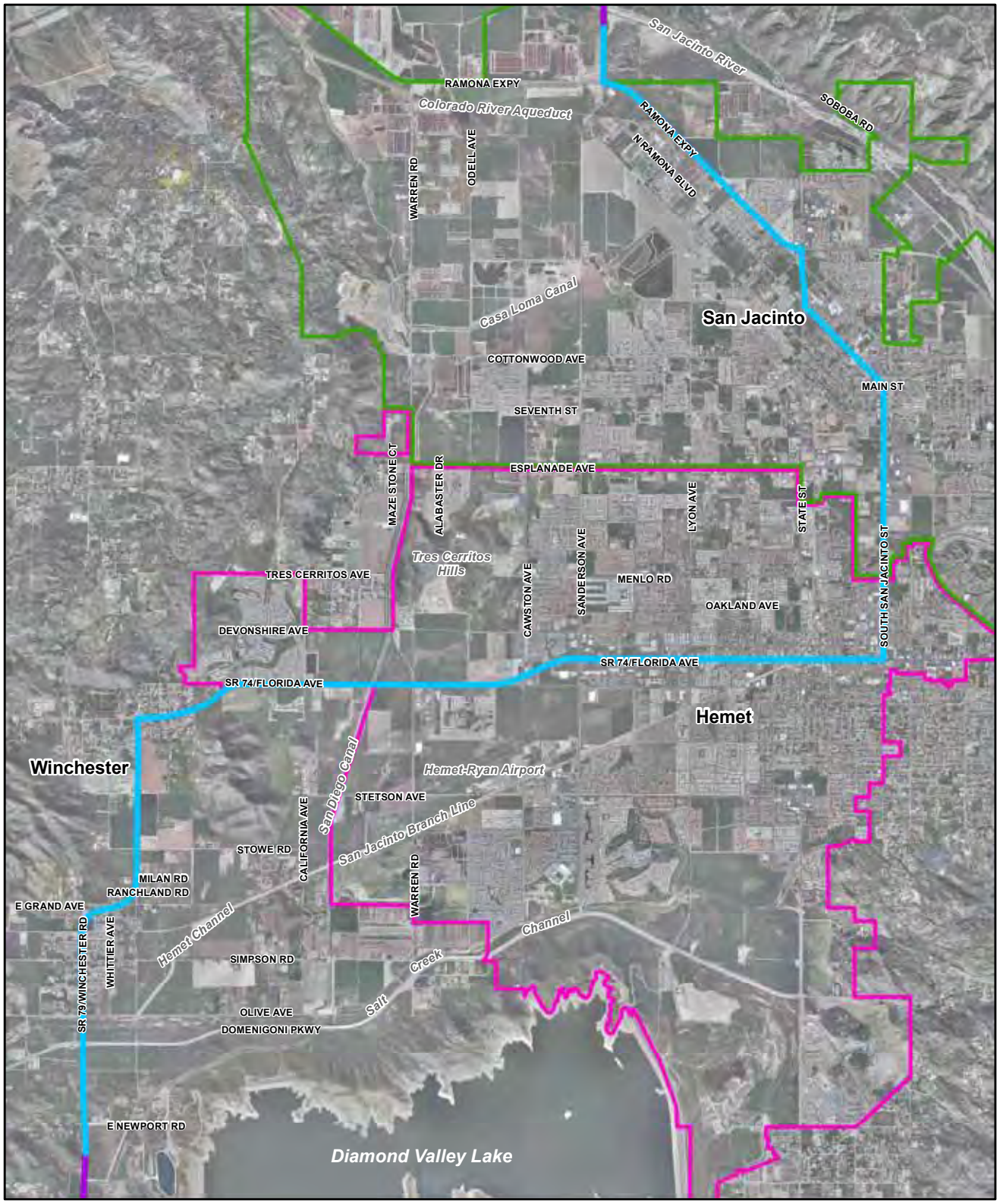

Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Existing State Route 79 Proposed for Realignment
- Existing State Route 79 Not to be Improved
- City of Hemet[CR]
- City of San Jacinto[CR]

Source: CR - County of Riverside

0 7,000 Feet

0 1,500 Meters

1:84,000

Figure B-1
Existing State Route 79
Draft Environmental Impact Report/
Environmental Impact Statement
State Route 79 Realignment Project

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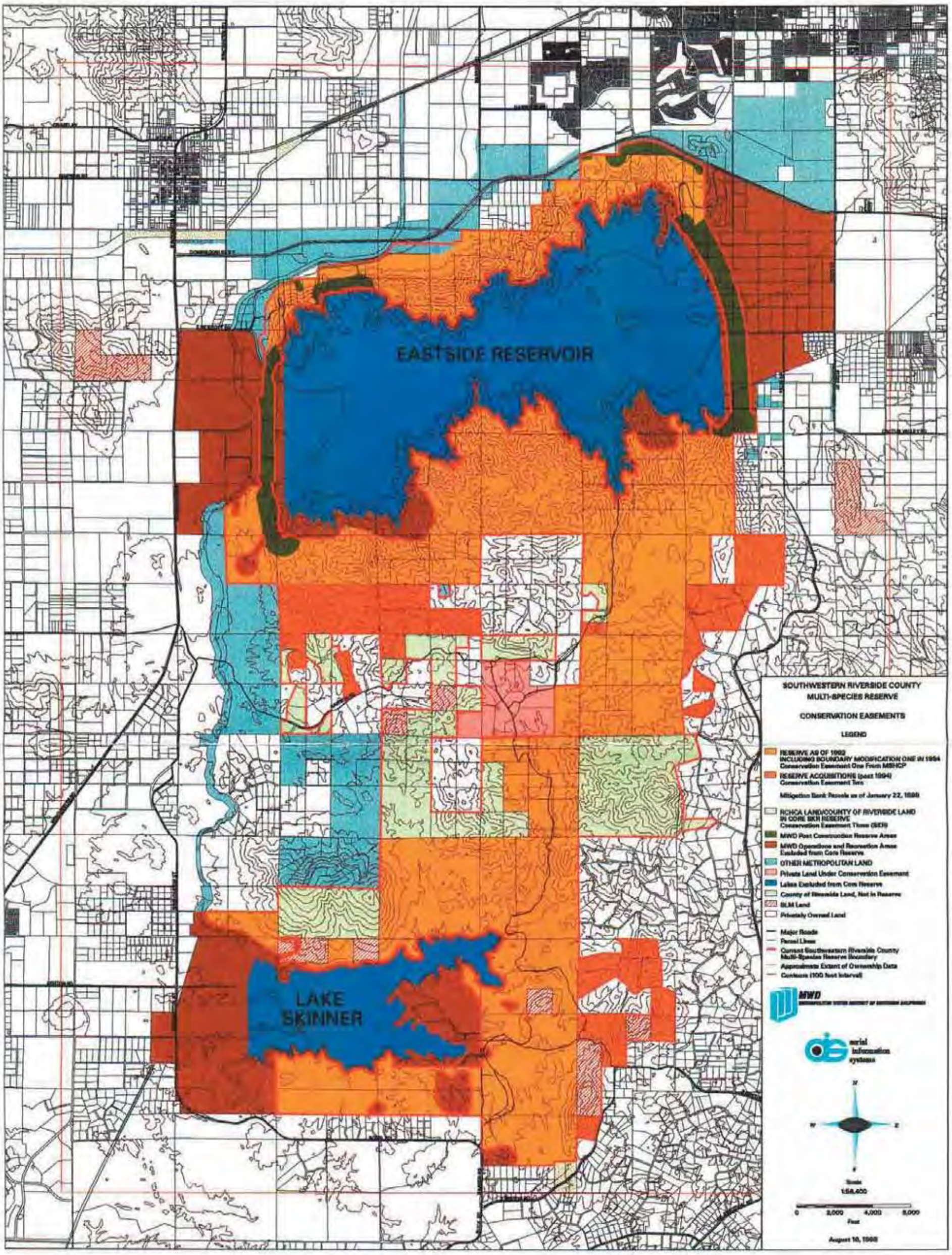

Source: Metropolitan Water District

Figure B-2
Southwestern Riverside County Multi-Species Reserve
Draft Environmental Impact Report/
Environmental Impact Statement
State Route 79 Realignment Project

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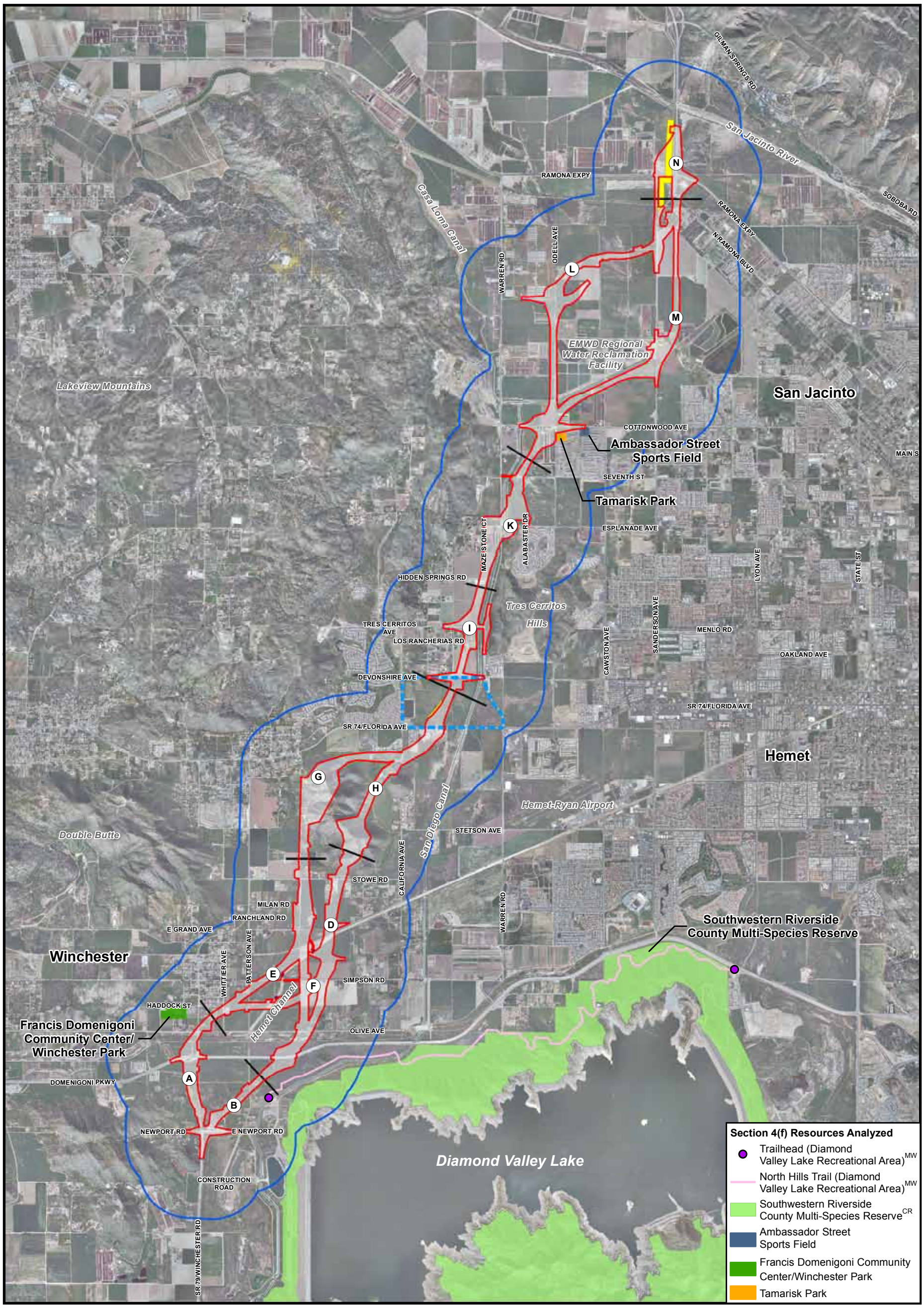

Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment Match Line
- Long-Term Traffic Detour
- Project Right-of-Way
- Section 4(f) Study Area
- Utility Relocation Area
- Connection to Hemet Channel Outside the Project Right-of-Way

0 5,000 Feet

0 1,000 Meters

1:60,000

Sources: CR - County of Riverside; MW - MWD

Figure B-3
Section 4(f) Resources Analyzed
Draft Environmental Impact Report/
Environmental Impact Statement
State Route 79 Realignment Project

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Figure B-4
View of Existing SR 79 from the Clayton A. Record, Jr. Viewpoint
Draft Environmental Impact Report/Environmental Impact Statement
State Route 79 Realignment Project

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Appendix C Title VI Policy Statement

The Department's commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement, signed by the Director, which is included in this appendix.

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DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
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Flex your power!
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March 16, 2012

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Mario Solis, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14th Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353, TTY 711, fax (916) 324-1869, or via email: *mario_solis@dot.ca.gov*.

MALCOLM DOUGHERTY
Acting Director

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Appendix D Summary of Relocation Benefits

California Department of Transportation Relocation Assistance Program

The Riverside County Transportation Commission, with Department oversight, will be responsible for implementing and administering the California Department of Transportation Relocation Assistance Program for the SR 79 Realignment Project.

Declaration of Policy

"The purpose of this title is to establish a ***uniform policy for fair and equitable treatment*** of persons displaced as a result of federal and federally assisted programs in order that such persons ***shall not suffer disproportionate injuries*** as a result of programs designed for the benefit of the public as a whole."

The Fifth Amendment to the U.S. Constitution states, "No Person shall…be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation." The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 Code of Federal Regulations (CFR) Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments, as discussed below.

Fair Housing

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing. This Act, and as amended, makes discriminatory practices in the purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require Caltrans to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displacee in order to see that all payments and benefits are fully utilized, and that all regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of negotiations, and also are given a detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit organization should commit to purchase or rent a replacement property without first contacting a Caltrans relocation advisor.

Relocation Assistance Advisory Services

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, Caltrans will provide relocation advisory assistance to any person, business, farm or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally

present in the United States. Caltrans will assist eligible displacees in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are "decent, safe and sanitary." Nonresidential displacees will receive information on comparable properties for lease or purchase (For business, farm and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displacees that are open to all persons regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning federal and state assisted housing programs, and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable "decent, safe and sanitary" replacement dwelling, available on the market, is offered to them by Caltrans.

Residential Relocation Payments

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displacee. The Residential Relocation Assistance Program can be summarized as follows:

Moving Costs

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until the Department obtains control of the property in order to be eligible for relocation payments.

Purchase Differential

In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 180 days or more prior to the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate. The maximum combination of these three

supplemental payments that the owner-occupant can receive is $22,500. If the total entitlement (without the moving payments) is in excess of $22,500, the Last Resort Housing Program will be used (See the explanation of the Last Resort Housing Program below).

Rent Differential

Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by Caltrans prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when Caltrans determines that the cost to rent a comparable "decent, safe and sanitary" replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the *Down Payment* section below. The maximum amount payable to any eligible tenant and any owner-occupant of less than 180 days, in addition to moving expenses, is $5,250. If the total entitlement for rent supplement exceeds $5,250, the Last Resort Housing Program will be used.

In order to receive any relocation benefits, the displaced person must buy or rent and occupy a "decent, safe and sanitary" replacement dwelling within one year from the date the Department takes legal possession of the property, or from the date the displacee vacates the displacement property, whichever is later.

Down Payment

The down payment option has been designed to aid owner-occupants of less than 180 days and tenants in legal occupancy prior to Caltrans' initiation of negotiations. The down payment and incidental expenses cannot exceed the maximum payment of $5,250. The one-year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

Last Resort Housing

Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been deigned primarily to cover situations where a displacee cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the $22,500 and $5,250 limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances.

After the initiation of negotiations, Caltrans will within a reasonable length of time, personally contact the displacees to gather important information, including the following:

- Number of people to be displaced;
- Specific arrangements needed to accommodate any family member(s) with special needs;
- Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family;
- Preferences in area of relocation; and
- Location of employment or school.

Nonresidential Relocation Assistance

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms and nonprofit organizations are: searching and moving expenses, and possibly reestablishment expenses; or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payment types can be summarized as follows:

Moving Expenses

Moving expenses may include the following actual, reasonable costs:

- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items acquired in the right-of-way contract may not be moved under the Relocation Assistance Program. If the displacee buys an Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displacee.
- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to $2,500, for reasonable expenses actually incurred.

Reestablishment Expenses

Reestablishment expenses related to the operation of the business at the new location, up to $10,000 for reasonable expenses actually incurred.

Fixed In Lieu Payment

A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses which meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years prior to the relocation and may not be less than $1,000 nor more than $20,000.

Additional Information

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displacee for assistance under the Social Security Act, or any other law, *except* for any federal law providing local "Section 8" Housing Programs.

Any person, business, farm or nonprofit organization which has been refused a relocation payment by the Caltrans relocation advisor or believes that the payment(s) offered by the agency are inadequate, may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for the payment for lost goodwill that arises from the displacement for a public project. A list of ineligible expenses can be obtained from Caltrans Right-of-Way. California's law and the federal

regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

Residential Relocation Payments Program

The Relocation Assistance for Residential Relocation Brochure is available in English and Spanish. Electronic versions of this brochure are available from the following Internet links.

http://www.dot.ca.gov/hq/row/pubs/residential_english.pdf
http://www.dot.ca.gov/hq/row/pubs/residential_spanish.pdf

The Project would require the relocation of mobile homes. Brochures about mobile homes are available in English and Spanish. Electronic versions of these brochures are available from the following Internet links.

http://www.dot.ca.gov/hq/row/pubs/mobile_eng.pdf
http://www.dot.ca.gov/hq/row/pubs/mobile_sp.pdf

Business and Farm Relocation Assistance Program

The Project would require the relocation of businesses. Brochures about business relocation are available in English and Spanish. Electronic versions of these brochures are available from the following Internet links.

http://www.dot.ca.gov/hq/row/pubs/business_farm.pdf
http://www.dot.ca.gov/hq/row/pubs/business_sp.pdf

Other Availability

Printed versions of the relocation brochures, along with hard copies of the SR 79 Realignment Project Draft Environmental Impact Report/Environmental Impact Statement and supporting technical studies, are available for review at the Riverside County Transportation Commission, 4080 Lemon Street, 3rd Floor, Riverside, CA 92501.

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Appendix E Environmental Commitments Record

The purpose of the Environmental Commitments Record (ECR) provided in this appendix is to assign responsibility for the implementation, monitoring, and timing of each avoidance, minimization, and mitigation measure that has been identified to address impacts of the proposed Project.

The ECR lists each of the environmental topics evaluated and the avoidance, minimization, and mitigation measures. Two columns in the table list the timing/phase of the measures and the party responsible for ensuring that each measure is implemented. The next two columns are blank to allow the Riverside County Transportation Commission (RCTC) or the California Department of Transportation (Department) to add the actions taken to implement the measures and the verification date of each measure. These columns will be used as a reference for verifying that each measure is implemented and that ongoing measures are regularly checked.

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Date: February 2013
Environmental Coordinator:

ENVIRONMENTAL COMMITMENTS RECORD (ECR)

08-RIV-79
KP R25.4/R54.4
PM R15.78/R33.80
EA 494000/PN 0800000784
Construct Highway

Task and Brief Description	Ref.	Responsible Branch/ Staff	Timing/Phase	Nonstandard Special Provisions (NSSP) Req.	Action Taken to Comply with Task	Task Completed (Date and Initials)		Remarks	Environmental Compliance	
									YES	NO
ENVIRONMENTAL COMPLIANCE REVIEW										
Land Use										
Existing and Future Land Use										
LU-1. City of Hemet General Plan and Build Alternative 1a. Differences between Build Alternative 1a and the General Plan of the City of Hemet would have to be mutually resolved before the Project moves forward. The likely solution is a general plan amendment. This will occur after the Preferred Alternative is identified and the Record of Decision (ROD) is issued. RCTC will coordinate with the City of Hemet to complete the general plan amendment procedure. If such resolution does not occur, the Project would not be implemented.	LU-1 **3-26**	RCTC Project Manager	Preconstruction							
LU-2. City of San Jacinto General Plan and Build Alternative 1a. Differences between Build Alternative 1a and the General Plan of the City of San Jacinto would have to be mutually resolved before the Project moves forward. The likely solution is a general plan amendment. This will occur after the Preferred Alternative is identified and the ROD is issued. RCTC will coordinate with the City of San Jacinto to complete the general plan amendment procedure. If such resolution does not occur, the Project would not be implemented.	LU-2 **3-26**	RCTC Project Manager	Preconstruction							
LU-3. City of Hemet General Plan and Build Alternative 1b and Design Option 1b1. Differences between Build Alternative 1b and Design Option 1b1 and the General Plan of the City of Hemet would have to be mutually resolved before the Project moves forward. The likely solution is a general plan amendment. This will occur after the Preferred Alternative is identified and the ROD is issued. RCTC will coordinate with the City of Hemet to complete the general plan amendment procedure. If such resolution does not occur, the Project would not be implemented.	LU-3 **3-26**	RCTC Project Manager	Preconstruction							
LU-4. City of Hemet General Plan and Build Alternative 2a. Differences between Build Alternative 2a and the General Plan of the City of Hemet would have to be mutually resolved before the Project moves forward. The likely solution is a general plan amendment. This will occur after the Preferred Alternative is identified and the	LU-4 **3-26**	RCTC Project Manager	Preconstruction							

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									YES	NO
ROD is issued. RCTC will coordinate with the City of Hemet to complete the general plan amendment procedure. If such resolution does not occur, the Project would not be implemented.										
LU-5. City of San Jacinto General Plan and Build Alternative 2a. Differences between Build Alternative 2a and the General Plan of the City of San Jacinto would have to be mutually resolved before the Project moves forward. The likely solution is a general plan amendment. This will occur after the Preferred Alternative is identified and the ROD is issued. RCTC will coordinate with the City of San Jacinto to complete the general plan amendment procedure. If such resolution does not occur, the Project would not be implemented.	**LU-5** **3-26**	RCTC Project Manager	Preconstruction							
LU-6. County of Riverside Circulation System. After the ROD is issued for the Project, and as part of final design, RCTC will coordinate the planned access restrictions on Olive Avenue and Simpson Road with the County of Riverside so that the County can determine appropriate actions to accommodate a change to the approved Circulation Element of the Riverside County General Plan.	LU-6 **3-26**	RCTC Project Manager	Preconstruction							
Consistent with Local Plans and Programs										
LU-1. City of Hemet General Plan and Build Alternative 1a.	LU-1 **3-26**	RCTC Project Manager	Preconstruction							
LU-2. City of San Jacinto General Plan and Build Alternative 1a.	LU-2 **3-26**	RCTC Project Manager	Preconstruction							
LU-3. City of Hemet General Plan and Build Alternative 1b and Design Option 1b1.	**LU-3** **3-26**	RCTC Project Manager	Preconstruction							
LU-4. City of Hemet General Plan and Build Alternative 2a	**LU-4** **3-26**	RCTC Project Manager	Preconstruction							
LU-5. City of San Jacinto General Plan and Build Alternative 2a.	**LU-5** **3-26**	RCTC Project Manager	Preconstruction							
LU-6. County of Riverside Circulation System.	**LU-6** **3-26**	RCTC Project Manager	Preconstruction							

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									YES	NO
LU-7. Public Notification of Alternative San Jacinto Parks. Project construction will be coordinated with the City of San Jacinto so that the availability and location of alternative neighborhood parks and recreational facilities can be properly noticed to the public.	LU-7 **3-65**	RCTC Project Manager	Preconstruction							
Parks and Recreational Areas										
NO-1. Installation of Recommended Noise Barriers Shown to be Feasible and Reasonable.	NO-1 **3-430**	RCTC Project Manager in conjunction with the Project Engineer	Design, Construction							
LU-7. Public Notification of Alternative San Jacinto Parks.	LU-7 **3-65**	RCTC Project Manager	Design, Preconstruction							
BIO-8. Dust Mitigation. The Project will minimize dust by regularly watering active construction areas.	BIO-8 **3-65**	RCTC Project Manager	Construction							
Farmlands/Timberlands										
AG-1. Maintain Access to Existing Farmlands. Access to existing farmlands, all remaining active fields, and farm units will be maintained during construction for farm-related vehicles. Long-term indirect impacts to farmlands will be minimized by modifying driveways and farm lanes in cooperation with the landowners to maintain access to parcel remnants. Modifications will be made to minimize the cost and inconvenience to the landowner. Such efforts will reduce the impacts to the farmland and the producers, as well as reducing the Project right-of-way acquisition costs.	AG-1 **3-107**	RCTC Project Manager in conjunction with the Project Engineer and Resident Engineer	Design, Construction							
AG-2. Coordination with Owners. Coordination and implementing activities will take place with property owners to notify them of any short-term loss of services, such as water and electricity, or other requirements for maintaining farming activities. Timing of any short-term loss of service will occur during times that will not disrupt farming operations.	AG-2 **3-107**	RCTC Project Manager in conjunction with the Project Engineer and Resident Engineer	Design, Construction							
AG-3. Notification of Williamson Act Land Acquisition. The Department and RCTC will notify the CDC of any acquired Williamson Act lands within 10 days of the acquisition.	AG-3 **3-108**	RCTC Project Manager in conjunction with the Environmental Task Lead	Preconstruction							

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									YES	NO
Community Character and Cohesion										
COM-1. Establish Pedestrian/Bike/Equestrian Paths. The Riverside County Transportation Commission (RCTC) will be responsible for the design of pedestrian/bike/equestrian paths for the East Newport Road overcrossing and Olive Avenue and Stowe Road undercrossings of realigned SR 79.	COM-1 **3-138**	RCTC Project Manager in conjunction with the Project Engineer	Design							
COM-2. School District Coordination. RCTC will be responsible for contacting the Hemet and San Jacinto Unified School Districts to confirm the school attendance areas that would be bisected by the Project. Once affected schools are identified, coordination will be conducted to avoid disruption of access.	COM-2 **3-138**	RCTC Project Manager in conjunction with the Resident Engineer	Preconstruction, Construction							
COM-3. Traffic Management Plan for Access. The Traffic Management Plan prepared for the Project will identify traffic control measures (construction cones, signs, etc.) and detour routes to manage circulation during construction and maintain adequate access to community services. It will also include outreach and public communication plans.	COM-3 **3-139**	RCTC Project Manager in conjunction with the Project Engineer	Design, Preconstruction							
COM-4. Recycling during Operations. The Department will be responsible for managing Project operation and maintenance activities to ensure that refuse, debris, and landscape trimmings will be reused or recycled at a suitable recycling facility as appropriate. This will reduce the amount of material disposed at Lamb Canyon Landfill.	COM-4 **3-139**	The Department Project Manager in conjunction with RCTC Project Manager, Resident Engineer, and Department maintenance staff	Construction							
Relocation										
RELOC-1. Relocation Assistance. The Riverside County Transportation Commission (RCTC), as the agency responsible for relocations, will implement and administer, with Department oversight, the California Department of Transportation Relocation Assistance Program to provide relocation assistance or compensation to eligible persons and businesses in accordance with the federal Uniform Relocation Assistance and Property Acquisition Act of 1970, as amended (42 United States Code Sections 4601 4655) and the California Relocation Act (California Government Code, Section 7260 et. seq.).	RELOC-1 **3-150**	RCTC Project Manager in conjunction with RCTC Right-of-Way Staff	Preconstruction							

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									YES	NO
Utilities										
UTIL-1. Coordination with Utility Companies. During final design, RCTC will be responsible for conducting early coordination with utility companies to determine which utilities need to be relocated outside the proposed Project ROW. The Project Engineer will seek: (1) To avoid utility relocations (2) If relocation is necessary, to relocate utilities across the SR 79 right-of-way or within other existing public rights-of-way and/or easements (3) If relocation is outside existing or proposed public right of way and/or easements, to relocate in a manner that will minimize environmental impacts from construction and ongoing maintenance and repair activities	UTIL-1 **3-165**	RCTC Project Manager in conjunction with the Project Engineer	Design, Preconstruction							
UTIL-2. Roadway Segment G Utility Tower Relocations. RCTC will be responsible for the relocation of the two utilities towers within Roadway Segment G. This would require a new site that would provide for the same coverage as achieved by the current towers. This measure is contingent on Roadway Segment G being included in the Selected Alternative.	UTIL-2 **3-165**	RCTC Project Manager in conjunction with the Project Engineer and Resident Engineer	Design, Construction							
UTIL-3. Temporary Detour for Railroad. This measure will be implemented as necessary if either of the design options is identified as the Preferred Alternative. Given the infrequency of rail operations along the San Jacinto Branch Line, at least 2 weeks prior to the time when annual train operations must cross SR 79, RCTC will contact the Department in writing with detailed operational requirements (date, time, etc.) for the train crossing. In accordance with these stated requirements, the Department will design and implement a temporary detour from SR 79 onto local streets, including appropriate road blocks and signage, for no more than 8 consecutive nighttime hours in accordance with all Department design and safety standards. Once the temporary detour is in place, the Department will remove the portions of SR 79 that obstruct the railroad ROW, so that the train may safely cross the SR 79, in accordance with all applicable safety standards. Once the train has successfully crossed SR 79, the SR 79 roadway will be returned to predisturbance conditions consistent with all	UTIL-3 **3-165**	RCTC Project Manager in conjunction with the Department Oversight Project Manager, Department Engineers, and Department construction staff	Postconstruction							

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									YES	NO
applicable Department design and safety standards, prior to being reopened to public travel. To address the impacts to traffic, a Transportation Management Plan will be developed to identify, sign, and/or notify the general public about the closure and detour routes. In addition, emergency service providers will be notified about closure locations to allow them to identify alternate routes for emergency response.										
UTIL-4. Notification of Underground Service Alert. The construction contractor will notify Underground Service Alert (USA) prior to Project construction to ensure that the location of all utility lines within the Project ROW are correctly marked prior to groundbreaking. Coordination with USA also would identify the presence of previously unknown or unmarked utilities, ensuring proper relocation and avoidance of existing utilities in Utility Relocation Area 2.	UTIL-4 **3-166**	RCTC Project Manager in conjunction with the Resident Engineer	Preconstruction, Construction							
UTIL-5. Utility Relocation. Prior to construction, RCTC and the construction contractor will coordinate with the utility providers responsible for utility relocations to avoid interruption or disruption of service and in accordance with the Traffic Management Plan prepared for the Project to avoid impacts to circulation and emergency response times.	UTIL-5 **3-166**	RCTC Project Manager in conjunction with the Resident Engineer	Preconstruction, Construction							
Emergency Services										
SERV-1. Coordination with Emergency Responders Prior to Opening Year (2015). Prior to Opening Year (2015), RCTC will coordinate with the emergency responders listed below to ensure that, if necessary, response routes can be established or updated and additional personnel can be secured to ensure that emergency response in the Project area continues to meet applicable requirements. • California Highway Patrol • City of Hemet Fire Department • City of Hemet Police Department • Riverside County Fire Department (including contracted fire protection for the City of San Jacinto) • Riverside County Sheriff's Department (including contracted police protection for the City of San Jacinto)	SERV-1 **3-166**	RCTC Project Manager in conjunction with the Project Engineer	Design, Preconstruction							

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									YES	NO
SERV-2. Coordination of Temporary Detours with Emergency Responders. Prior to and during construction, RCTC and the construction contractor will coordinate all temporary detour plans with the emergency responders listed below to ensure that, if necessary, affected response routes can be established or updated and additional personnel can be secured to ensure that emergency response in the Project area continues to meet applicable requirements. • California Highway Patrol • City of Hemet Fire Department • City of Hemet Police Department • Riverside County Fire Department (including contracted fire protection for the City of San Jacinto) • Riverside County Sheriff's Department (including contracted police protection for the City of San Jacinto)	SERV-2 **3-167**	RCTC Project Manager in conjunction with the Project Engineer	Design, Preconstruction							
Traffic and Transportation/Pedestrian and Bicycle Facilities										
LU-6. County of Riverside Circulation System.	LU-6 **3-26**	RCTC Project Manager in conjunction with the Project Engineer and Resident Engineer	Design, Preconstruction, Construction							
UTIL-3. Temporary Detour for Railroad.	UTIL-3 **3-165**	RCTC Project Manager in conjunction with the Department Oversight Project Manager, Department Engineers and Department construction staff	Postconstruction							
Visual/Aesthetics										
VIS-1. Corridor Master Plan. Early in the planning and design of the Project, a Corridor Master Plan will be developed to unify all freeway improvements, including the roadway, structures, and roadside, to result in a collaborative, distinctive, cohesive integration of the corridor into the surrounding communities and the natural environment. The Corridor Master Plan will include roadside design and maintenance, vegetation management, noise barriers, retaining walls, storm water treatments, median barriers, guard rails, bridges, light	VIS-1 **3-245**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							

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									YES	NO
pollution, preservation of historic and cultural features to ensure the visual cohesiveness of the corridor. It will include the identification of collaborative opportunities for the Department and others. The Corridor Master Plan should be specific and not only conceptual in design. Resources for development of the Corridor Master Plan will be provided from this parent project's roadway contract.										
VIS-2. Mitigation Planting/Highway Planting. Mitigation planting/highway planting will be provided prior to the end of construction for each phase of the Project. It is expected that the year requirements for the plant establishment period will be set in the Corridor Master Plan based on the species selected, but will not be less than a 3-year minimum. The vegetative requirements may vary. Planting and plant establishment will be funded by this parent project's roadway contract.	VIS-2 **3-245**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
VIS-3. Plantings to Bring Down Apparent Scale. The planting of trees, vines, and shrubs will be provided for the "softening" of structures, including walls and bridges, and to bring down their apparent scale.	VIS-3 **3-246**	RCTC Project Manager in conjunction with the Project Engineer, the Landscape Architect, and the Resident Engineer	Design, Construction							
VIS-4. Minimize Visual Impacts with Revegetation. Visual impacts will be minimized by revegetation, which will be achieved by planting trees, shrubs, and groundcover at interchanges and in more developed areas. Less developed, scenic, and rural areas will be revegetated to reproduce adjacent native cover. Slope areas adjacent to native cover will include container planting in addition to seeding to minimize visual impacts.	VIS-4 **3-246**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
VIS-5. Textured Noise Barriers. Noise barriers and retaining walls will be heavily textured and colored a midrange to dark color that corresponds to that of adjacent soil. Walls facing public-use areas (streets, private yards, or recreation) will be heavily textured and colored a midrange to dark neutral color to minimize light reflection. Walls higher than 2.4 meters (m) (8 feet [ft]) and longer than 9.1 m (30 ft) will feature a wall cap and panel with detailing or site specific designs such as local or historic references. These or other specific enhancements approved by the District Landscape Architect will minimize/mitigate community impacts by	VIS-5 **3-246**	RCTC Project Manager in conjunction with the Resident Engineer and Landscape Architect	Design, Construction							

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									YES	NO
enhancing the regional "sense of place" and restoring visual scale to the surroundings.										
VIS-6. Aesthetic Treatment to Structures. Aesthetic treatment to structures will provide opportunities for community identification and will be developed collaboratively in the Corridor Master Plan.	VIS-6 **3-246**	RCTC Project Manager in conjunction with the Resident Engineer and Landscape Architect	Design, Construction							
VIS-7. Planting on Structures to Minimize Glare. Landscaping will entail planting trees adjacent to concrete structures and vines on the structures themselves to minimize reflected light and glare.	VIS-7 **3-246**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
VIS-8. Concentrations of Trees and Shrubs at Interchanges. Landscaping will entail planting concentrations of trees and shrubs at interchanges, with less numerous plantings in the areas in between.	VIS-8 **3-246**	RCTC Project Manager in conjunction with the Resident Engineer and Landscape Architect	Design, Construction							
VIS-9. Screening Treatments in Winchester. Portions of the Project alignment visible from schools and parks or Roadway Segment A in the community of Winchester will receive screening treatments, including the planting of trees, shrubs, and/or vines.	VIS-9 **3-246**	RCTC Project Manager in conjunction with the Resident Engineer and Landscape Architect	Design, Construction							
VIS-10. Noise Barrier Screening in Winchester. Noise barriers built at locations visible from parks or schools or within Winchester will be screened with trees, shrubs, or vines to minimize their visual impact.	VIS-10 **3-246**	RCTC Project Manager in conjunction with the Landscape Architect, Project Engineer and Resident Engineer	Design, Construction							
VIS-11. Prepare Contour Grading Plans. Consistent with Section 304.4 of the Department's Highway Design Manual, prepare contour grading plans for all major cut slopes that provide for the rounding of the tops and ends of the cut slopes where the material is other than solid rock. Where the material is solid rock, a layer of earth or rock rubble overlying the rock will be rounded.	VIS-11 **3-247**	RCTC Project Manager in conjunction with the Landscape Architect, Project Engineer and Resident Engineer	Design, Construction							
VIS-12. Cut Slope Design. To ensure that the cut slopes have a more natural appearance, the design of these slopes will be analyzed further and revised. In the current design, each of the slopes consists of a series of 3.7-m (12-ft) -wide benches intended to catch debris; these wide and regular benches create a somewhat artificial appearing slope. In the redesign, a single wide bench will be provided at the base of each cut slope to catch debris, and the regular series of wide benches on	VIS-12 **3-247**	RCTC Project Manager in conjunction with the Resident Engineer and Landscape Architect	Design, Construction							

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									YES	NO
the slopes will be replaced by a series of 0.3-m to 0.6-m (1-ft to 2-ft) -wide steps intended to create niches for the establishment of vegetation. The design of these steps will be consistent with the guidance provided by Section 304.5 of the Department's Highway Design Manual, which recommends that they be irregular, varying by 20 percent in height. In addition, at the ends of the cuts, the steps will be designed to wrap around the rounded transitions to appear more natural.										
VIS-13. Over-Excavate Slopes. Where feasible, over-excavate slopes cut into solid rock by 1.2 m (4 ft) and back fill with rock rubble. This will create a more natural appearance for the texture of slopes and will provide more opportunities for vegetation to become established.	VIS-13 **3-247**	RCTC Project Manager in conjunction with the Landscape Architect, Project Engineer and Resident Engineer	Design, Construction							
VIS-14. Create Artificial Draws. On large cut slopes, create artificial draws (small depressions that extend up the slope and serve as drainage ways) that make visual sense in terms of their relationship to the surrounding topographic patterns. These artificial draws will be designed to break the cuts up into smaller visual units and to make the cut look less like an engineered slope.	VIS-14 **3-247**	RCTC Project Manager in conjunction with the Project Engineer	Design							
VIS-15. Weathering of Exposed Rock. On cut slopes where the color of the exposed rock contrasts substantially with the color of the rock on the nearby slope areas, use a metallic oxide spray to artificially weather the surfaces of the newly exposed rock.	VIS-15 **3-247**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
VIS-16. Revegetate Cut Slopes. Use hydroseeding and other planting methods, where feasible, on cut slopes to initiate the longer term process of natural slope revegetation.	VIS-16 **3-247**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
VIS-17. Erosion Control. Design the fill slopes to incorporate erosion control measures in a way that is effective in preventing erosion and that leaves the slopes as natural appearing as possible.	VIS-17 **3-248**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
VIS-18. Hydroseed Fill Slopes. Hydroseed the fill slopes to establish a vegetative cover of native plants/grasses.	VIS-18 **3-248**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							

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									YES	NO
VIS-19. Texturize Fill Slopes. Incorporate rock rubble onto the surfaces of the fill slopes so that they have a highly textured natural appearance.	VIS-19 **3-248**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
VIS-20. Revegetate Fill Slopes. Make strategic plantings of aesthetically and ecologically appropriate shrubs and trees on the fill slopes to visually break up large expanses of slope, to visually integrate the slopes into their surroundings, and to compensate for the loss of more distant views. The precise locations of these plantings will be based on detailed analyses conducted in preparing the Corridor Master Plan and will conform to Department landscape design guidelines and the standard Department budget prescription for projects of this type. The primary guidelines that will be followed are those in The Landscape Architecture PS&E Guide, January 2008, (US Customary Units) (*http://www.dot.ca.gov/hq/LandArch/lap_guide/index.htm*) (Department 2008).	VIS-20 **3-248**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
VIS-21. Benched Slopes. Where slopes of 6.1 m (20 ft) or more need to be steepened, a combination of 4:1 and 2:1 transition benches will be constructed as feasible to optimize the opportunity for vegetation to be established.	VIS-21 **3-248**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
VIS-22. Fill Slope Design. Available topsoil (approximately 0.3 m [1.0 ft]) and weathered rocks and boulders within the right-of-way will be separated and stockpiled for use in the finish grading of fill slopes, where feasible, to enhance aesthetics or vegetation reestablishment.	VIS-22 **3-248**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
VIS-23. Earthen Basins. Earthen basins and other water quality treatment facilities will be designed with undulating outlines and sited with a variety of appropriate plant and inert material to blend with the surrounding terrain and landscape, rather than creating basins that require screening. The need for additional right-of-way to accommodate the facilities will also be considered.	VIS-23 **3-248**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
VIS-24. Nonreflective Materials. Every effort will be made to select permanent fencing material for the Project that has a dark and dulled finish.	VIS-24 **3-248**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							

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									YES	NO
VIS-25. Overcrossing Design. Based on detailed analyses conducted during early planning and design, the design team, including landscape architects, will refine the design of the overcrossing structures to make them appear as light and open as feasible and incorporate design elements that will make them visually engaging and relate them to their settings. Overcrossing design elements will provide opportunities for community identification. The additional cost of the design refinements will not exceed 5 percent of the cost of constructing the overcrossing structures as they were originally designed.	VIS-25 **3-249**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
VIS-26. Noise Barrier Design Treatments. Noise barriers will incorporate design treatments to make them attractive landscape elements and to integrate them into views toward the expressway and from the surrounding area.	VIS-26 **3-249**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
VIS-27. Noise Barrier Landscaping. Landscaping will be implemented in front of noise barriers, in pedestrian areas, and where feasible in other areas to visually break up and soften the expanses of barrier surfaces.	VIS-27 **3-249**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
VIS-28. Noise Barrier Surfaces. Noise barrier surfaces will be textured to avoid graffiti.	VIS-28 **3-249**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Construction							
VIS-29. Lighting. Project operational lighting will comply with Riverside County Ordinance 655, which regulates night light pollution up to 45 miles from the Palomar Observatory.	VIS-29 **3-249**	RCTC Project Manager in conjunction with the Project Engineer and Landscape Architect	Design							
Cultural Resources										
CR-1. Cultural Materials Discovered during Construction. If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.	CR-1 **3-267**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
CR-2. Discovery of Human Remains. If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to	CR-2 **3-267**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							

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									YES	NO
overlie remains, and the county coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the NAHC, who will then notify the most likely descendent (MLD). At this time, the person who discovered the remains will contact the Department so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.										
CR-3. Establishment of ESA for CA-RIV-6907/H. An Environmentally Sensitive Area (ESA) will be established for CA-RIV-6907/H, which will be fenced and monitored. The ESA will consist of areas within and near the limits of construction where access is prohibited or limited for the preservation of the archaeological site. No work shall be conducted within the ESA. All designated ESAs and fencing limits will be shown on final design plans and appropriate fencing requirements included in the PS&E. Fencing will consist of high visibility fencing material and will be 4 feet high. The archaeological monitor who meets the Secretary of Interior Professional Standards for prehistoric and historical archaeology (i.e., meets Caltrans PQS qualifications) shall monitor the placement of the ESA fencing, inspect the fencing periodically throughout the construction period, order replacement of fencing (if needed), and monitor removal of fencing at the end of construction.	CR-3 **3-267**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
CR-4. Additional Avoidance, Minimization, and/or Mitigation Measures. Because the Section 106 studies for the Project have been deferred, there has not been a formal determination of effects from the State Historical Preservation Officer (SHPO) for the undertaking as a whole. Cultural resources that have been identified for further evaluation will be addressed after the Draft EIR/EIS has been circulated, comments have been received from the public, and a Preferred Alternative has been identified, but prior to the Final EIR/EIS. The evaluation and findings will be reported and circulated in a Supplemental HPSR. Depending on SHPO's concurrence with the findings of the evaluations, additional Section 106 consultation (e.g., Finding of Effect, resolution of adverse effects resulting in a Memorandum of Agreement [MOA]) may be required for	CR-4 **3-267**	RCTC Project Manager in conjunction with the Resident Engineer	Final EIR/EIS						

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									YES	NO
historic properties on the Preferred Alternative. Additional avoidance, minimization, and/or mitigation measures for the Project, if required pursuant to a MOA, will be included in the Final EIR/EIS to address any adverse effects to historic properties. Any additional compliance with Section 4(f) will also be completed.										
Hydrology and Floodplain										
HYDRA-1. Construct Drainage and Flood Control Facilities. Construct Drainage and Flood Control Facilities in accordance with Department and FEMA guidelines to convey the onsite and offsite flows along and through SR 79.	HYDRA-1 **3-284**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
HYDRA-2. Complete a Letter of Map Revision. The Design Engineer shall complete a Conditional Letter of Map Revision (CLOMR) after the design has been finalized and shall complete a Letter of Map Revision (LOMR) after construction is finished.	HYDRA-2 **3-284**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
Water Quality and Storm Water Runoff										
WQ-1. Construction Best Management Practices in Compliance with Project Planning and Design Guide (PPDG), Storm Water Management Plan (SWMP), Storm Water Pollution Prevention Plan (SWPPP), and Standard Special Provisions (SSP). The contractor will use a combination of BMPs that are acceptable and approved by the Department and that comply with the PPDG, SWMP, the Project-specific SWPPP, and any applicable Department SSPs to minimize impacts associated with runoff and polluted water. Information about design, placement, and applicability of construction site BMPs can be found in the Construction Site BMP Manual and Section 4 of the PPDG. For fill slopes steeper than 4:1, an Erosion Control Plan prepared by or approved by a District Landscape Architect is required.	WQ-1 **3-310**	RCTC Project Manager in conjunction with the Project Engineer and Resident Engineer	Design, Construction							
WQ-2. Revegetation. Where vegetation is grubbed, cleared, or severely damaged or cut back, replacement vegetation will be provided, when feasible, in accordance with applicable standards and guidelines.	WQ-2 **3-311**	RCTC Project Manager in conjunction with the Landscape Architect, Project Engineer, and Resident Engineer	Design, Construction							

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									YES	NO
WQ-3. Disturbed Slope Stabilization. Following construction, disturbed areas will be stabilized through permanent revegetation or other means, per the guidelines of the PPDG. The Department will perform a detailed analysis of downstream channel stability during the design phase of the Project.	WQ-3 **3-311**	RCTC Project Manager in conjunction with the Project Engineer, Department Hydrology Staff, and the Resident Engineer	Design, Construction							
WQ-4. Treatment BMPs. The Project will incorporate treatment BMPs that have been approved for statewide use per the guidelines in the PPDG. The treatment BMPs listed below are to be considered for projects discharging directly or indirectly to receiving waters. These BMPs have been approved for statewide use and are to be considered for significant reconstruction projects in urban Municipal Separate Storm Sewer System (MS4) areas. The PPDG provides design guidelines for the approved treatment BMPs. The treatment BMPs will clean runoff water and minimize pollutants from construction. • Biofiltration Systems: Strips/Swales • Infiltration Devices: Basins/Trenches • Detention Devices • Traction Sand Traps • Dry Weather Flow Diversion • Gross Solids Removal Devices (GSRDs) • Media Filters: Austin/Delaware Sand Filters • Multi-Chamber Treatment Trains (MCTT) • Wet Basins	WQ-4 **3-312**	RCTC Project Manager in conjunction with the Project Engineer and Resident Engineer	Design, Construction							
WQ-5. Dewatering Permit. The Project may require localized dewatering in areas where groundwater is shallow. If dewatering is necessary, the Project will comply with the general de minimus permit that applies to general waste discharge requirements for discharges to surface waters in the Santa Ana region (NPDES CAG 998001).	WQ-5 **3-312**	RCTC Project Manager in conjunction with the Project Engineer and Resident Engineer	Design, Construction							

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									YES	NO
Geology/Soils/Seismic/Topography										
GEO-1. Surface Fault Rupture. To further evaluate the fault-rupture hazard along the Project alignment, a subsurface evaluation will be performed. The subsurface evaluation will include the excavation and detailed logging of exploratory trenches, test pits, and/or borings, geophysical studies such as high-resolution seismic reflection, seismic refraction, ground penetrating radar, gravity and/or magnetic profiling, or other applicable methods. The evaluation will be performed prior to final design and construction so that if a fault-rupture hazard exists, foundations for grade separations or other structures can be designed for the anticipated displacement or located away from the fault trace.	GEO-1 **3-322**	RCTC Project Manager in conjunction with RCTC Geotechnical Staff and the Project Engineer	Design, Preconstruction							
GEO-2. Ground Shaking. Minimization of the potential impacts of seismic ground shaking will be achieved through Project design, construction, and maintenance. During the final design phase, site specific geotechnical evaluations will be performed to obtain detailed subsurface soil and geologic data, including a probabilistic assessment of the ground motion expected at the site. Structural elements will then be designed to resist or accommodate site-specific ground motion. All designs will conform to the current Caltrans Bridge Design Specifications and American Association of State Highway and Transportation Officials (AASHTO) seismic design standards.	GEO-2 **3-322**	RCTC Project Manager in conjunction with RCTC Geotechnical Staff and the Project Engineer	Design, Preconstruction							
GEO-3. Liquefaction. Site-specific geotechnical evaluations will be performed during the design phase of the Project to assess the liquefaction and dynamic settlement potential of the onsite soils. Foundations for structures will be designed for liquefaction by supporting the piles in dense soil or bedrock below the liquefaction zone or by other appropriate methods to be determined during the site-specific evaluation. Additional measures for liquefaction may include densification by installing stone columns, vibroflotation, or deep dynamic compaction. To reduce vibration impacts to existing facilities during ground improvement, other methods, such as compaction grouting or deep-soil mixing cells, will be used.	GEO-3 **3-322**	RCTC Project Manager in conjunction with RCTC Geotechnical Staff and the Project Engineer	Design							

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									YES	NO
GEO-4. Compressible/Collapsible Soils. During the design phase of the Project, a site-specific geotechnical evaluation will be performed to determine the presence of compressible/collapsible soils. The settlement potential of the soils will be evaluated where structures or fills are proposed and at existing facilities that could be impacted by the settlement. If the settlement potential exceeds acceptable tolerances for a structure (based on the California Amendments to the AASHTO [load-and-resistance factor design] LRFD Bridge Design Specifications – Fourth Edition [Department 2011]), then remedial measures will be incorporated into design and construction. Possible measures include surcharging, overexcavation and recompaction, compaction grouting, allowing for a settlement period during or after construction, and specialized foundation design. The method chosen will be determined during final design and as construction progresses.	GEO-4 **3-322**	RCTC Project Manager in conjunction with RCTC Geotechnical Staff and the Project Engineer	Design							
GEO-5. Expansive Soils. Site-specific investigations will be conducted during the design phase of the Project to determine whether expansive soils are present. If expansive soil conditions are found and are considered detrimental to proposed improvements, measures such as overexcavation and replacement with non expansive soil, chemical treatment (e.g., lime or cement), moisture control, and/or specific structural design for expansive soil conditions will be developed during design of the Project. Indirect impacts of expansive soils on existing facilities will also be considered. Measures could include limiting construction dewatering or redirecting storm water flows to reduce risk of significant seasonal soil moisture changes.	GEO-5 **3-323**	RCTC Project Manager in conjunction with RCTC Geotechnical Staff and the Project Engineer	Design							

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									YES	NO
GEO-6. Slope Stability. Site-specific geotechnical evaluations will be performed during the design phase of the Project to assess the potential for rock-slope failures. Measures to minimize rock-slope failures will include excavating potentially unstable material to create a flatter, more stable slope configuration, constructing buttress and/or stabilization fills, installing rock bolts on the face of the slope, installing protective wire mesh on the slope face, or constructing debris impact walls at the toe of the slope to contain rock-fall debris. The method will be determined during final design and during construction.	GEO-6 **3-323**	RCTC Project Manager in conjunction with RCTC Geotechnical Staff and the Project Engineer	Design							
GEO-7. Groundwater. Due to potentially shallow groundwater levels, wet or saturated soil could be encountered in excavations during construction. Excavations that extend below the water table might need to be dewatered. If dewatering is not adequately controlled by the contractor, it could induce consolidation of the soils under an excavation, which can cause differential settlement of nearby existing structures and improvements. The amount of consolidation due to dewatering can depend on many factors, including the areal extent and depth of dewatering, soil type, soil density, and the methods used by the dewatering contractor. Water generated during dewatering will require assessments to determine proper disposal. This disposal will be coordinated with the Regional Water Quality Board and will comply with other jurisdictional requirements. This may include pretreatment in Baker tanks and disposal into the local sanitary sewer system or minimal pretreatment and disposal into temporary holding ponds or onto the surrounding ground. Final disposition of dewatering water will be determined during final design and during construction. To reduce the potential for damage resulting from dewatering or excavation operations, the ground surface and structures around the excavation will be monitored for movement. If monitoring instruments detect ground movement that exceeds a predetermined value (based on the California Amendments to the AASHTO LRFD Bridge Design Specifications – Fourth Edition [Department 2011]), construction will stop and the contractor's methods will be reviewed. Appropriate changes will be made, if necessary.	GEO-7 **3-323**	RCTC Project Manager in conjunction with RCTC Geotechnical Staff, the Project Engineer, and the Resident Engineer	Construction							

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									YES	NO
Typical monitoring methods include installing devices around the outside of the excavation to monitor settlement or placing devices on nearby structures to monitor performance of the structures. Excavations for the underground structures will need to be performed with care to reduce the potential for lateral deflection of excavation sidewalls and/or shoring, which could also cause differential movement of structures located near the excavation. Inclinometers can be installed along the sides of an excavation to monitor lateral deflection of the sidewalls during excavation.										
GEO-8. Excavation Characteristics. Parts of the Project would be underlain by crystalline bedrock. Deeper, unweathered portions of the bedrock may require blasting or other difficult excavation techniques such as breakers. Blasting or breakers, if required, will produce temporary noise and dust hazards, which will be appropriately monitored during construction. Measures for construction-noise abatement will include appropriate personal protective equipment and procedures (e.g., adequate ear protection, establishing a safe distance from a blasting location). Possible dust control measures include appropriate personal protective equipment and procedures (e.g., respiratory equipment, covers for truck trailers that haul excavated materials, wetting dry or dusty excavations and material). Measures for noise and ejected media will include barriers such as vertical shields and mats overlying the working surface. The final measures will be determined during construction.	GEO-8 **3-324**	RCTC Project Manager in conjunction with RCTC Geotechnical Staff, the Project Engineer, and the Resident Engineer	Construction							
Paleontology										
PALEO-1. Paleontological Mitigation Plan (PMP). Prior to construction, the services of a qualified professional paleontologist will be retained by RCTC to prepare a PMP consistent with Department guidelines. The PMP will include the following: • PALEO-1a. Retention of Paleontologist. The PMP will stipulate that prior to construction, the services of a qualified professional paleontologist will be retained by RCTC to implement the PMP during earth-moving activities. • PALEO-1b. Museum Storage Agreement. The PMP will include a formal agreement that will be developed	PALEO-1 a – h **3-333**	RCTC Project Manager in conjunction with the Project Paleontologist and the Resident Engineer	Design, Preconstruction, Construction							

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									YES	NO
with a recognized museum repository, such as the San Bernardino County Museum Division of Geological Sciences. • PALEO-1c. Additional Paleontological Survey. The PMP will provide measures for additional paleontological surveys if the location of any alternative is changed or if any unrecorded fossil sites are discovered or fossilized remains are recovered. Additional surveys will include recording any associated fossil specimen and site and identifying fine grained strata suitable for containing fossilized remains. • PALEO-1d. Preconstruction Coordination with Resident Engineer. The PMP will address coordination among the qualified professional paleontologist or field supervisor, the Resident Engineer, and construction contractor personnel regarding the protection of paleontological resources, including a preconstruction briefing on procedures to be implemented if a fossil site or remains are encountered by earth-moving activities, particularly when a paleontological construction monitor is not onsite. • PALEO-1e. Monitoring Plan. The PMP will include a plan for monitoring and periodic dry-screen testing by a qualified paleontological construction monitor. A paleontological monitoring plan may include full-time or part-time monitoring, visually inspecting freshly exposed strata and debris piles, and dry-screen testing for smaller fossils, as well as methods for the discovery of fossilized remains, the recovery of fossilized remains, and instructions about how to coordinate with the Resident Engineer to divert construction activities away from the fossil site. • PALEO-1f. Specimen Handling. The PMP will provide instructions for the preparation, identification, curation, and cataloging of fossil and/or sediment specimens. • PALEO-1g. Transfer of Fossil Collection to Museum. The PMP will provide instructions for the transfer of the entire fossil collection, along with all supporting documentation, to a museum repository, where the fossils will be permanently stored and maintained.										

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									YES	NO
• PALEO-1h. Reporting. The PMP will provide instructions for the paleontological construction monitor to report daily activities and for preparing a Paleontological Mitigation Report (PMR) that is consistent with Department guidelines. The PMR is to be prepared by a qualified professional paleontologist in accordance with Department and RCTC requirements.										
Hazardous Waste/Materials										
HAZMAT-1. Phase II Environmental Site Assessment. Conduct a limited Phase II Environmental Site Assessment (Phase II ESA) to address the possible presence of pesticides. A Phase II investigation for agricultural properties that have a potential for pesticides will be performed during right-of-way acquisition to confirm that the soil can be classified as nonhazardous based on the residual levels of pesticides. In general, that Phase II ESA would include the following: • Work Plan • Health and Safety Plan • Access agreements • Field sampling in accordance with the work plan and health and safety plan • Analytical testing • Documentation • Recommendation may include additional sampling, preparing a soil handling plan, or a remedial action plan • Disposal of wastes	HAZMAT-1 **3-351**	RCTC Project Manager in conjunction with the Project Hazardous Waste Lead	Design							
HAZMAT-2. Aerially Deposited Lead Surveys. Conduct aerially deposited lead (ADL) surveys where proposed roadway segments intersect the current rights-of-way of SR 79/Winchester Road, SR 74/Florida Avenue, and Domenigoni Parkway. An ADL investigation for these sites will be conducted during final design to confirm that the soil can be classified as a nonhazardous material according to Title 22 of the California Code of Regulations (CCR) and that it is suitable for reuse or disposal without restriction. In general, ADL Surveys will include the following:	HAZMAT-2 **3-351**	RCTC Project Manager in conjunction with the Project Hazardous Waste Lead	Design							

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									YES	NO
• Workplan • Health and Safety Plan • Access agreements • Field sampling in accordance with the workplan and health and safety plan • Analytical testing • Traffic control • Documentation • Recommendations for proper disposal of the soil to be excavated during construction										
HAZMAT-3. Asbestos-Containing Materials and Lead-Based Paint Surveys. Conduct asbestos containing materials (ACM) and/or lead-based paint (LBP) surveys to address the possibility of the presence of ACM and/or LBP in buildings that are scheduled for demolition and or/renovation. The ACM and/or LBP surveys will be completed during final design (before acquisition). In general, the ACM and/or LBP surveys will include the following: • Workplan • Health and Safety Plan • Access agreements • Field sampling in accordance with the workplan and health and safety plan • Analytical testing • Documentation • Recommendations for disposal and handling	HAZMAT-3 **3-352**	RCTC Project Manager in conjunction with the Project Hazardous Waste Lead	Design							
HAZMAT-4. Hazardous Materials Contingency Plan. The Riverside County Transportation Commission will prepare a hazardous materials contingency plan addressing the potential for discovery of previously unidentified underground storage tanks (USTs), hazardous materials, petroleum hydrocarbons, hazardous or solid wastes, or contaminated soil encountered during construction. This contingency plan will address UST decommissioning, field screening and testing of potential contaminated materials and soil, mitigation and contaminant management requirements, and health and safety requirements.	HAZMAT-4 **3-352**	RCTC Project Manager in conjunction with the Project Hazardous Waste Lead	Construction							

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HAZMAT-5. National Pollutant Discharge Elimination System Permit. Prior to any dewatering activities, RCTC will obtain a National Pollutant Discharge Elimination System (NPDES) permit. In areas where contaminated groundwater is suspected, specific conditions will apply with regard to acquisition of the NPDES permit, including testing and monitoring, as well as discharge limitations under the NPDES permit. The discharge limitations in the NPDES permit may include, as applicable, requirements pertaining to discharge of federal and/or state regulated pollutants that may be present in the water.	HAZMAT-5 **3-352**	RCTC Project Manager in conjunction with RCTC Hydrology Staff	Preconstruction							
Air Quality										
AQ-1. Second-Stage Smog Alerts. Suspension of all construction equipment operations during second stage smog alerts is required.	AQ-1 **3-377**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
AQ-2. Electricity. To the extent feasible, use electricity from power poles rather than temporary diesel- or gasoline-powered generators.	AQ-2 **3-377**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
AQ-3. Construction Parking. Configure construction parking to minimize traffic interference on local streets.	AQ-3 **3-377**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
AQ-4. Construction Truck Routes. To the extent feasible, reroute construction trucks from congested streets or sensitive receptor areas.	AQ-4 **3-377**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
AQ-5. Onsite Construction Traffic Control. Provide temporary traffic controls, such as a flag man, for onsite construction vehicles during all phases of construction to maintain smooth traffic flow.	AQ-5 **3-377**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
AQ-6. Construction Vehicle Turn Lanes. Provide dedicated turn lanes for movement of construction vehicles if no turn lane currently exists.	AQ-6 **3-378**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							

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AQ-7. Blasting Activities. During blasting operations, the work area shall be watered before and after the blasting activities, and blasting mats shall be used to prevent debris from escaping the blasting area.	AQ-7 **3-378**	RCTC Project Manager in conjunction with the Resident Engineer	Construction	Yes						
AQ-8. Signal Boards. All message/signal boards shall be solar powered.	AQ-8 **3-378**	RCTC Project Manager in conjunction with the Resident Engineer	Construction	Yes						
AQ-9 . Environmentally Sensitive Areas (ESAs). Establish ESAs according to the following: • An ESA fence will be defined and delineated along all portions of the construction limits, 152 meters (500 feet) from adjacent developed residential areas and/or from all adjacent businesses that include health care facilities or substantial outdoor activity, such as playgrounds, prior to commencement of construction activities within those parts of the Project area. • An ESA fence will be defined and delineated along all portions of the construction limits, 304.5 meters (1,000 feet) from adjacent schools and licensed day care centers, prior to commencement of construction activities within those parts of the Project area. • No staging or storage of materials will be allowed within these ESAs; however, equipment activity necessary for construction of the portion of the Project located within the ESA areas can occur. • All construction equipment emissions within these 152-meter (500 foot) and 304.5-meter (1,000-foot) ESAs will be minimized to the maximum extent feasible by shutting down equipment not in use and not idling for more than 5 minutes, or the applicable SCAQMD best practices time limit in effect during the time of construction (reducing all criteria pollutant emissions during construction).	AQ-9 **3-378**	RCTC Project Manager in conjunction with the Resident Engineer	Construction	Yes						
Noise										
NO-1. Installation of Recommended Noise Barriers Shown to be Feasible and Reasonable. Recommended noise barriers that are shown to be feasible and reasonable under each Build alternative or design option should be considered further for inclusion as part of the Project. While primarily an abatement measure for traffic	NO-1 **3-430**	RCTC Project Manager in conjunction with the Project Engineer	Design							

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									YES	NO
noise, barriers will also provide abatement of construction noise if they are in place prior to construction. The noise barriers per alternative are: • Build Alternative 1a: Five noise barriers, including 1A-E1, 1A-G1, 1A-J2, 1A-L2, and 1A-L3 • Build Alternative 1b (including Design Option 1b1): Six noise barriers, including 1B-G2, 1B K3, 1B-M3, 1B-M4, 1B-N1, and 1B-N2 • Build Alternative 2a: Five noise barriers, including 2A-F1, 2A-H1, 2A-K3, 2A-L2, and 2A L3 • Build Alternative 2b (including Design Option 2b1): Six noise barriers, including 2B H1, 2B J2, 2B-M3, 2B-M4, 2B-N1, and 2B-N2										
NO-2. Observation of Time Restrictions and Use of Alternative Alarms. As required by the Standard Specifications Provisions, do not exceed 86 dBA at 50 feet from the job site activities from 9:00 p.m. to 6:00 a.m. Use an alternative warning method instead of a sound signal unless required by safety laws.	NO-2 **3-431**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
NO-3. Use Mufflers on Equipment with Internal Combustion Engines. As required by the Standard Specifications Provisions, equip internal combustion engines with manufacturer-recommended mufflers. Do not operate an internal combustion engine on the job site without the appropriate muffler.	NO-3 **3-431**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
NO-4. Placement of Stationary Equipment. Stationary construction equipment will be placed such that noise is directed away from sensitive receivers nearest the activity.	NO-4 **3-431**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
NO-5. Construction Equipment Staging. Construction equipment and supplies will be located in staging areas that will create the greatest distance between construction-related noise sources and noise sensitive receivers nearest the activity.	NO-5 **3-431**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
Natural Communities and Wildlife Movement (direct and indirect)										
BIO-1. Landscaping Plans. Landscaping plans will include native seed for erosion control in areas near the MSHCP Conservation Area.	BIO-1 **3-498**	RCTC Project Manager in conjunction with the Project Landscape Architect and Project Biologist	Design							

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									YES	NO
BIO-2. Avoid the Use of Invasive and Non-Native Plants. The landscaping plans will avoid the use of invasive and non-native plants listed in MSHCP Table 6-2, Plants that Should be Avoided Adjacent to the MSHCP Conservation Area, where applicable.	BIO-2 **3-498**	RCTC Project Manager in conjunction with the Project Landscape Architect and Project Biologist	Design							
BIO-3. Barrier Fencing along ROW. The Project will incorporate fencing along the ROW to serve as a barrier to preclude public access to the MSHCP Conservation Area.	BIO-3 **3-498**	RCTC Project Manager in conjunction with the Project Engineer, Project Biologist, and Resident Engineer	Design, Construction							
BIO-4. Slope Construction within ROW. All slopes will be constructed within the proposed ROW and will not extend into the MSHCP Conservation Area.	BIO-4 **3-498**	RCTC Project Manager in conjunction with Resident Engineer and Project Biologist	Design, Construction							
BIO-5. Equipment Storage, Fueling, and Staging Areas. Equipment storage, fueling, and staging areas will be situated in nonsensitive upland habitats that offer minimal risk of direct discharge into riparian areas or other sensitive habitats.	BIO-5 **3-498**	RCTC Project Manager in conjunction with Resident Engineer and the Project Biologist	Construction							
BIO-6. Training about Sensitive Biological Resources. A contractor supplied biologist who is familiar with the sensitive plant and animal species in the Project area will provide training about these sensitive biological resources to construction personnel.	BIO-6 **3-498**	RCTC Project Manager in conjunction with the Resident Engineer and Project Biologist	Preconstruction							
BIO-7. Fire Season Work. During the fire season (as identified by the Riverside County Fire Department), especially when work is adjacent to coastal sage scrub or chaparral vegetation, appropriate firefighting equipment (e.g., extinguishers, shovels, water tankers) will be available onsite during all phases of Project construction to minimize the chance of wildfires. Shields, protective mats, or other fire prevention methods will be used during grinding, welding, and other activities that produce sparks. Personnel trained in fire hazards, preventive action, and responses to fires will advise contractors about the fire risk from all construction-related activities.	BIO-7 **3-498**	RCTC Project Manager in conjunction with Resident Engineer	Construction							

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									YES	NO
BIO-8. Dust Minimization. The Project will minimize dust by regularly watering active construction areas.	BIO-8 **3-498**	RCTC Project Manager in conjunction with Resident Engineer	Construction							
BIO-9. Designated Areas for Equipment Maintenance and Staging. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances will occur only in designated areas within the grading limits of the Project. These designated areas will be clearly marked and located in such a manner as to contain runoff.	BIO-9 **3-498**	RCTC Project Manager in conjunction with Resident Engineer	Construction							
BIO-10. Litter Control. A litter-control program will be implemented during construction.	BIO-10 **3-499**	RCTC Project Manager in conjunction with Resident Engineer	Construction							
BIO-11. Bridge over Salt Creek Channel. All Build alternatives and design options will include the construction of a bridge over MSHCP Existing Constrained Linkage B, which is also known as the Salt Creek Channel. Existing Constrained Linkage B is shown in MSHCP Section 3.2.3, Figure 3 2, Schematic Cores and Linkages Map. The planning species for the linkage are identified in a table later in that section: • Vernal pool fairy shrimp • Riverside fairy shrimp • Los Angeles pocket mouse • San Jacinto Valley crownscale • Parish's brittlescale • Davidson's saltscale • Thread-leaved brodiaea • Smooth tarplant • Vernal barley • Coulter's goldfields • Little mousetail • Spreading navarretia • California Orcutt grass • Wright's trichocoronis The proposed bridge over Existing Constrained Linkage B (Salt Creek) will avoid impacts to wildlife connectivity for these planning species.	BIO-11 **3-499**	RCTC Project Manager in conjunction with the Project Engineer, Resident Engineer and Project Biologist	Design, Construction							

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									YES	NO
BIO-12. Avoidance of San Jacinto River. The Build alternatives and design options will avoid Proposed Core 3, which will be north of the Project (MSHCP Section 3.2.3, Figure 3-2, Schematic Cores and Linkages Map). All Build alternatives and design options will avoid the San Jacinto River and lands north of that area.	BIO-12 **3-499**	RCTC Project Manager in conjunction with the Resident Engineer and Project Biologist	Construction							
BIO-13. Avoidance of Existing Constrained Linkage C. All Build alternatives and design options will avoid Existing Constrained Linkage C. No construction activities will occur in this linkage.	BIO-13 **3-500**	RCTC Project Manager in conjunction with the Resident Engineer and Project Biologist	Construction							
BIO-14. Night Lighting. Lighting used during nighttime construction activities will be directed away from the MSHCP Conservation Area. If it cannot be directed away, shielding will be used to ensure that ambient light in the MSHCP Conservation Area is not increased.	BIO-14 **3-500**	RCTC Project Manager in conjunction with the Resident Engineer and Project Biologist	Construction							
BIO-15. Crossing Structures and Spacing Intervals for a Variety of Species. A mixture of large crossing structures spaced at regular intervals and smaller culverts spaced at more frequent intervals will be installed throughout the Project to accommodate a variety of species. The following bridges will facilitate wildlife movement: SR 79 over Salt Creek Channel (all Build alternatives and design options), SR 79 over San Jacinto Branch Line (Build Alternative 1a), SR 79 over Hemet Channel (Design Options 1b1 and 2b1), SR 79 over San Jacinto Branch Line/Hemet Channel (Build Alternatives 1b, 2a, and 2b), and Future Street "A" southbound off ramp over San Jacinto Branch Line (Build Alternatives 2a and 2b and Design Option 2b1). Culverts A-1, B 1, A-2, B-2, H-1, H-1a, H-1b, H-2, L-15, M-11, L-16, M-12, and F-3 will also facilitate wildlife movement. These elevated structures and culverts are shown in Figures 3.3.11 through 3.3-16).	BIO-15 **3-500**	RCTC Project Manager in conjunction with the Project Engineer, Resident Engineer, and Project Biologist	Design, Construction							
BIO-16. Openings in K-Rails for Small Animals. Openings in concrete "K-rail" barriers will be provided at regular intervals to allow small wildlife to cross or escape roadways.	BIO-16 **3-501**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
BIO-17. Wildlife Crossings Intended for Large Mammalian Wildlife. The wildlife crossings intended for large mammalian wildlife will be designed to accommodate the crossing of mule deer by maintaining	BIO-17 **3-501**	RCTC Project manager in conjunction with the Project Engineer, Project Biologist, and Resident	Design, Construction							

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									YES	NO
an openness ratio of at least 0.6 (opening width times height, divided by length of crossing—calculated in meters). A minimum height of 3 to 4 m (10 to 13 ft) will be maintained in crossings intended for mule deer.		Engineer								
BIO-18. Use of Tree and Shrub Buffers around Crossing Entrances, No Artificial Lighting. Wildlife crossings incorporated into the Project will not add artificial lighting to the center of the crossing structure. These devices have not been shown to be effective and could deter wildlife at night. Natural light from skylights or grating may be used in particularly long structures. Tree and shrub buffers around crossing entrances, skylights, and grating will be used for visual relief, protection, and sound attenuation.	BIO-18 **3-501**	RCTC Project Manager in conjunction with the Project Engineer, Project Biologist, and Resident Engineer	Design, Construction							
BIO-19. Wildlife Crossings Vegetated as Naturally as Possible. Wildlife crossings will be vegetated as naturally as possible to blend with the area around the crossing. In accordance with BIO-1 and BIO 2, the use of invasive and non-native plants will be avoided. Use of plants that are poisonous to wildlife, such as oleander, will be also be avoided.	BIO-19 **3-501**	RCTC Project Manager in conjunction with the Project Biologist, the Landscape Architect, and Resident Engineer	Design, Construction							
BIO-20. Use of Natural Objects in the Crossing Facility. Natural objects, such as stumps, rocks, and other natural debris, will be placed in wildlife crossings to create cover for wildlife and to encourage use of the crossings.	BIO-20 **3-501**	RCTC Project Manager in conjunction with the Project Biologist, the Landscape Architect, and Resident Engineer	Design, Construction							
BIO-21. Installation of Vegetative Cover near the Entrances to Culverts. Vegetative cover will be placed near the entrances to culverts to increase their effectiveness for carnivores and smaller wildlife.	BIO-21 **3-501**	RCTC Project Manager in conjunction with the Project Biologist, the Landscape Architect, and Resident Engineer	Design, Construction							
BIO-22. Installation of Dirt, Rock, or Concrete Benches on at Least One Side of Large Mammal Crossings. Dirt, rock, or concrete benches will be installed on at least one side of large mammal crossings to allow wildlife to cross during storms.	BIO-22 **3-501**	RCTC Project Manager in conjunction with the Project Biologist, the Landscape Architect, Project Engineer, and Resident Engineer	Design, Construction							
BIO-23. Welded Wire Fencing to Guide Wildlife to Appropriate Crossing Locations. If either of the design options is identified as the Preferred Alternative and incorporated into the final design, wildlife fencing will be	BIO-23 **3-501**	RCTC Project Manager in conjunction with the Project Engineer, Resident Engineer, and	Design, Construction							

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									YES	NO
installed to reroute wildlife under SR 79 via Hemet Channel to maintain the San Jacinto Branch Line wildlife corridor. The fencing will be made of welded wire and will be an appropriate height, with three-strand wire at the top, to guide wildlife to appropriate crossing locations. A 2.4-m (7.9-ft) -high fence will be used to reduce road mortalities. When necessary, these fences will be installed 1.5 m (4.9 ft) below the ground surface to reduce coyote dig-out and will have extra sections attached to the top at 45- to 90-degree angles to reduce mountain lion jump-over.		Project Biologist								
BIO-24. Fences Continue at Least 0.8 Kilometers beyond the Critical Area. To reduce end-runs around fences, the wildlife fencing will continue at least 0.8 kilometers (800 m [0.5 mi]) beyond the critical area or to an appropriate location that is unsuitable for wildlife (e.g., structure, steep hillside, urban area).	BIO-24 **3-502**	RCTC Project Manager in conjunction with the Project Engineer, Resident Engineer, and Project Biologist	Design, Construction							
BIO-25. Installation of One-Way Wildlife Doors. Wildlife fencing will include one-way wildlife doors on the roadway side of the fence, at 1-km (0.62-mi) intervals, to allow trapped wildlife to escape back into the MSHCP Conservation Area.	BIO-25 **3-502**	RCTC Project Manager in conjunction with the Project Engineer, Resident Engineer, and Project Biologist	Design, Construction							
BIO-26. Jump-Outs and One-Way Gates. Jump-outs and one-way gates will be installed at frequent intervals to allow trapped wildlife to exit the road system safely.	BIO-26 **3-502**	RCTC Project Manager in conjunction with the Project Engineer, Resident Engineer, and Project Biologist	Design, Construction							
BIO-27. Enhancements to Wildlife Corridors. To mitigate Project impacts to wildlife corridors, as part of the refinement of the Selected Alternative, enhancements will be included during final design to facilitate wildlife movement under bridges and through proposed culverts. Enhancements will be consistent with the objectives of the MSHCP and will include directional fencing and structural features to provide all-weather crossings in culverts. The design of wildlife movement features and enhancements will be determined after the Preferred Alternative is identified.	BIO-27 **3-502**	RCTC Project Manager in conjunction with the Project Engineer and Project Biologist	Design							

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									YES	NO
Wetlands and Other Waters										
WQ-1. Construction Best Management Practices in Compliance with Project Planning and Design Guide (PPDG), Storm Water Management Plan (SWMP), Storm Water Pollution Prevention Plan (SWPPP), and Standard Special Provisions (SSP).	WQ-1 **3-310**	RCTC Project Manager in conjunction with the Project Engineer and Resident Engineer	Design, Construction							
WQ-4. Treatment BMPs.	WQ-4 **3-312**	RCTC Project Manager in conjunction with the Project Engineer and Resident Engineer	Design, Construction							
WQ-5. Dewatering Permit.	WQ-5 **3-312**	RCTC Project Manager in conjunction with the Project Engineer and Resident Engineer	Design, Construction							
BIO-28. Environmentally Sensitive Area Fencing. Environmentally Sensitive Area (ESA) fencing will be installed as shown on the contractor's plans, and per Caltrans Standard Specifications, to ensure avoidance of a vernal pool measuring 0.80 ha (1.98 ac) within the ROW of Build Alternative 1b, Design Option 1b1, or Build Alternative 2a (Roadway Segment K in the northwest corner of Warren Road and Esplanade Avenue if identified for construction as part of the Preferred Alternative) and the associated little mousetail population (about 10,000 plants) during construction. A contractor-supplied biological monitor who has knowledge about wetland ecology and rare plants will demark the location of the ESA fence in the field and on construction drawings and plans and will supervise the ESA fence installation. The biological monitor will also inspect the ESA fencing regularly during construction and coordinate with the Resident Engineer if fence repairs should be required. • BIO-28a. Additionally, the contractor will install temporary treatment BMPs, such as fiber rolls or straw wattles, around the vernal pool for protection from possible runoff created by construction activities. An ESA fence will be installed for Build Alternatives 2a and 2b and Design Option 2b1 along the edge of the ROW for Roadway Segments D and H (if identified for construction as part of the Preferred Alternative) to avoid direct impacts to sensitive resources in the Stowe Road Vernal Pool Complex located in Additional Indirect	BIO-28 **3-517**	RCTC Project Manager in conjunction with the Project Engineer, Resident Engineer, and Project Biologist	Preconstruction, Construction							

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									YES	NO
Impact Study Area 1. These sensitive resources include a vernal pool, the federally listed vernal pool branchiopod, and federally and/or state-listed or sensitive plant populations consisting of Coulter's goldfields (Narrow Endemic), smooth tarplant (Narrow Endemic), San Jacinto Valley crownscale (Critical Area), little mousetail (Critical Area), spreading navarretia (Critical Area), and California Orcutt grass (Critical Area). A contractor-supplied biological monitor who has knowledge about wetland ecology and rare plants will demark the location of the ESA fence in the field and on construction drawings and plans and will supervise the ESA fence installation. The biological monitor will also inspect the ESA fencing regularly during construction and coordinate with the Resident Engineer if fence repairs should be required.										
BIO-29. Onsite and Offsite Drainage Facilities in the Project ROW. Onsite and offsite drainage facilities will be constructed within the Project ROW to ensure that the quantity and quality of runoff discharged into the MSHCP Conservation Area will not affect existing conditions.	BIO-29 **3-518**	RCTC Project Manager in conjunction with the Resident Engineer	Constr.							
BIO-30. Maintenance of Constructed Storm Water Systems. Regular maintenance of constructed storm water systems will take place to ensure effective operation of these systems.	BIO-30 **3-518**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
BIO-31. No Erodible Materials Deposited in Watercourses. No erodible materials will be deposited into watercourses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.	BIO-31 **3-518**	RCTC Project Manager in conjunction with the Environmental Task Lead	Preconstruction							
BIO-32. Ongoing Monitoring and Reporting. Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of BMPs.	BIO-32 **3-518**	RCTC Project Manager in conjunction with the Resident Engineer	Construction							
BIO-33. Modification of the Project Design to Construct a Gravity Based Surface Water Diversion System. If Build Alternative 2a or Build Alternative 2b is identified as the Preferred Alternative for the Project, the design will include measures to avoid and reduce impacts to the vernal pool complex adjacent to Stowe Road. • BIO-33a. Engineering Design. During the plans, specifications, and estimates (PS&E) phase of the	BIO-33, 33a – c **3-518**	RCTC Project Manager in conjunction with the Project Engineer, Project Hydrologist, Landscape Architect, Resident Engineer, and Project Biologist	Design, Preconstruction, Construction, Postconstruction							

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									YES	NO
Project, the proposed design modification will be implemented and refined to address the items listed below. An interceptor trench will be constructed below the modified cut slope adjacent to Roadway Segment H. The size and position of this trench will be optimized to capture runoff that could impact the Stowe Road Vernal Pool Complex watershed. The exact capture area will be refined based on the surface structure of the cut slope (vegetated or exposed granite bedrock). The drainage will be designed to convey water via gravity from the interceptor trench to a small storage basin, then through piping into an existing ephemeral drainage in the upper watershed of the Stowe Road Vernal Pool Complex. Depending on the final contour of the cut slope, either one or two pipe outlets will be required. The storage basin upstream of each pipe outlet may include flow regulators/dissipaters, depending on the rate of flow from the cut slope into the interceptor trench. The design will be optimized so that flow rates into the Stowe Road Vernal Pool Complex will not result in sedimentation levels that exceed the levels present before construction. A detailed Drainage Recapture Design Plan (DRDP) will be prepared prior to the completion of PS&E to describe the water conveyance features to be constructed. This DRDP will also summarize the expected performance of the drainage system during periods of low, average, and peak precipitation. The anticipated cut slope treatment will be identified. A landscaping plan will be included if terraced or stabilized slopes can hold soil and support vegetation after construction. If applicable, the landscaping plan will include a list of the plant species to be seeded or planted, target seeding and/or planting densities, revegetation techniques to be employed, criteria used to gauge the success of revegetation, maintenance and monitoring methods to be implemented, a schedule of monitoring and reporting activities, and remedial measures. This DRDP will be submitted to the Regional Conservation Authority (RCA), the Wildlife Agencies, the RWQCB, and USACE for review to verify that the objectives of this measure										

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									YES	NO
have been achieved. • BIO-33b. Baseline Hydrology Monitoring Plan. Prior to the completion of PS&E, a detailed Baseline Hydrology Monitoring Plan (BHMP) will be prepared, reviewed, and implemented to facilitate drainage design modifications and provide a basis for later comparison to postconstruction conditions in the Stowe Road Vernal Pool Complex. This BHMP will describe the data to be collected, instruments to be installed, duration of the sampling effort, and methods of data interpretation. Baseline data will be collected in average, below average, and higher than average water years prior to the completion of PS&E. Data are intended to determine the amount and frequency of surface water flows into the existing drainage in the upper watershed and the amount of sediment transported to the Stowe Road Vernal Pool Complex. The extent and depth of pool ponding throughout the filling and drying period will be collected. A weather station will be installed to measure rainfall and provide data specific to the watershed. Surface water flow (e.g., Parshall flumes, pressure transducers) and sediment-sampling devices (Isco sediment samplers or other devices), combined with manual sampling, will be used to determine surface water flows and sediment loads. The sample locations and equipment to be used will be determined by a professional hydrologist who is experienced with surface water hydrology, sediment sampling, and data interpretation in the natural landscape. Photo documentation will also be used to note site changes throughout the monitoring period. The BHMP will be submitted to the RCA, the Wildlife Agencies, the RWQCB, and USACE for review to verify that the objectives of this measure have been achieved. • BIO-33c. Postconstruction Surface Water Monitoring. A Postconstruction Monitoring Plan (PCMP) will be prepared, reviewed, and implemented to ensure that the gravity-based surface-water diversion system functions in average, below average, and higher than average water years and provides compensatory hydrology volume, based on the baseline conditions,										

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with an acceptable flow rate into the upper watershed of the Stowe Road Vernal Pool Complex. The PCMP will be developed concurrently with PS&E and will be implemented after construction. The PCMP will detail the procedures to be used to calculate the water flows from the pipe outlet to the existing drainage and total sediment loads within the drainage. Sampling will occur at the instruments installed as part of the BHMP, as well as at new postconstruction locations. The total water flows that occur after construction of the Project, especially storm water discharges, will be evaluated to determine if any modifications are needed to regulate total flows and velocities to the existing drainage, as determined in the BHMP, into the lower watershed. An adaptive management process will be included for evaluating and implementing procedures and/or remedial measures for sediment control, such as deepening the receptor basins or other activities, to prevent scour and release of sediments in excess of the existing condition into the lower watershed. The intent of the monitoring period is to evaluate average, below average, and higher than average water years. The ability to accomplish this will depend on the local precipitation. Monitoring will be required for each of these water years. Initially, monitoring will be conducted for 5 years, but more years could be required to obtain the necessary data. Annual monitoring reports will be prepared and submitted to the RCA, the Wildlife Agencies, the RWQCB, and USACE for review to verify that the objectives of this measure have been achieved. Potential remedial actions or modifications to the PCMP will be made based on results of annual monitoring. A final review will take place at the end of the 5-year monitoring period to determine if additional monitoring will be required.										
<u>BIO-34. Mitigation of Impacts to Water Features</u>. Mitigation of impacts to jurisdictional water features will take place at a ratio of at least 1 to 1. Appropriate mitigation for unavoidable impacts to wetlands and other waters will be determined through the permitting process. The mitigation will lessen the impact to a level below	BIO-34 a–b **3-521**	RCTC Project Manager in conjunction with the Resident Engineer								

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									YES	NO
significance and will ensure no net loss of wetlands. Mitigation may include the following two measures. • BIO-34a. Drainage Ditches. For impacts to roadside ditches, onsite mitigation will consist of replacement through the reconstruction of these features along the new roadway alignment. • BIO-34b. Seasonal Wetlands. For unavoidable permanent impacts to seasonal wetlands, including vernal pools and riparian wetlands, offsite mitigation will consist of wetland/riparian creation, enhancement, or restoration within the San Jacinto watershed and/or the purchase of wetland creation credits at a USACE-approved wetland mitigation bank.										
Plant Species										
BIO-1. Landscaping plans	BIO-1 **3-498**	RCTC Project Manager in conjunction with the Project Landscape Architect and Project Biologist	Design							
BIO-2. Avoid the Use of Invasive and Non-Native Plants	BIO-2 **3-498**	RCTC Project Manager in conjunction with the Project Landscape Architect and Project Biologist	Design							
BIO-28. Environmentally Sensitive Area Fencing	BIO-28 **3-517**	RCTC Project Manager in conjunction with the Project Engineer, Resident Engineer, and Project Biologist	Preconstruction, Construction							
BIO-33a-c. Modification of the Project Design to Construct a Gravity Based Surface Water Diversion System	BIO-33, 33a–c **3-518**	RCTC Project Manager in conjunction with the Project Engineer, Project Hydrologist, Landscape Architect, Resident Engineer, and Project Biologist	Design, Preconstruction, Construction, Postconstruction							
BIO-35. Avoidance of Sensitive Plant Populations. An ESA fence will be installed at the outer edge of the ROW of either Roadway Segment J or K, depending on the Preferred Alternative that is identified, to avoid long-term conservation value (LTCV) little mousetail populations	BIO-35 **3-570**	RCTC Project Manager in conjunction with the Project Engineer, Resident Engineer and Project Biologist	Design, Construction							

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									YES	NO
located in the indirect impact area. A contractor supplied biological monitor who has knowledge about and experience with local sensitive plant species will determine the location of the ESA fence in the field and identify it on construction drawings and plans and will supervise installation of the fence. The biological monitor will also inspect the ESA fencing regularly during construction and coordinate with the Resident Engineer if fence repairs should be required. An ESA fence will be installed along the edge of the Roadway Segment L ROW, for either Build Alternative 1a or 2a, to avoid impacts to Coulter's goldfields populations 49 and 52 and smooth tarplant populations 483 and 511 (Figure 3.3-26 and Figure 3.3-30). The locations of these populations will be shown on construction plans and drawings. A contractor-supplied biological monitor who has knowledge about and experience with local sensitive plant species will demark the location of the ESA fence in the field and on construction drawings and plans and will supervise installation of the fence. The biological monitor will also inspect the ESA fencing regularly during construction and coordinate with the Resident Engineer if fence repairs should be required. An ESA will be established for all Build alternatives at the edge of the Roadway Segment I ROW adjacent to the federally listed as endangered San Jacinto Valley crownscale populations. The location of these populations will be shown on construction plans and drawings. A contractor-supplied biological monitor who has knowledge about and experience with local sensitive plant species will demark the location of the ESA fence in the field and on construction drawings and plans and will supervise installation of the fence. The biological monitor will also inspect the ESA fencing regularly during construction and coordinate with the Resident Engineer if fence repairs should be required.										
BIO-36. Avoid the Spread of Invasive Plant Species. The Project will incorporate specifications in the landscape plans to avoid the spread of invasive plant species. • BIO-36a. Cleaning of Equipment. All construction equipment shall be cleaned, with a broom or other appropriate method, of potential invasive plant seeds	BIO-36a–c **3-571**	RCTC Project Manager in conjunction with the Landscape Architect, Resident Engineer, and Project Biologist	Design, Construction							

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									YES	NO
before entering sensitive habitat areas. • BIO-36b. Monitoring. Periodic invasive plant species monitoring of the ROW and adjacent sensitive areas will be conducted during construction by contractor-supplied plant biologists who have knowledge about and experience with the local flora and invasive species of the region. Key monitoring objectives are to identify and eradicate any invasive weed infestations that establish or spread within the ROW during construction to prevent them from extending into adjacent sensitive areas. Monitoring will be conducted quarterly, at a minimum, and will focus on the portions of the ROW that are adjacent to Additional Indirect Impact Study Areas 1 and 2, in particular, the Stowe Road Vernal Pool Complex and the Stoney Mountain Preserve. Qualified biologists will demark the location of noxious weeds in the field, on construction and engineering drawings, and with GPS units. • BIO-36c. Eradication. A variety of methods, including mechanical control or herbicides, will be used to eradicate invasive plant species identified during monitoring.										
BIO-37. Mitigation for Robinson's Peppergrass Populations. Applicable mitigation for impacts to populations of Robinson's peppergrass that are considered to have high value will be determined through coordination with the wildlife agencies once the Preferred Alternative has been identified. Potential mitigation could include one of the measures listed below or a combination of the two measures. • BIO-37a. Onsite conservation of existing Robinson's peppergrass populations. • BIO-37b. Translocation of Robinson's peppergrass individuals or seed collection, salvage, and transfer to areas of suitable habitat, as identified by a contractor-supplied plant biologist who has knowledge about and experience with the local flora species of the region, within the Project ROW.	BIO-37 **3-572**	RCTC Project Manager in conjunction with the Resident Engineer and Project Biologist	Preconstruction, Construction							

Date: February 2013
Environmental Coordinator:

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Construct Highway

Task and Brief Description	Ref.	Responsible Branch/ Staff	Timing/Phase	Nonstandard Special Provisions (NSSP) Req.	Action Taken to Comply with Task	Task Completed (Date and Initials)		Remarks	Environmental Compliance	
									YES	NO
BIO-38. Coulter's Goldfields and Smooth Tarplant Populations. Mitigation for permanent direct or indirect impacts to Coulter's goldfields and smooth tarplant populations will be implemented if either Build Alternative 1a or 2a, both of which include Roadway Segment L, is selected. Roadway Segment L would pass through MSHCP Criteria Area Cells 2774, 2775, and 2878 and San Jacinto Area Plan Subunit 4: Vernal Pool Areas – East. • BIO-38a. A Determination of Biological Equivalent or Superior Preservation (DBESP) will be prepared to evaluate and address direct impacts to Criteria Area plant species. Applicable mitigation will be determined through coordination with the resource agencies once the Preferred Alternative has been identified. Potential mitigation measures listed below or a combination of the two measures could be implemented. • BIO-38b. Onsite conservation of existing smooth tarplant and Coulter's goldfields populations. • BIO-38c. Translocation of smooth tarplant and Coulter's goldfields individuals to areas of suitable habitat outside the Project ROW.	BIO-38 **3-572**	RCTC Project Manager in conjunction with the Resident Engineer and Project Biologist	Preconstruction, Construction							
BIO-39. Culvert/Drainage System for Coulter's Goldfields and Smooth Tarplant Populations. If Build Alternative 1a or 2a is identified as the Preferred Alternative, a culvert/drainage system would be designed to maintain the existing amount of surface water flow in the indirect impact area of Roadway Segment L. This would maintain hydrology for two populations of Narrow Endemic plant species, Coulter's goldfields and smooth tarplant, by capturing flows from the southern edge of the ROW of Roadway Segment L and conveying flow north to the alkali grassland/wetland habitat. The design of this culvert/drainage system would be completed during final design to provide flexibility in the flow discharges after construction is completed.	BIO-39 **3-573**	RCTC Project Manager in conjunction with the Landscape Architect, Project Engineer, Project Hydrologist, Resident Engineer, and Project Biologist	Design, Construction							

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									YES	NO
Animal Species										
BIO-14. Night Lighting. Lighting used during nighttime construction activities shall be directed away from the MSHCP Conservation Area. If lighting can not be directed away from the MSHCP Conservation Area, shielding will be incorporated into the Project to ensure that ambient light in the MSHCP Conservation Area is not increased.	BIO-14 **3-632**	RCTC Project Manager in conjunction with the Resident Engineer and Project Biologist	Construction							
BIO-40. Conduct Presence/Absence Surveys Immediately Prior to Construction Each Year. Preconstruction presence/absence surveys will be conducted for burrowing owls in each year of construction during the spring immediately prior to ground disturbance and construction activities. Surveys will be conducted within the PIA and 75-m (225-ft) buffer or additional areas based on construction and operations noise impacts, if warranted.	BIO-40 **3-630**	RCTC Project Manager in conjunction with the Resident Engineer and Project Biologist	Preconstruction, Construction							
BIO-41. Relocation of Burrowing Owls. All burrowing owls found in the PIA will be actively relocated away from the Project to translocation sites. Burrowing owls found 75 m (225 ft) or less from the PIA will be considered for relocation based on the adjacent construction activities and consultation with the wildlife agencies. Burrowing owls found more than 75 m (225 ft) from the PIA will only be considered for active relocation if CDFG deems appropriate based on construction noise impacts.	BIO-41 **3-631**	RCTC Project Manager in conjunction with the Resident Engineer and Project Biologist	Preconstruction							
BIO-42. Maintenance of Hydrology to Existing Vernal Pool/Alkali Playa Habitat. The planning species for Noncontiguous Habitat Blocks 6 and 7 are as follows. • Vernal pool fairy shrimp • Riverside fairy shrimp • Burrowing owl • Mountain plover • Loggerhead shrike • Davidson's saltscale • Thread-leaved brodiaea • Vernal barley • Little mousetail • Spreading navarretia	BIO-42 **3-631**	RCTC Project Manager in conjunction with the Project Hydrologist, Resident Engineer, and Project Biologist	Design, Construction							

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									YES	NO
• California Orcutt grass • Munz's onion • Los Angeles pocket mouse • San Jacinto Valley crownscale • Parish's brittlescale • Coulter's goldfields • Wright's trichocoronis The Project will maintain hydrology to existing vernal pool/alkali playa habitat to provide for the conservation of the Planning Species listed above. This will be accomplished by maintaining natural hydrologic processes or designing and implementing an engineered solution that has the same effect.										
BIO-43. Conducting Vegetation Clearance to Avoid Active Breeding Season (March 1 through June 30). For each year of construction, vegetation clearing will avoid the active breeding season (March 1 through June 30) in designated upland habitats. If avoiding the active breeding season is not possible and ground disturbance and construction activities must occur during this period, a contractor supplied biologist who is experienced in bird identification will conduct preconstruction surveys to determine the presence of nesting birds protected by the Migratory Bird Treaty Act (MBTA). If birds that are protected by the MBTA are observed nesting within 152 m (500 ft) of proposed construction activities, the biologist will determine whether or not construction activities could disturb nesting birds. If necessary, the biologist will coordinate with the wildlife agencies and implement appropriate measures (e.g., onsite monitor, timing restriction, chick relocation) to adequately protect the nesting birds.	BIO-43 **3-632**	RCTC Project Manager in conjunction with the Resident Engineer and Project Biologist	Preconstruction, Construction							
BIO-44. Nesting Raptor Surveys and Implementation of Nest Exclusion. To ascertain the presence of nesting raptors, preconstruction surveys will be conducted by a contractor-supplied biologist who is experienced in raptor identification. The surveys will be conducted in the PIA and within 152.4 m (500 ft) of the PIA between January 15 and August 15 for each year of construction, 1 year prior to ground disturbance and construction activities. If raptor nests are found in the preconstruction survey,	BIO-44 **3-632**	RCTC Project Manager in conjunction with the Resident Engineer and Project Biologist	Preconstruction							

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									YES	NO
nest exclusion will be coordinated with the wildlife agencies and implemented during the nonbreeding season by a contractor supplied biologist who is experienced in raptor ecology.										
BIO-45. Inspections for Roosting Bats before Demolition. Buildings, structures, and trees identified for demolition or removal will be inspected prior to construction activities to determine if roosting bats are present or are likely to be seasonally present. Before beginning the inspections, the inspectors will be trained by a contractor-supplied biologist who is experienced in bat identification. If roosting bats are present or are likely to be seasonally present in trees with palm fronds or other hollows suitable for bats, removal of the trees will be scheduled at an appropriate time. A contractor-supplied biologist who is experienced in bat ecology will supervise the removal. If roosting bats are present in a building slated for demolition, bats will be removed using approved bat exclusion techniques. Such techniques may include bat exclusion devices, which are designed to allow one-way exits for bats from the structure, that are installed under the direction of a contractor-supplied biologist who is experienced in bat ecology. Installation of new exclusion devices, and the repair of failed or incomplete exclusion devices, will be conducted between September and March to avoid entrapping nonvolant (nonflying) young bats inside structures during the maternity season, as feasible.	BIO-45 **3-632**	RCTC Project Manager in conjunction with the Resident Engineer and Project Biologist	Preconstruction							
BIO-46. Installation of Bat-Friendly Gate on Mine Adit Adjacent to Roadway Segments A, B, and C. To mitigate impacts to rock roosting bats, RCTC will provide funding to install a bat-friendly gate on a mine adit (entrance) located on the Southwestern Riverside County Multi-Species Reserve (Reserve) adjacent to Roadway Segments A, B, and C. The gate would deter human disturbance and restore the roost-site quality of the mine for sensitive bat species. Reserve staff will install and maintain the gate.	BIO-46 **3-633**	RCTC Project Manager	Preconstruction							

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									YES	NO
BIO-47. Provision of Suitable Habitat for Vegetation-Roosting Bats. During final design, areas proposed for mature plantings will be determined as part of the development of the landscaping plan for the Project. In these areas, mature specimens of native deciduous trees, such as Fremont cottonwood, black willow, and western sycamore, and ornamental fan palms, particularly the California native Washington, or Mexican, fan palm, will be considered for planting because these species would provide suitable habitat for vegetation-roosting bats.	BIO-47 **3-633**	RCTC Project Manager in conjunction with the Landscape Architect and Project Biologist	Design							
BIO-48. Los Angeles Pocket Mouse Conservation Objectives Identified in the MSHCP, Volume II-B, Species Accounts. A DBESP will be prepared for impacts to Los Angeles pocket mouse for review by the wildlife agencies to ensure that species conservation objectives are attained, as identified in the MSHCP, Volume II-B, Species Accounts, Los Angeles Pocket Mouse.	BIO-48 **3-633**	RCTC Project Manager in conjunction with the Project Biologist	Preconstruction							
Threatened and Endangered Species										
BIO-28. Environmentally Sensitive Area Fencing.	BIO-28 **3-517**	RCTC Project Manager in conjunction with the Project Engineer, Resident Engineer, and Project Biologist	Design, Preconstruction, Construction							
BIO-33a-c. Modification of the Project Design to Construct a Gravity-Based Surface Water Diversion System.	BIO-33a-c **3-518**									
BIO-49. Conducting Clearance of Riparian Habitat Outside Riparian Bird Active Breeding Season (Generally March 1 through June 30). Clearing of riparian habitat should be conducted outside the active breeding season (generally March 1 through June 30). For each year of construction, if vegetation removal occurs in riparian habitats during the nonbreeding season for riparian birds, then preconstruction surveys are not required. However, if vegetation removal must occur in riparian habitats during the breeding season for least Bell's vireos or southwestern willow flycatchers during any construction year, then preconstruction surveys will be required to	BIO-49 **3-674**	RCTC Project Manager in conjunction with the Project Biologist and Resident Engineer	Preconstruction, Construction							

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									YES	NO
comply with the MSHCP. If least Bell's vireos or southwestern willow flycatchers are detected, the appropriate resource manager will be contacted to determine if vegetation removal activities can proceed under specific conditions.										
Invasive Species										
BIO-1. Landscaping Plans	BIO-1 **3-683**	RCTC Project Manager in conjunction with the Project Landscape Architect and Project Biologist	Design							
BIO-2. Avoid the Use of Invasive and Non-Native Plants	BIO-2 **3-683**	RCTC Project Manager in conjunction with the Project Landscape Architect and Project Biologist	Design							
BIO-36a-c. Avoid the Spread of Invasive Plant Species	BIO-36, 36a–c **3-683**	RCTC Project Manager in conjunction with the Landscape Architect, Resident Engineer, and Project Biologist	Design, Construction							

Appendix F List of Acronyms

˚F	degrees Fahrenheit
µg/L	microgram(s) per liter
µg/m^3	micrograms per cubic meter
AADT	Average Annual Daily Traffic
AAI	All Appropriate Inquiries
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ac	acre
ACM	asbestos-containing material
ADA	American with Disabilities Act
ADL	aerially deposited lead
ADT	average daily traffic
AER	Archaeological Evaluation Report
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
AF	acre-feet
AG	Agriculture
APE	Area of Potential Effects
AQMP	air quality management plan
ARB	Air Resources Board
ASA	Agricultural Study Area
ASR	Archaeological Survey Report
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
ATCM	Airborne Toxic Control Measure
B.P.	before present
BACM	Best Available Control Measure
Basin	South Coast Air Basin
BGEPA	Bald and Golden Eagle Protection Act
bgs	below ground surface
BHMP	Baseline Hydrology Monitoring Plan
BLM	Bureau of Land Management
BMP	Best Management Practice
BNSF	Burlington Northern Santa Fe Railroad

BOD	biochemical oxygen demand
BOE	California Board of Equalization
BT&H	Business, Transportation and Housing Agency
C	Conservation
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAD	computer-aided drafting
Cal/EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Cal-IPC	California Invasive Plant Council
CBG	census block group
CBOC	California Burrowing Owl Consortium
CC	Community Commercial
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game
CDOF	California Department of Finance
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CERFA	Community Environmental Response Facilitation Act
CESA	California Endangered Species Act
CETAP	Community and Environmental Transportation Acceptability Process
CFR	Code of Federal Regulations
CGC	California Government Code
CGS	California Geological Survey
CH	Conservation Habitat
CH_4	methane
CHP	California Highway Patrol
CIA	Community Impact Assessment
CLOMR	Conditional Letter of Map Revision
cm	centimeter(s)
CMA	Congestion Management Agency

CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO-CAT	Coastal Ocean Climate Action Team
CO Protocol	*Transportation Project-Level Carbon Monoxide Protocol*
CO_2	carbon dioxide
COPC	chemical of potential concern
CR	Commercial Retail
CRA	Colorado River Aqueduct
CRHR	California Register of Historical Resources
CSC	California Species of Concern
CSFM	California State Fire Marshal
CT	Commercial Tourist
CTC	California Transportation Commission
CWA	Clean Water Act
dB	decibel
dBA	decibel (A-weighted scale)
DBESP	Determination of Biological Equivalent or Superior Preservation
DE	diesel exhaust
Department	California Department of Transportation
DHHS	United States Department of Health and Human Services
DLRP	Land Resources Protection Division
DP	Director's Policy
DPM	particulate matter fraction of diesel exhaust
DRDP	Drainage Recapture Design Plan
DSA	disturbed soil area
DTSC	Department of Toxic Substances Control
EB	eastbound
ECR	Environmental Commitments Record
ED	Environmental Document
EIC	Eastern Archaeological Information Center
EIR/EIS	Environmental Impact Report/Environmental Impact Statement
EJ	Environmental Justice
EMC	event mean concentrations
EMFAC	Emission Factors

EMWD	Eastern Municipal Water District
EO	Executive Order
ESA	Environmentally Sensitive Area; Environmental Site Assessment
FCAA	Federal Clean Air Act
FCIRS	Farmland Conversion Impact Rating Score
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRM	Flood Insurance Rate Map
FMMP	Farming Mapping and Monitoring Plan
FOE	Finding of Effect
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
ft	foot/feet
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
GC	Government Code
GHG	greenhouse gas
GIS	geographic information system
GPS	Global Positioning System
GSRD	Gross Solids Removal Device
GVWR	gross vehicle weight rating
H_2S	hydrogen sulfide
ha	hectare
HA	Hydrologic Area
HCM	*Highway Capacity Manual*
HCP	Habitat Conservation Plan
HDR	High Density Residential
HEC-RAS	Hydraulic Engineering Centers River Analysis System
HEI	Health Effects Institute
HFC	hydrofluorocarbon
HFC-23	fluoroform
HFC-134a	s, s, s, 2-tetrafluoroethane
HFC-152a	difluoroethane
HFD	Hemet Fire Department

HOA	homeowners' association
HOV	High Occupancy Vehicle
HPD	Hemet Police Department
HPSR	Historic Property Survey Report
HPSV	high-pressure sodium vapor
HREC	Historical Recognized Environmental Condition
HRER	Historical Resources Evaluation Report
HSA	Hydrologic Sub Area
HSG	Hydrologic Soil Group
HSL	Hemet Sanitary Landfill
HUSD	Hemet Unified School District
HVWAP	Harvest Valley/Winchester Area Plan
I-10	Interstate 10
I-15	Interstate 15
I-215	Interstate 215
I-O	input-output
IPCC	Intergovernmental Panel on Climate Change
IRIS	Integrated Risk Information System
ISA	Initial Site Assessment
ITS	Intelligent Transportation Systems
ITSP	Interregional Strategic Plan
IWDS	Integrated Wetland Delineation System
kg	kilogram
km	kilometer
km^2	square kilometer
KP	kilometer post
kph	kilometers per hour
KPRA	kingpin to rear axle
lb	pound
lb/year	pounds per year
LBP	lead-based paint
LDR	Low Density Residential
LED	light-emitting diode
LEDPA	Least Environmentally Damaging Practicable Alternative
$L_{eq(h)}$	1-hour equivalent noise level
LESA	Land Evaluation and Site Assessment

LI	Light Industrial
LIM	Land Inventory and Monitoring
L_{max}	maximum sound level
LOMR	Letter of Map Revision
LOS	level of service
LPA	Locally Preferred Alternative
LTCV	long-term conservation value
LUST	leaking underground storage tank
m	meter(s)
MATES-III	Multiple Air Toxics Exposure Study III
MBTA	Migratory Bird Treaty Act
MCL	maximum contaminant level
MCP	Mid County Parkway
MCTT	Multi-Chamber Treatment Trains
MDR	Medium Density Residential
mg/L	milligrams per liter
mgd	million gallons per day
MHDR	Medium High Density Residential
mi	mile(s)
mi^2	square mile(s)
mL	milliliter(s)
MLD	Most Likely Descendent
MLS	Multiple Listing Service
mm	millimeter
M_{max}	maximum moment magnitude
MOU	Memorandum of Understanding
mpg	miles per gallon
mph	miles per hour
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer System
MSA	Metropolitan Statistical Area
MSAT	mobile source air toxic
MSHCP	Multiple Species Habitat Conservation Plan
msl	mean sea level
MUN	municipal and domestic water supply

MWD	Metropolitan Water District of Southern California
N	nitrogen
N/A	not applicable
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	noise abatement criteria
NADR	Noise Abatement Decision Report
NAGPRA	Native American Grave Protection and Repatriation Act
NAHC	Native American Heritage Commission
NATA	National Air Toxics Assessment
NB	northbound
NCCP	Natural Community Conservation Planning
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act
NEPSSA	Narrow Endemic Plant Species Survey Area
NES	Natural Environment Study
NHPA	National Historic Preservation Act of 1966
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NO_3	nitrate
NOA	naturally occurring asbestos
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	oxides of nitrogen
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	Noise Study Report
NSSP	nonstandard special provisions
O&M	operations and maintenance
O_3	ozone
OHP	Office of Historical Preservation
OPR	Office of Planning and Research
OS	Open Space

OSHA	Occupational Safety and Health Act
OS-R	Open Space - Recreation
OSTP	Office of Science and Technology Policy
P	Parks
PA	Programmatic Agreement
PA&ED	Project Approval and Environmental Documentation
Pb	lead
PCB	polychlorinated biphenyl
PCE	primary constituent elements
PCMP	Post-Construction Monitoring Plan
PDT	Project Development Team
PF	public facilities
PFC	perfluorocarbon
PGA	peak ground acceleration
PI	Public Institutional
PIA	Project Impact Area
PIR/PER	Paleontological Identification and Paleontological Evaluation Report
PM	post mile; particulate matter
PM_{10}	particulate matter less than 10 micrometers in aerodynamic diameter
$PM_{2.5}$	particulate matter less than 2.5 micrometers in aerodynamic diameter
PMP	Paleontological Mitigation Plan, Project Management Plan
PMR	Paleontological Mitigation Report
POAQC	projects of air quality concern
PPDG	Project Planning and Design Guide
ppm	parts per million
PR	Project Report
PRC	Public Resources Code
PS&E	plans, specifications, and estimates
PSR	Project Study Report
PSR/PDS	Project Study Report/Project Development Support
PUC	Public Utilities Commission
QCB	Quino checkerspot butterfly
R	Recreation
RAP	Relocation Assistance Program
RCA	Regional Conservation Authority
RCDEH	Riverside County Department of Environmental Health

RC-EDR	Rural Community-Estate Density Residential
RCFCD	Riverside County Flood Control and Conservation District
RCFD	Riverside County Fire Department
RCHCA	Riverside County Habitat Conservation Agency
RCIP	Riverside County Integrated Project
RC-LDR	Rural Community-Low Density Residential
RCP	Regional Comprehensive Plan
RCP&G	Regional Comprehensive Plan and Guide
RCRA	Resource Conservation and Recovery Act of 1976
RCSD	Riverside County Sheriff's Department
RCTC	Riverside County Transportation Commission
RCWMD	Riverside County Waste Management Department
REC	Recognized Environmental Condition
RM	Rural Mountainous
ROG	reactive organic gas
ROW	right-of-way
RPARSA	Rare Plant Aquatic Resource Study Area
RR	Rural Residential
RSA	Resource Study Area
RTA	Riverside Transit Agency
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
RWRF	Regional Water Reclamation Facility
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SAMP	Special Area Management Plan
SB	southbound, Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCG	Southern California Gas Company
SCH	State Clearinghouse
SCS	Sustainable Communities Strategy
SDC	Seismic Design Criteria
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Officer

SIP	State Implementation Plan
SJUSD	San Jacinto Unified School District
SJVAP	San Jacinto Valley Area Plan
SKR	Stephens' kangaroo rat
SKRHCP	Stephens' Kangaroo Rat Habitat Conservation Plan
SO_2	sulfur dioxide
SR 74	State Route 74
SR 79	State Route 79
SSP	Standard Special Provision(s)
STAA	Surface Transportation Assistance Act
SVE	soil vapor extraction
SVP	Society of Vertebrate Paleontology
SWIS	Solid Waste Information System
SWL	Solid Waste Landfill
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWRCMSR	Southwestern Riverside County Multi-Species Reserve
TA	Terminal Access
TAC	toxic air contaminant
TASAS	Traffic Accident Surveillance and Analysis System
TAZ	Traffic Analysis Zone
TCE	temporary construction easement
TCM	transportation control measures
TCP	traditional cultural properties
TCWG	Transportation Conformity Working Group
TDC	Targeted Design Constituent
TDM	Transportation Demand Management
TDS	total dissolved solids
TEA-21	Federal Transportation Equity Act for the 21st Century
TeNS	Technical Noise Supplement
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TMDL	total maximum daily load
TMP	Traffic Management Plan
TNM	Traffic Noise Model

TOG	total organic gas
TPHcc	total petroleum hydrocarbon carbon chain
TRAM	Technical Report Addendum Memorandum
TSCA	Toxic Substances Control Act
TSM	Transportation System Management
TSS	total suspended solid
TUMF	Transportation Uniform Mitigation Fees
TWSA	Terrestrial Wildlife Study Area
TWTL	two way, two lane
U.S.	United States
UBC	Uniform Building Code
UCDITS	University of California Davis Institute of Transportation Studies
Uniform Act	Uniform Relocation Assistance and Real Properties Acquisition Policies Act of 1970
USA	Underground Service Alert
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
VA	Value Analysis
VHDR	Very High Density Residential
VIA	Visual Impact Assessment
VKT	vehicle kilometers traveled
VMT	vehicle miles traveled
VOC	volatile organic compound
WB	westbound
WCPC	Water Pollution Control Program
WDR	Waste Discharge Requirement
WPCP	Water Pollution Control Plan
WQF	Water Quality Flow
WQV	Water Quality Volume
WRCOG	Western Riverside Council of Governments

WSE	water surface elevation
XPI	Extended Phase I

Appendix G Farmland Agency Coordination

This appendix documents the coordination that has taken place with the California Department of Conservation (CDC) and the federal Natural Resources Conservation Service (NRCS) regarding the SR 79 Realignment Project's potential impacts to Williamson Act lands, and prime, unique, and farmland of statewide importance.

Responses are shown first, followed by the initiation letters.

- California Department of Conservation
- Natural Resources Conservation Service

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California Department of Conservation Correspondence

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NATURAL RESOURCES AGENCY ARNOLD SCHWARZENEGGER, GOVERNOR

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DIVISION OF LAND RESOURCE PROTECTION

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PHONE 916 / 324-0850 • FAX 916 / 327-3430 • TDD 916 / 324-2555 • WEBSITE conservation.ca.gov

July 15, 2010

VIA FACSIMILE (909) 383-6494

Mr. James Shankel, Senior Environmental Planner
Department of Transportation, District 8
Environmental Planning (MS 827)
464 W. Fourth Street, 6th Floor
San Bernardino, CA 92401-1400

Dear Mr. Shankel:

Subject: Public Acquisition of Land Enrolled in Williamson Act Contracts for State Route 79 (SR 79) Construction and Realignment Project, Riverside County

Thank you for your response to the Department of Conservation's (Department) April 22, 2010, comment letter regarding the acquisition of eleven parcels of land, six of which are restricted by Williamson Act contracts, for the construction and realignment of SR 79.

In the April 22, 2010 comment letter, the Department requested that the California Department of Transportation (Caltrans) provide copies of the Williamson Act contracts and actual number of acres it intends to acquire for the project, as that information was not included in the March 9, 2010 notification letter. In addition, the Department requested that Caltrans bear in mind the findings required under Government Code (GC) section 51292 (a) and (b), while reviewing the alternative routes for the new highway corridor. Also, the Department requested Caltrans provide information about the soil classification of the properties it intends to acquire, whether prime or nonprime. Lastly, the Department asked that Caltrans address the significance of its acquisitions on agricultural resources and the environment in a future environmental impact report it stated it intended to draft after completion of the initial study for the highway construction and alignment project.

In its reply, Caltrans stated it will need to acquire approximately 54.35 acres of land restricted by Williamson Act contract from eight parcels (APNs 431020013; 014; 018;019; 020; 431120004; 06 and 30) to initiate Build Alternatives options 1a and 2b. It also plans to

acquire 25.02 acres of land restricted by Williamson Act contracts from three parcels (APNs 431020009; 431030017 and 431100001) to implement two other Build Alternatives 1b, 2b and two Design Options 1b1 and 2b1. The total number of acres Caltrans will acquire for the project comes to approximately 79.37 acres. Information indicating whether the properties, to be acquired or impacted by the project, are prime or nonprime is still pending. The Department would appreciate receiving a copy of the environmental impact report as soon as it is available for review.

Caltrans also stated in the June 1, 2010 response letter, that it has given consideration to the findings stipulated in GC section 51292 (a) and (b), and finalized its selection of the new highway corridor after analyzing several project build alternatives. The letter also states that Caltrans has satisfied the criteria stipulated in GC section 51292 and that the decision to select the new route corridor is not based primarily on cost. In addition, the letter indicates that after analysis, Caltrans could find no other feasible routes for the new highway corridor that would not impact, to some degree, parcels under a Williamson Act contract. Caltrans determined that the site selection process not only minimizes the effects of the project on the environment, but lessens the effects on all types of farmland in the project area. The Department determines that Caltrans appears to have provided a sufficient explanation regarding its preliminary consideration of all available alternative routes for the new highway corridor project.

Thank you for the opportunity to comment on this project. If you have additional questions, please feel free to contact Jacquelyn Ramsey at 801 K Street, MS 18-01, Sacramento, California 95814; or, phone (916) 323-2379.

Sincerely,

Dan Otis
Program Manager
Williamson Act Program

cc: City of San Jacinto
City of Hemet
Riverside County Transportation Commission
Riverside County Board of Supervisors
Riverside County Farm Bureau

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 827)
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Flex your power!
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June 1, 2010

Mr. Dan Otis, Program Manager
Williamson Act Program
California Department of Conservation
801 K Street, MS 18-01
Sacramento, CA 95814

File: 08-Riv-SR79
PM R15.78/R33.80
SR-79 Realignment
EA: 08-494000

Dear Mr. Otis:

Thank you for your letter of April 22, 2010, providing comments on the March 9, 2010 transmittal from the California Department of Transportation (Department) to the California Department of Conservation, regarding potential impacts to Williamson Act lands associated with the State Route 79 (SR 79) Realignment Project (Project) being sponsored by the Riverside County Transportation Commission (RCTC), for which the Department is the California Environmental Quality Act (CEQA) Lead Agency. The following information is being provided in response to your comments.

Project Location and Description

RCTC, in cooperation with the Department, the County of Riverside, the City of Hemet, and the City of San Jacinto, proposes to realign a portion of State Route (SR 79) from south of the intersection with Gilman Springs Road in Riverside County (Figure 1.0, Regional Project Location). The Project length is approximately 30 kilometers (19 miles) and would include the construction of a four-lane highway, at-grade and grade-separated interchanges, bridges, local street improvements, and hydrology facilities. Four Build alternatives (Build Alternatives 1a, 1b, 2a, and 2b), each representing a different roadway alignment along one of two corridors, and a design option for each corridor, are being considered. Within each corridor, there are design options for Build Alternatives 1b and 2b: Design Option 1b1 and Design Option 2b1 (Figure 2.0, Alternative Corridor 1, and Figure 3.0, Alternative Corridor 2). These design options consist of variations in roadway access, which affect intersection, interchange, and bridge design, and a reduced vertical roadway profile from Domenigoni Parkway north to California Avenue.

The tables below list the parcels enrolled in a Williamson Act contract within the Project Agricultural Study Area, the amount of acres of each parcel to be acquired for each Build Alternative and Design Option, and the classification of each parcel contract (prime or non-prime). Figure 6.0, Impacts to Williamson Act Land within the Agricultural Study Area, is attached for your reference.

Williamson Act Parcels Impacted by Build Alternatives 1a and 2a*

Assessor's Parcel Number (APN)	Status of Williamson Act Contract	Amount of Parcel to be Acquired	Classification of Williamson Act Contract (Prime or Non-Prime)
431020013	Preserve	6.65 ha (16.44 ac)	Pending
431020014	Preserve	0.00004 ha (0.00009 ac)	Pending
431020018	Non-Renewal	N/A**	Pending
431020019	Non-Renewal	N/A**	Pending
431020020	Non-Renewal	4.69 ha (11.6 ac)	Pending
431120004	Preserve	4.03 ha (9.95 ac)	Pending
431120006	Preserve	3.08 ha (7.6 ac)	Pending
431130030	Preserve	3.54 ha (8.76 ac)	Pending

*Acreages proposed for acquisition are the same for both Build Alternative 1a and 2a
**N/A = not applicable. These parcels are within the agricultural study area; however they would not be acquired to accommodate the Project right of way.

Williamson Act Parcels Impacted by Build Alternatives 1b, 2b, and Design Option 1b1 and 2b1**

Assessor's Parcel Number (APN)	Status of Williamson Act Contract	Amount of Parcel to be Acquired	Classification of Williamson Act Contract (Prime or Non-Prime)
431020009	Non-Renewal	8.66 ha (21.4 ac)	Pending
431030017	Non-Renewal	N/A**	Pending
431100001	Non-Renewal	1.46 ha (3.62 ac)	Pending

*Acreages proposed for acquisition are the same for Build Alternative 1b, 2b, and Design Option 1b1 and 2b1
**N/A = not applicable. These parcels are within the agricultural study area; however they would not be acquired to accommodate the Project right of way.

Additionally, copies of each of the Williamson Act contracts for the above parcels are attached (Attachment B).

A summary of attached items for your review is provided below:

- A regional project location map (Figure 1.0)
- A scaled map of Alternative Corridor 1, with inset maps that illustrate Build Alternatives 1a and 1b, with Design Option 1b1 (Figure 2.0)
- A scaled map of Alternative Corridor 2, with inset maps that illustrate Build Alternatives 2a and 2b, with Design Option 2b1 (Figure 3.0)
- A map showing Williamson Act land within the Agricultural Study Area (Figure 6.0)
- Attachment A – California Department of Conservation Response Letter Dated April 22, 2010
- Attachment B – Copies of all Williamson Act Contracts Impacted by the Project

Required Findings

Because the Project is a new alignment, it must comply with the requirements of GC Section 51292, which states, "no public agency or person shall locate a public improvement within an agricultural preserve unless the following findings are made:

(a) The location is not based primarily on a consideration of the lower cost of acquiring land in an agricultural preserve.

(b) If the land is agricultural land covered under a contract pursuant to this chapter for any public improvement, that there is no other land within or outside the preserve on which it is reasonably feasible to locate the public improvement."

Several Project alternatives are being analyzed to minimize the effects on the environment, including effects on all types of farmlands. Each Project alternative will impact, to some degree, parcels under a Williamson Act contract. However, the Project is considered to have satisfied the above criteria, as the location of the alternatives is not based primarily on cost nor are there other reasonably feasible alternatives. The Build alternatives presented in this package were chosen based on various environmental studies, design restrictions, cost, and federal, state and local agency feedback. It is not practicable to avoid locating this Project on land covered by a Williamson Act contract. As recommended by your agency, State policies and statutory mandates such as the above government code, and potential significant impacts, will be addressed in the Environmental Impact Report.

If properties restricted by Williamson Act contracts are acquired, the Department and RCTC will notify your agency within 10 business days.

Please re-review the enclosed information presented in this package and provide comments—if determined to be warranted, to Kourtney Graves, Environmental Planner at (909)383-6324, or James Shankel, Senior Environmental Planner at (909)383-6379.

Sincerely,

JAMES SHANKEL
Senior Environmental Planner
Branch Chief, Environmental Studies "C"
District 8, Division of Environmental Planning
California Department of Transportation

cc: Jacquelyn Ramsey

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NATURAL RESOURCES AGENCY ARNOLD SCHWARZENEGGER, GOVERNOR

DEPARTMENT OF CONSERVATION

DIVISION OF LAND RESOURCE PROTECTION

801 K STREET • MS 18-01 • SACRAMENTO, CALIFORNIA 95814

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April 22, 2010

VIA FACSIMILE (909) 383-6494
Mr. James Shankel, Senior Environmental Planner
Department of Transportation, District 8
Environmental Planning (MS 827)
464 W. Fourth Street, 6th Floor
San Bernardino, CA 92401-1400

Dear Mr. Shankel:

Subject: Public Acquisition of Land Enrolled in Williamson Act Contracts for State Route 79 (SR 79) Construction and Realignment Project, Riverside County

Thank you for your letter of March 9, 2010, notifying the Department of Conservation (Department) of the possible acquisition of land located in an agricultural preserve by the Riverside County Transportation Commission (RCTC), in cooperation with the California Department of Transportation (Caltrans). The project proposes to realign a portion of State Route 79 (SR 79) from south of the intersection of Domenigoni Parkway to the intersection with Gilman Springs Road.

Project Location and Description

The Project is located within portions of the cities of Hemet and San Jacinto, and parts of unincorporated Riverside County. The Project length is approximately 30 kilometers (19 miles), and would include the construction of a four-lane highway, at-grade and grade-separated interchanges, bridges, local street improvements, and hydrology facilities. The notice describes four Build Alternatives for the project (Build Alternatives 1a, 1b, 2a, and 2b), each representing a different roadway alignment along one of two corridors. A Preferred Alternative has not been selected at this time as Caltrans and RCTC intend to make a decision after analysis of the information which will be provided in the DEIR/DEIS, when available. Your letter states that the project as proposed will require acquisition of eleven parcels (of which six are currently enrolled in Williamson Act contracts), as listed in the following table.

LAND WITHIN THE AG PRESERVE TO BE ACQUIRED (Contracted and not Contracted)	
Contracted Parcels Undergoing Non-Renewal	Non-contracted Parcels Located in Preserve
431020009	431020013
431020018	431020014
431020019	431120004
431020020	431120006
431030017	431130030
431100001	

The letter does not provide information about how many acres of contracted land may be acquired and also does not indicate whether the contracted properties proposed for acquisition are classified as prime or nonprime. The Department requests that the notice be amended to include this information about the Williamson Act contracted properties potentially being acquired. Please also submit copies of the applicable Williamson Act contracts, as required in statute (Government Code (GC) section 51291, subd. (b).). Copies of the Williamson Act contracts for the aforementioned properties should be obtainable from the Riverside County Recorder's Office. This information is needed to complete the administrative record and complete the public acquisition process as stipulated in statute (GC section 51291(b).).

Required Findings

Your letter states that your agency is not required to make the findings noted below because the findings do not apply to projects for *"...state highways on routes as described in section 301 to 622, inclusive, of the Streets and Highways Codes, as those sections read on October 1, 1965."* (GC section 51293(g))

Although there was a State Route 79 existing on October 1, 1965 and described in the Streets and Highways Code, it appears that the proposed alternative routes would be in a different location or corridor than the old/existing State Route 79. If that is the case, then the proposed alternative routes are not exempted from the findings required by GC section 51292.

In considering alternative routes for the Project, please be aware that it is State policy, as codified in GC section 51290, for public agencies to avoid, whenever practicable, locating public improvements within agricultural preserves or on land covered by a Williamson Act contract, and to consider the value to the public of retaining land in agriculture.

Your notice letter does indicate that up to six parcels covered by a Williamson Act contract may be impacted by the proposed project. Please be aware that the use restrictions contained in those contracts remain in full effect unless and until the contracts are terminated properly. The cancellation provisions of GC section 51295,

which provide for the nullification of a Williamson Act contract, are triggered only when acquisition is made by eminent domain or in lieu of eminent domain. Zoning and provisions in a general plan do not override a Williamson Act contract. In addition, the conversion of farmland or cancellation of a Williamson Act contract can constitute a potentially significant impact pursuant to the California Environmental Quality Act, and therefore require consideration of alternatives and adoption of mitigation. The Department recommends that the State policies and statutory mandates be addressed in the Environmental Impact Report for this project.

Additional Notification Requirements

The Department and Riverside County must be advised of any proposed significant changes to the project in accordance with GC section 51291(d). Also, the Department must be notified within 10 days if properties restricted by Williamson Act contracts are actually acquired. If after purchase RCTC and Caltrans determine not to locate the proposed project on the contracted properties, they must notify the Department and Riverside County before returning the lands to private ownership. If the project is not constructed on the acquired contracted properties, they must be reenrolled in new contracts or encumbered by enforceable restrictions at least as restrictive as those provided by the Williamson Act (GC section 51295) and the previous contracts. If you have any questions on these comments, please contact Jacquelyn Ramsey, Environmental Planner, at (916) 323-2379.

Sincerely,

Dan Otis
Program Manager
Williamson Act Program

cc: City of San Jacinto
City of Hemet
Riverside County Transportation Commission
Riverside County Board of Supervisors
Riverside County Farm Bureau

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DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 827)
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Flex your power!
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March 9, 2010

Ms. Bridgett Luther, Director
California Department of Conservation
801 K Street, MS 24-01
Sacramento, CA 85814

File: 08-Riv-SR79
PM R15.78/R33.80
SR-79 Realignment
EA: 08-494000

Dear Ms. Luther:

The Riverside County Transportation Commission (RCTC), in cooperation with the California Department of Transportation (Department), the County of Riverside, the City of Hemet, and the City of San Jacinto, proposes to realign a portion of State Route 79 (SR 79) from south of the intersection with Domenigoni Parkway to the intersection with Gilman Springs Road (Project). The Project is located within portions of the cities of Hemet and San Jacinto and parts of unincorporated Riverside County (Figure 1.0, Regional Project Location). The Project length is approximately 30 kilometers (19 miles) and would include the construction of a four-lane highway, at-grade and grade-separated interchanges, bridges, local street improvements, and hydrology facilities. Four Build alternatives (Build Alternatives 1a, 1b, 2a, and 2b), each representing a different roadway alignment along one of two corridors, and a design option for each corridor, are currently being considered. Within each corridor, there are design options for Build Alternatives 1b and 2b: Design Option 1b1 and Design Option 2b1 (Figure 2.0, Alternative Corridor 1, and Figure 3.0, Alternative Corridor 2). These design options consist of variations in roadway access, which affect intersection, interchange, and bridge design, and a reduced vertical roadway profile from Domenigoni Parkway north to California Avenue.

It is anticipated that the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/DEIS) prepared for this project will be circulated in the near future. A Preferred Alternative has not been selected. The Department and RCTC are interested in receiving any comments and/or concerns from your office as we proceed toward the selection of the Preferred Alternative.

For the purpose of the agricultural analysis of the Project, an Agricultural Study Area (ASA) was established to analyze direct and indirect impacts to farmlands, including Williamson Act lands. The ASA includes the Project ROW, utility relocation areas, connections to Hemet Channel outside the Project ROW, and traffic detours. In instances where any of these Project features would divide

a parcel containing farmlands, the ASA was extended out to include the entire farm (Figure 4.0, Agricultural Study Area).

Pursuant to the California Land Conservation Act (Williamson Act), California Government Code Section 51291, the California Department of Transportation (Department) is informing your agency that the ASA for the proposed State Route 79 (SR 79) Realignment Project (Project) contains parcels currently enrolled in a Williamson Act contract as shown the table below.

Williamson Act Land Within the ASA

Assessor's Parcel Number (APN)	Status of Williamson Act Contract
431020009	Non-Renewal
431020013	Preserve
431020014	Preserve
431020018	Non-Renewal
431020019	Non-Renewal
431020020	Non-Renewal
431030017	Non-Renewal
431100001	Non-Renewal
431120004	Preserve
431120006	Preserve
431130030	Preserve

However, all of these Williamson Act parcels are zoned by the City of San Jacinto for nonagricultural purposes. Farmland parcels zoned for nonagricultural uses per Riverside County, San Jacinto, and Hemet General Plan data are not considered to be part of the permanent impact area for the Project, because these areas will be converted to nonagricultural uses regardless of the impacts of the Project (Figure 5.0, Planned Farmland Conversion to Nonagricultural Use). It is assumed that permanent impacts related to the planned farmland conversion areas for the County of Riverside and the cities of San Jacinto and Hemet were addressed as part of the General Plan environmental approval process.

At this point of the Project, a Preferred Alternative has not been selected. The Department and RCTC will select a Preferred Alternative for the Project based on the analysis of impacts provided in the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/DEIS).

Based on this analysis, all Williamson Act parcels within the ASA would be converted to nonagricultural uses and were not quantified as an impact (Figure 6.0 – Zoned Farmlands and Williamson Act Land within the ASA).

The following items are attached for your review and comment:

- A regional project location map (Figure 1.0)
- A scaled map of Alternative Corridor 1, with inset maps that illustrate Build Alternatives 1a and 1b, with Design Option 1b1 (Figure 2.0)
- A scaled map of Alternative Corridor 2, with inset maps that illustrate Build Alternatives 2a and 2b, with Design Option 2b1 (Figure 3.0)
- A map of the Agricultural Study Area (Figure 4.0)
- A map showing farmland conversion areas (Figure 5.0)
- A map showing zoned farmland and Williamson Act land within the Agricultural Study Area (Figure 6.0)

The Department is concluding that this Project is exempt from the requirements described in Government Code Section 51292. This determination is based on Government Code Section 51293(g), which states, "Section 51292 shall not apply to: All state highways on routes as described in Section 301 to 622, inclusive, of the Streets and Highways Code, as those sections read on October 1, 1965." As such, a feasibility finding that is required prior to locating a public improvement within an agricultural preserve is not required for this Project.

Please review the enclosed information and provide comments—if determined warranted, by April 9, 2010. If you have any questions or concerns, you may contact Kourtney Graves, Environmental Planner at (909)383-6324, or I may be reached at (909)383-6379.

Sincerely,

JAMES SHANKEL
Senior Environmental Planner
Branch Chief, Environmental Studies "C"
District 8, Division of Environmental Planning
California Department of Transportation

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Natural Resources Conservation Service Correspondence

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U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*		3. Date of Land Evaluation Request 01/20/2012	4. Sheet 1 of 2
1. Name of Project SR 79 Realignment Project		5. Federal Agency Involved California Department of Transportation	
2. Type of Project Transportation Improvement District		6. County and State Riverside County, California	
PART II *(To be completed by NRCS)*		1. Date Request Received by NRCS	2. Person Completing Form Robert Hewitt
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☒ NO ☐			4. Acres Irrigated / Average Farm Size 180ac
5. Major Crop(s) Row crops, grain, dairies	6. Farmable Land in Government Jurisdiction Acres: ~~0~~ NA %		7. Amount of Farmland As Defined in FPPA Acres: %
8. Name Of Land Evaluation System Used Storie Index	9. Name of Local Site Assessment System ~~0~~ NA		10. Date Land Evaluation Returned by NRCS 7/9/2012 RSH

PART III *(To be completed by Federal Agency)*		Alternative Corridor 1		Alternative Corridor 2	
		Alt 1a	Alt 1b	Alt 2a	Alt 2b
A. Total Acres To Be Converted Directly (Permanent R/W plus util relo area)		1127	1053	1067	1020
B. Total Acres To Be Converted Indirectly, Or To Receive Services		86	79	87	78
C. Total Acres In Corridor		1,213	1,132	1,154	1,098
PART IV *(To be completed by NRCS) Land Evaluation Information*					
A. Total Acres Prime And Unique Farmland		162	223	149	121
B. Total Acres Statewide And Local Important Farmland		700	703	711	700
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value					
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*		46	45	43	43
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	Maximum Points				
1. Area in Nonurban Use	15	9	9	9	9
2. Perimeter in Nonurban Use	10	7	7	7	7
3. Percent Of Corridor Being Farmed	20	11	11	12	12
4. Protection Provided By State And Local Government	20	20	20	20	20
5. Size of Present Farm Unit Compared To Average	10	7	5	8	5
6. Creation Of Nonfarmable Farmland	25	0	0	0	0
7. Availablility Of Farm Support Services	5	5	5	5	5
8. On-Farm Investments	20	10	10	10	10
9. Effects Of Conversion On Farm Support Services	25	0	0	0	0
10. Compatibility With Existing Agricultural Use	10	5	5	5	5
TOTAL CORRIDOR ASSESSMENT POINTS	160	74	72	76	73
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland (From Part V)	100	46	45	43	43
Total Corridor Assessment (From Part VI above or a local site assessment)	160	74	72	76	73
TOTAL POINTS *(Total of above 2 lines)*	260	120	117	119	116

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
			YES ☐ NO ☒

5. Reason For Selection:

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*		3. Date of Land Evaluation Request 01/20/2012	4. Sheet 2 of 2
1. Name of Project	SR 79 Realignment Project	5. Federal Agency Involved	California Department of Transportation
2. Type of Project	Transportation Improvement District	6. County and State	Riverside County, California
PART II *(To be completed by NRCS)*		1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form).	YES ☐ NO ☐	4. Acres Irrigated	Average Farm Size
5. Major Crop(s)		6. Farmable Land in Government Jurisdiction Acres: %	7. Amount of Farmland As Defined in FPPA Acres: %
8. Name Of Land Evaluation System Used		9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS

PART III *(To be completed by Federal Agency)*		Alternative Corridor 1 Option 1b1		Alternative Corridor 2 Option 2b1	
A. Total Acres To Be Converted Directly (Permanent R/W plus util relo area)		1054		1021	
B. Total Acres To Be Converted Indirectly, Or To Receive Services		79		78	
C. Total Acres In Corridor		1,133		1,099	
PART IV *(To be completed by NRCS) Land Evaluation Information*					
A. Total Acres Prime And Unique Farmland		223		121	
B. Total Acres Statewide And Local Important Farmland		704		701	
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value					
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*		46		44	
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	Maximum Points				
1. Area in Nonurban Use	15	9		9	
2. Perimeter in Nonurban Use	10	7		7	
3. Percent Of Corridor Being Farmed	20	11		12	
4. Protection Provided By State And Local Government	20	20		20	
5. Size of Present Farm Unit Compared To Average	10	5		5	
6. Creation Of Nonfarmable Farmland	25	0		0	
7. Availability Of Farm Support Services	5	5		5	
8. On-Farm Investments	20	10		10	
9. Effects Of Conversion On Farm Support Services	25	0		0	
10. Compatibility With Existing Agricultural Use	10	5		5	
TOTAL CORRIDOR ASSESSMENT POINTS	160	72		73	
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland (From Part V)	100	46		44	
Total Corridor Assessment (From Part VI above or a local site assessment)	160	72		73	
TOTAL POINTS *(Total of above 2 lines)*	260	118		117	

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
			YES ☐ NO ☒

5. Reason For Selection:

Signature of Person Completing this Part: DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request 01/20/2012	4. Sheet 1 of 2
1. Name of Project **SR 79 Realignment Project**	5. Federal Agency Involved **California Department of Transportation**	
2. Type of Project **Transportation Improvement District**	6. County and State **Riverside County, California**	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS	2. Person Completing Form Robert Hewitt
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☒ NO ☐		4. Acres Irrigated / Average Farm Size 1800ac
5. Major Crop(s) Row crops, grain, dairies	6. Farmable Land in Government Jurisdiction Acres: ~~0~~ NA %	7. Amount of Farmland As Defined in FPPA Acres: %
8. Name Of Land Evaluation System Used Storie Index	9. Name of Local Site Assessment System ~~0~~ NA	10. Date Land Evaluation Returned by NRCS 7/9/2012 RSH

PART III *(To be completed by Federal Agency)*	Alternative Corridor 1 Alt 1a	Alt 1b	Alternative Corridor 2 Alt 2a	Alt 2b
A. Total Acres To Be Converted Directly (Permanent R/W plus util relo area)	1127	1053	1067	1020
B. Total Acres To Be Converted Indirectly, Or To Receive Services	86	79	87	78
C. Total Acres In Corridor	1,213	1,132	1,154	1,098
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	162	223	149	121
B. Total Acres Statewide And Local Important Farmland	700	703	711	700
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	46	45	43	43
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — Maximum Points				
1. Area in Nonurban Use — 15	9	9	9	9
2. Perimeter in Nonurban Use — 10	7	7	7	7
3. Percent Of Corridor Being Farmed — 20	11	11	12	12
4. Protection Provided By State And Local Government — 20	20	20	20	20
5. Size of Present Farm Unit Compared To Average — 10	7	5	8	5
6. Creation Of Nonfarmable Farmland — 25	0	0	0	0
7. Availablility Of Farm Support Services — 5	5	5	5	5
8. On-Farm Investments — 20	10	10	10	10
9. Effects Of Conversion On Farm Support Services — 25	0	0	0	0
10. Compatibility With Existing Agricultural Use — 10	5	5	5	5
TOTAL CORRIDOR ASSESSMENT POINTS — 160	74	72	76	73
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100				
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	74	72	76	73
TOTAL POINTS *(Total of above 2 lines)* — 260				

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
			YES ☐ NO ☐

5. Reason For Selection:

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request **01/20/2012**	4. Sheet 2 of **2**
1. Name of Project **SR 79 Realignment Project**	5. Federal Agency Involved **California Department of Transportation**	
2. Type of Project **Transportation Improvement District**	6. County and State **Riverside County, California**	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☐ NO ☐	4. Acres Irrigated	Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: %	7. Amount of Farmland As Defined in FPPA Acres: %
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS

PART III *(To be completed by Federal Agency)*		**Alternative Corridor 1** Option 1b1		**Alternative Corridor 2** Option 2b1	
A. Total Acres To Be Converted Directly (Permanent R/W plus util relo area)		1054		1021	
B. Total Acres To Be Converted Indirectly, Or To Receive Services		79		78	
C. Total Acres In Corridor		1,133		1,099	
PART IV *(To be completed by NRCS) Land Evaluation Information*					
A. Total Acres Prime And Unique Farmland		223		121	
B. Total Acres Statewide And Local Important Farmland		704		701	
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value					
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*		46		44	
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	Maximum Points				
1. Area in Nonurban Use	15	9		9	
2. Perimeter in Nonurban Use	10	7		7	
3. Percent Of Corridor Being Farmed	20	11		12	
4. Protection Provided By State And Local Government	20	20		20	
5. Size of Present Farm Unit Compared To Average	10	5		5	
6. Creation Of Nonfarmable Farmland	25	0		0	
7. Availability Of Farm Support Services	5	5		5	
8. On-Farm Investments	20	10		10	
9. Effects Of Conversion On Farm Support Services	25	0		0	
10. Compatibility With Existing Agricultural Use	10	5		5	
TOTAL CORRIDOR ASSESSMENT POINTS	160	72		73	
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland (From Part V)	100				
Total Corridor Assessment (From Part VI above or a local site assessment)	160	72		73	
TOTAL POINTS *(Total of above 2 lines)*	260				

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES ☐ NO ☐

5. Reason For Selection:

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 823)
464 W. FOURTH STREET, 6TH FLOOR
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Flex your power!
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April 27, 2012

Mr. Robert S. Hewitt, District Conservationist
United States Department of Agriculture
Natural Resources Conservation Service
950 N. Ramona Blvd., Suite 6
San Jacinto, CA 92582

File: 08-Riv-SR79
PM R15.78/R33.80
SR-79 Realignment
EA 08-494000
PN 0800000784

Dear Mr. Hewitt:

On behalf of the California Department of Transportation (Caltrans), and in anticipation of the State Route 79 (SR 79) Draft Environmental Impact Report/Environmental Impact Statement (DEIR/DEIS), please see the attached updated CPA-106 form for the State Route 79 Realignment Project, located in Riverside County. The updated quantities now include farmlands that were previously called "planned farmland conversion areas." The "planned farmland conversion areas" were farmlands that are zoned or shown as non-agricultural classifications (i.e. residential, commercial) in regional general plans. They were extracted out of the previously transmitted impact analysis provided for this proposed project, dated March of 2010 (Attachment 1). However, based on further evaluation, these areas have now been included in the impact analysis, as shown in Attachment 2 – Updated Form CPA-106. A figure showing revised impacts to farmlands has also been included (Attachment 3).

The table below summarizes the revised impacts that are shown in Attachment 2. Direct impacts include the areas within the proposed right-of-way of each alternative. Indirect impacts are limited to four parcels where it appears the remainder of the parcel will be inaccessible or not usable in its current agricultural use. These same parcels will be affected to varying degrees by each alternative. Indirect impacts comprise less than 10% of the important farmland impacts of each alternative.

Impacts to Important Farmlands						
	Build Alternative 1A	Build Alternative 1B	Build Alternative 2A	Build Alternative 2B	Design Option 1b1	Design Option 2b1
Total Impact Area						
Direct (acres)	1,127.00	1,053.00	1,067.00	1,020.00	1,054.00	1,021.00
Indirect (acres)	86.00	79.00	87.00	78.00	79.00	78.00
Total (acres)	1,213.00	1,132.00	1,154.00	1,098.00	1,133.00	1,099.00

Impacts to Important Farmlands						
Prime Farmlands						
Direct (acres)	125.00	201.11	111.90	99.82	201.11	99.82
Indirect (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Total (acres)	125.00	201.11	111.90	99.82	201.11	99.82
Unique Farmlands						
Direct (acres)	37.27	21.27	37.27	21.27	21.27	21.27
Indirect (acres)	0.21	0.21	0.21	0.21	0.21	0.21
Total (acres)	37.48	21.48	37.48	21.48	21.48	21.48
Rounded Total, Prime/Unique (acres)	**162**	**223**	**149**	**121**	**223**	**121**
Statewide Important Farmlands						
Direct (acres)	102.97	109.41	102.38	99.82	109.41	99.82
Indirect (acres)	0.20	0.20	0.20	0.20	0.20	0.20
Total (acres)	103.17	109.61	102.58	100.02	109.61	100.02
Local Important Farmlands						
Direct (acres)	511.40	515.87	522.43	522.55	516.71	523.39
Indirect (acres)	85.55	77.89	85.55	77.89	77.89	77.89
Total (acres)	596.95	593.76	607.98	600.44	594.60	601.28
Rounded Total, Statewide/Local (acres)	**700**	**703**	**711**	**700**	**704**	**701**

As noted in Caltrans' March 9, 2010 correspondence to your Office in this regard, this project is covered by the *Memorandum of Understanding (MOU) between the Federal Highway Administration and the California Department of Transportation Concerning the State of California's Participation in the Surface Transportation Project Delivery Pilot Program*, which became effective on July 1, 2007. The MOU was signed pursuant to Section 6005 of the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which allows the Secretary of Transportation to assign, and the State of California to assume, responsibility for the Federal Highway Administration's (FHWA's) responsibilities under other Federal environmental laws. FHWA has assigned and Caltrans has assumed FHWA responsibility for environmental review, consultation, and coordination on this project. Caltrans is transmitting this letter as the NEPA lead agency under the provisions of the referenced MOU.

Caltrans has completed Parts I, III, VI, and VII of form CPA 106 to initiate the farmland conversion impact rating process for the Project. The following items have been attached for your review and comment:

- Attachment 1 – Previous NRCS package dated March 2010 (1 copy)
- Attachment 2 – Updated CPA-106 Forms (3 copies)

- Attachment 3 – A figure showing revised impacts to farmlands (3 copies)

The planned farmland conversion areas are still shown as a separate item in the legend on the attached figure for your reference.

We respectfully request an expedited review of the enclosed information. The Draft EIR/EIS for this Project is nearing completion, and it is very important that we receive your feedback regarding this update. We look forward to continuing to work with you in the development of the Project, and will provide a copy of the Draft Environmental document to your office for your review and comment once the document is completed and ready for circulation.

If you have any questions or concerns, you may contact Irene Dominguez, Associate Environmental Planner at (909)383-6324, or I may be reached at (909) 383-5918.

Sincerely,

KERRIE HUDSON
Senior Environmental Planner
Branch Chief, Environmental Studies "A"
District 8, Division of Environmental Planning
California Department of Transportation

Attachments

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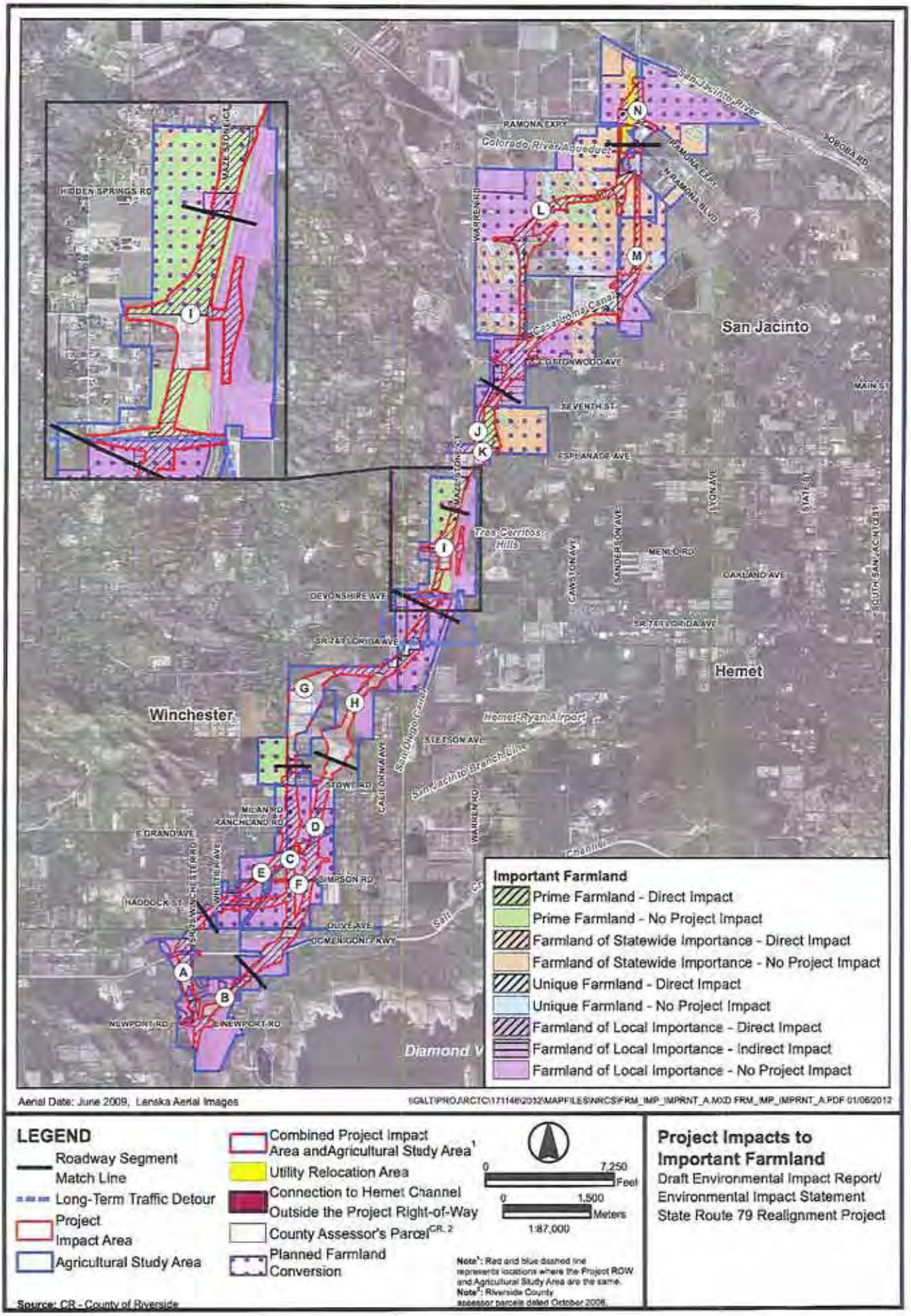
San Jacinto
Hemet
Winchester
Diamond V
Trans Corridor Hills
Hemet-Ryan Airport
Colorado River Aqueduct
San Jacinto River
San Diego Canal
Cactus Branch Line
Casa Loma Canal
RAMONA EXPY
HIDDEN SPRINGS RD
MAZE STONE CT
WARREN RD
COTTONWOOD AVE
SEVENTH ST
ESPLANADE AVE
MAIN ST
STATE ST
SAN JACINTO ST
DEVONSHIRE AVE
SR-74/FLORIDA AVE
MENDOCINO RD
OAKLAND AVE
SANDERSON AVE
CAWSTON AVE
STOWE RD
MILAN RD
RANCHLAND RD
F GRAND AVE
CALIFORNIA AVE
WHITTIER AVE
SIMPSON RD
OLIVE AVE
DOMENIGONI PKWY
NEWPORT RD
ESTUDILLO AVE
Important Farmland
Prime Farmland - Direct Impact
Prime Farmland - No Project Impact
Farmland of Statewide Importance - Direct Impact
Farmland of Statewide Importance - No Project Impact
Unique Farmland - Direct Impact
Unique Farmland - No Project Impact
Farmland of Local Importance - Direct Impact
Farmland of Local Importance - Indirect Impact
Farmland of Local Importance - No Project Impact
Aerial Date: June 2009, Lenska Aerial Images
G:\GALT\PROJ\RCTC\171146\2012\MAPFILES\NRCS\FRM_IMP_IMPRNT_A.MXD FRM_IMP_IMPRNT_A.PDF 01/06/2012
LEGEND
Roadway Segment
Match Line
Long-Term Traffic Detour
Project
Impact Area
Agricultural Study Area
Combined Project Impact
Area andAgricultural Study Area[1]
Utility Relocation Area
Connection to Hemet Channel
Outside the Project Right-of-Way
County Assessor's Parcel[CR. 2]
Planned Farmland
Conversion
0 7,250 Feet
0 1,500 Meters
1:87,000
Note[1]: Red and blue dashed line represents locations where the Project ROW and Agricultural Study Area are the same.
Note[2]: Riverside County assessor parcels dated October 2006.
Source: CR - County of Riverside
Project Impacts to Important Farmland
Draft Environmental Impact Report/ Environmental Impact Statement
State Route 79 Realignment Project

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U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request	4. Sheet 1 of 2
1. Name of Project: State Route 79 Realignment Project	5. Federal Agency Involved: California Department of Transportation	
2. Type of Project: Transportation Improvement Project	6. County and State: Riverside County, California	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS	2. Person Completing Form: ROBERT HEWITT
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐		4. Acres Irrigated / Average Farm Size: 150
5. Major Crop(s): ROW CROPS, GRAIN, DAIRIES	6. Farmable Land in Government Jurisdiction — Acres: %	7. Amount of Farmland As Defined in FPPA — Acres: %
8. Name Of Land Evaluation System Used: STORIE INDEX	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS: 6-2-10 RSH

PART III *(To be completed by Federal Agency)*	Alternative Corridor 1		Alternative Corridor 2	
	Alternative 1a	Alternative 1b	Alternative 2a	Alternative 2b
A. Total Acres To Be Converted Directly	168	188	177	194
B. Total Acres To Be Converted Indirectly, Or To Receive Services	117	116	116	117
C. Total Acres In Corridor	285	304	293	311
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	51	50	49	49
B. Total Acres Statewide And Local Important Farmland	235	253	244	262
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	68	63	68	60
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	95	95	93	93
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — Maximum Points				
1. Area in Nonurban Use — 15	1	1	1	1
2. Perimeter in Nonurban Use — 10	0	0	0	0
3. Percent Of Corridor Being Farmed — 20	20	20	20	20
4. Protection Provided By State And Local Government — 20	20	20	20	20
5. Size of Present Farm Unit Compared To Average — 10	10	10	10	10
6. Creation Of Nonfarmable Farmland — 25	0	0	0	0
7. Availability Of Farm Support Services — 5	5	5	5	5
8. On Farm Investments — 20	8	8	8	8
9. Effects Of Conversion On Farm Support Services — 25	0	0	0	0
10. Compatibility With Existing Agricultural Use — 10	10	10	10	10
TOTAL CORRIDOR ASSESSMENT POINTS — 160	74	74	74	74
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100	95	95	93	93
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	74	74	74	74
TOTAL POINTS *(Total of above 2 lines)* — 260	119	119	117	117

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES ☐ NO ☑

5. Reason For Selection:

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request	4. Sheet 2 of 2
1. Name of Project: State Route 79 Realignment Project	5. Federal Agency Involved: California Department of Transportation	
2. Type of Project: Transportation Improvement Project	6. County and State: Riverside County, California	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS	2. Person Completing Form: ROBERT HEWITT
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐		4. Acres Irrigated / Average Farm Size: 150
5. Major Crop(s): ROW CROPS, GRAIN, DAIRIES	6. Farmable Land in Government Jurisdiction — Acres: %	7. Amount of Farmland As Defined in FPPA — Acres: %
8. Name Of Land Evaluation System Used: STORIE INDEX	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS: 6-2-10 RSH

PART III *(To be completed by Federal Agency)*	Maximum Points	Alternative Corridor 1	Alternative Corridor 2
		Design Option 1b1	Design Option 2b1
A. Total Acres To Be Converted Directly		189	195
B. Total Acres To Be Converted Indirectly, Or To Receive Services		116	117
C. Total Acres In Corridor		305	312
PART IV *(To be completed by NRCS) Land Evaluation Information*			
A. Total Acres Prime And Unique Farmland		50	49
B. Total Acres Statewide And Local Important Farmland		254	263
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		63	60
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative Value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*		45	43
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*			
1. Area in Nonurban Use	15	1	1
2. Perimeter in Nonurban Use	10	0	0
3. Percent Of Corridor Being Farmed	20	20	20
4. Protection Provided By State And Local Government	20	20	20
5. Size of Present Farm Unit Compared To Average	10	10	10
6. Creation Of Nonfarmable Farmland	25	0	0
7. Availability Of Farm Support Services	5	5	5
8. On-Farm Investments	20	8	8
9. Effects Of Conversion On Farm Support Services	25	0	0
10. Compatibility With Existing Agricultural Use	10	10	10
TOTAL CORRIDOR ASSESSMENT POINTS	160	74	74
PART VII *(To be completed by Federal Agency)*			
Relative Value Of Farmland (From Part V)	100	45	43
Total Corridor Assessment (From Part VI above or a local site assessment)	160	74	74
TOTAL POINTS *(Total of above 2 lines)*	260	119	117

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
			YES ☐ NO ☑

5. Reason For Selection:

Signature of Person Completing this Part: DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

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DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 827)
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SAN BERNARDINO, CA 92401-1400
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Flex your power!
Be energy efficient!

March 9, 2010

Mr. Robert S. Hewitt, District Conservationist
United States Department of Agriculture
National Resources Conservation Service
950 N. Ramona Blvd., Suite 6
San Jacinto, CA 92582

File: 08-Riv-SR79
PM R15.78/R33.80
SR-79 Realignment
EA: 08-494000

Dear Mr. Hewitt:

The Riverside County Transportation Commission (RCTC), in cooperation with the California Department of Transportation (Department), the County of Riverside, the City of Hemet, and the City of San Jacinto, proposes to realign a portion of State Route 79 (SR 79) from south of the intersection with Domenigoni Parkway to the intersection with Gilman Springs Road (Project). The Project is located within portions of the cities of Hemet and San Jacinto and parts of unincorporated Riverside County (Figure 1.0, Regional Project Location). The Project length is approximately 30 kilometers (19 miles) and would include the construction of a four-lane highway, at-grade and grade-separated interchanges, bridges, local street improvements, and hydrology facilities. Four Build alternatives (Build Alternatives 1a, 1b, 2a, and 2b), each representing a different roadway alignment along one of two corridors, are currently being considered. Within each corridor, there are design options for Build Alternatives 1b and 2b: Design Option 1b1 and Design Option 2b1 (Figure 2.0, Alternative Corridor 1, and Figure 3.0, Alternative Corridor 2). These design options consist of variations in roadway access, which affect intersection, interchange, and bridge design, and a reduced vertical roadway profile from Domenigoni Parkway north to California Avenue.

It is anticipated that the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/DEIS) prepared for this project will be circulated in the near future. A Preferred Alternative has not been selected. The Department and RCTC are interested in receiving any comments and/or concerns from your office as we proceed toward the selection of the Preferred Alternative.

For the purpose of the agricultural analysis of the Project, an Agricultural Study Area (ASA) was established to analyze direct and indirect impacts to farmlands, including prime and unique farmlands, and farmlands of statewide and local importance as designated under the Farmland Protection Policy Act (FPPA). The ASA includes the Project right-of-way (ROW), utility relocation areas, connections to Hemet Channel outside the Project ROW, and traffic detours. In instances

where any of these Project features would divide a parcel containing farmlands, the ASA was extended to include the entire farm (Figure 4.0, Agricultural Study Area).

All direct and indirect impacts to farmlands are considered permanent. No temporary construction easements are required for the Project. All construction activities would take place within the proposed ROW; therefore, no temporary (direct or indirect) impacts to farmlands were quantified.

The direct, permanent impact area consists of the Project ROW, utility relocation areas, connections to Hemet Channel outside the Project ROW, and traffic detours. Farmland parcels zoned for nonagricultural uses per Riverside County, San Jacinto, and Hemet General Plan data are not considered to be part of the direct permanent impact area for the Project, because these areas will be converted to nonagricultural uses regardless of the impacts from the Project (Figure 5.0, Planned Farmland Conversion to Nonagricultural Use). It is assumed that direct permanent impacts related to the planned farmland conversion areas for the County of Riverside and the cities of San Jacinto and Hemet were addressed as part of the General Plan environmental approval process. The city of San Jacinto does not include zoned farmland within the ASA.

The indirect, permanent impact area is based on zoning data from Riverside County and the city of Hemet. Only those lands zoned as agriculture are included in the indirect impact calculation (Figure 6.0, Project Impacts to Zoned Farmland). For example, if farmlands currently exist in the indirect impact area, and these same farmlands are also zoned as agriculture, they are included in the indirect impact calculation. Farmlands that currently exist in the indirect impact area but are not zoned as agriculture are not included in the indirect impact calculation.

For purposes of the Project, farmlands designated by the FPPA are termed important farmlands. The following table summarizes direct and indirect impacts to important farmlands in the ASA (Figure 7.0, Project Impacts to Important Farmlands).

Impacts to Important Farmlands

Build Alternative	Prime hectares (acres)	Statewide Importance hectares (acres)	Unique hectares (acres)	Local Importance hectares (acres)	Total hectares (acres)
1a	20.49 (50.64)	2.58 (6.39)	N/A	92.33 (228.14)	115.40 (285.17)
1b	20.36 (50.31)	2.58 (6.39)	N/A	99.95 (246.99)	122.90 (303.69)
1b1	20.36 (50.31)	2.58 (6.39)	N/A	100.29 (247.83)	123.24 (304.53)
2a	19.87 (49.10)	2.58 (6.39)	N/A	96.02 (237.26)	118.47 (292.75)
2b	20.00 (49.43)	2.58 (6.39)	N/A	103.47 (255.68)	126.06 (311.50)
2b1	20.00 (49.43)	2.58 (6.39)	N/A	103.81 (256.52)	126.40 (312.33)

The Department is transmitting/initiating Parts I, III, VI, and VII of form CPA 106 to initiate the farmland conversion impact rating process for the Project as the NEPA lead agency under the provisions of the *Memorandum of Understanding (MOU) between the Federal Highway Administration and the California Department of Transportation Concerning the State of California's Participation in the Surface Transportation Project Delivery Pilot Program*, which became effective on July 1, 2007. The MOU was signed pursuant to Section 6005 of the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) which allows the Secretary of Transportation to assign, and the State of California to assume, responsibility for FHWA's responsibilities under other Federal environmental laws. As this project is covered by the Pilot Program MOU, FHWA has assigned and Caltrans has assumed FHWA responsibility for environmental review, consultation, and coordination on this project. Please direct all future correspondence on this project to Caltrans (Department).

The Department has completed Parts I, III, VI, and VII of form CPA 106 to initiate the farmland conversion impact rating process for the Project. Three copies of each of the following items are attached for your review and comment:

- A regional Project location map (Figure 1.0)
- A scaled map of Alternative Corridor 1, with inset maps that illustrate Build Alternatives 1a and 1b, with Design Option 1b1 (Figure 2.0)
- A scaled map of Alternative Corridor 2, with inset maps that illustrate Build Alternatives 2a and 2b, with Design Option 2b1 (Figure 3.0)
- A map of the Agricultural Study Area (Figure 4.0)
- A map showing farmland conversion areas (Figure 5.0)
- A map showing zoned farmland (Figure 6.0)
- A map showing Impacts to Important Farmlands within the Agricultural Study Area based on 2004 Farmland Mapping and Monitoring Program (FMMP) data provided by the California Department of Conservation (Figure 7.0)
- Form CPA 106

Please review the enclosed information and provide comments—if determined warranted, by April 9, 2010. If you have any questions or concerns, you may contact Kourtney Graves, Environmental Planner at (909)383-6324, or I may be reached at (909)383-6379.

Sincerely,

JAMES SHANKEL
Senior Environmental Planner
Branch Chief, Environmental Studies "C"
District 8, Division of Environmental Planning
California Department of Transportation

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request	4. Sheet 1 of 2
1. Name of Project **State Route 79 Realignment Project**	5. Federal Agency Involved **California Department of Transportation**	
2. Type of Project **Transportation Improvement Project**	6. County and State **Riverside County, California**	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☐ NO ☐		4. Acres Irrigated | Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction **Acres:** **%**	7. Amount of Farmland As Defined in FPPA **Acres:** **%**
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS

PART III *(To be completed by Federal Agency)*	Alternative Corridor 1		Alternative Corridor 2	
	Alternative 1a	**Alternative 1b**	**Alternative 2a**	**Alternative 2b**
A. Total Acres To Be Converted Directly	**168**	**188**	**177**	**194**
B. Total Acres To Be Converted Indirectly, Or To Receive Services	**117**	**116**	**116**	**117**
C. Total Acres In Corridor	**285**	**304**	**293**	**311**
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	**51**	**50**	**49**	**49**
B. Total Acres Statewide And Local Important Farmland	**235**	**253**	**244**	**262**
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	**68**	**63**	**68**	**60**
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*				
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — **Maximum Points**				
1. Area in Nonurban Use — 15	**1**	**1**	**1**	**1**
2. Perimeter in Nonurban Use — 10	**0**	**0**	**0**	**0**
3. Percent Of Corridor Being Farmed — 20	**20**	**20**	**20**	**20**
4. Protection Provided By State And Local Government — 20	**20**	**20**	**20**	**20**
5. Size of Present Farm Unit Compared To Average — 10	**10**	**10**	**10**	**10**
6. Creation Of Nonfarmable Farmland — 25	**0**	**0**	**0**	**0**
7. Availablility Of Farm Support Services — 5	**5**	**5**	**5**	**5**
8. On-Farm Investments — 20	**8**	**8**	**8**	**8**
9. Effects Of Conversion On Farm Support Services — 25	**0**	**0**	**0**	**0**
10. Compatibility With Existing Agricultural Use — 10	**10**	**10**	**10**	**10**
TOTAL CORRIDOR ASSESSMENT POINTS — 160	**74**	**74**	**74**	**74**
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100				
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	**74**	**74**	**74**	**74**
TOTAL POINTS *(Total of above 2 lines)* — 260				

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES ☐ NO ☑

5. Reason For Selection:

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request	4. Sheet 2 of 2
1. Name of Project **State Route 79 Realignment Project**	5. Federal Agency Involved **California Department of Transportation**	
2. Type of Project **Transportation Improvement Project**	6. County and State **Riverside County, California**	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☐ NO ☐		4. Acres Irrigated / Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction **Acres:** **%**	7. Amount of Farmland As Defined in FPPA **Acres:** **%**
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS

PART III *(To be completed by Federal Agency)*	Maximum Points	Alternative Corridor 1	Alternative Corridor 2
		Design Option 1b1	Design Option 2b1
A. Total Acres To Be Converted Directly		189	195
B. Total Acres To Be Converted Indirectly, Or To Receive Services		116	117
C. Total Acres In Corridor		305	312
PART IV *(To be completed by NRCS) Land Evaluation Information*			
A. Total Acres Prime And Unique Farmland		50	49
B. Total Acres Statewide And Local Important Farmland		254	263
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		63	60
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*			
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	Maximum Points		
1. Area in Nonurban Use	15	1	1
2. Perimeter in Nonurban Use	10	0	0
3. Percent Of Corridor Being Farmed	20	20	20
4. Protection Provided By State And Local Government	20	20	20
5. Size of Present Farm Unit Compared To Average	10	10	10
6. Creation Of Nonfarmable Farmland	25	0	0
7. Availablility Of Farm Support Services	5	5	5
8. On-Farm Investments	20	8	8
9. Effects Of Conversion On Farm Support Services	25	0	0
10. Compatibility With Existing Agricultural Use	10	10	10
TOTAL CORRIDOR ASSESSMENT POINTS	160	74	74
PART VII *(To be completed by Federal Agency)*			
Relative Value Of Farmland (From Part V)	100		
Total Corridor Assessment (From Part VI above or a local site assessment)	160	74	74
TOTAL POINTS *(Total of above 2 lines)*	260		

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
			YES ☐ NO ☑

5. Reason For Selection:

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

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Appendix H Development Projects in the Cumulative Impacts Study Area

The 477 projects listed below are included in the general plans and related planning documents of the City of Hemet, the City of San Jacinto, or Riverside County. Figure 3.6-1, Status of Developments Considered in Cumulative Impact Analysis, maps these same projects.

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Commercial	CUP 03-01	Mini-storage facility with recreational vehicle storage	Acacia Avenue between Gilbert Street and Palm Street	Hemet	1.2 ha (3.0 ac)	Under Construction
Commercial	CUP 03-04	Smog testing station	3501 Tanya Avenue	Hemet	0.4 ha (1.0 ac)	Application Submitted
Commercial	CUP 03-05	Two storage buildings in an existing facility	Southeast of Lyon Avenue and Acacia Avenue	Hemet	2.8 ha (7.0 ac)	Project Approved
Commercial	CUP 03-07	Parking lot for the Washington Mutual Bank	132 N Mayflower Street	Hemet	0.0 ha (0.0 ac)	Under Construction
Commercial	CUP 03-09	Canopy with a new gas dispenser and above ground propane tank	395 W Stetson Avenue	Hemet	0.2 ha (0.4 ac)	Project Approved
Commercial	CUP 03-10	New canopy with new gas dispensers	3660 E Florida Avenue	Hemet	0.2 ha (0.5 ac)	Project Approved
Commercial	CUP 03-12	Two commercial retail buildings (Hemet Commercial Center)	Northeast of Florida Avenue and Cawston Avenue	Hemet	1.1 ha (2.7 ac)	Under Construction
Commercial	CUP 03-15	New buildings at the existing mini-storage facility	1181 N State Street	Hemet	1.8 ha (4.4 ac)	Under Construction
Commercial	CUP 04-07	Conversion of existing residence to Hearing Aid office for sales and service	623 E Latham	Hemet	0.04 ha (0.1 ac)	Project Approved
Commercial	CUP 04-08	New storage buildings, office, and landscaping (Wentworth Self Storage)	Wentworth Drive between Scaramella Circle and South Sanderson Avenue	Hemet	2.7 ha (6.7 ac)	Under Construction
Commercial	CUP 04-12	New shopping center	2771 W Florida Avenue	Hemet	3.1 ha (7.6 ac)	Under Construction
Commercial	CUP 04-15	Two single-story, multi-tenant pads	Southwest of Sanderson Avenue and Acacia Avenue	Hemet	0.6 ha (1.5 ac)	Project Approved
Commercial	CUP 04-17/ TPM 30934	Five retail pads (Rico Development)	Southwest of Florida Avenue and Target Center	Hemet	1.2 ha (3.0 ac)	Application Submitted
Commercial	CUP 04-18	Building with a retail and a coffee house including an outdoor patio and drive-thru	Southeast of Florida Avenue and Palm Avenue	Hemet	0.2 ha (0.4 ac)	Application Submitted
Commercial	CUP 05-01	New retail building, convenience store, car wash, office/bank building, and a drive-thru restaurant	Northeast of Soboba Street and Florida Avenue	Hemet	1.3 ha (3.3 ac)	Application Submitted
Commercial	CUP 05-03	Not specified	Northwest of Gilbert and Stetson Avenue	Hemet	1.1 ha (2.7 ac)	Application Submitted
Commercial	CUP 05-04	Expand existing tire store	Southeast of Florida Avenue and Sanderson Avenue	Hemet	8.8 ha (21.7 ac)	Application Submitted
Commercial	CUP 05-05	Self storage facility, with 7 buildings	South of Menlo between State Street and San Jacinto Street	Hemet	1.3 ha (3.3 ac)	Project Approved
Commercial	CUP 05-09	Convert existing building into a Sam's Club	Southwest of Florida Avenue and Gilmore Street	Hemet	5.4 ha (13.4 ac)	Under Construction
Commercial	CUP 05-12	Retail building	Southwest of Florida and Santa Fe Street	Hemet	0.2 ha (0.4 ac)	Application Submitted
Commercial	CUP 05-16	Shopping center	Northeast of Florida Avenue and Cawston Avenue	Hemet	0.6 ha (1.6 ac)	Application Submitted
Commercial	CUP 05-18	Modular building for an auto sales center	North of Florida Avenue between Cornell Street and Las Flores Drive	Hemet	0.2 ha (0.5 ac)	Application Submitted
Commercial	CUP 05-25	Completion of unfinished building, together with covered parking, office, and residential uses	Southwest of Kimball Avenue and Carmalita Street	Hemet	0.4 ha (1.0 ac)	Application Submitted
Commercial	GPA 04-07/ ZC 04-13	Change the zoning from C-1 and M-2 to C-2	Southeast of Sanderson Avenue and Acacia Avenue	Hemet	15.1 ha (37.3 ac)	Application Submitted

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Commercial	GPA 05-01	Commercial development with 25 buildings for retail, office space, and restaurants (Sanderson Square)	Southeast of Sanderson Avenue and Whittier Avenue	Hemet	17.8 ha ac) (44.0	Application Submitted
Commercial	SDR 03-08	Retail building	Southeast of Kirby Avenue and Florida Street	Hemet	0.6 ha (1.4 ac)	Application Submitted
Commercial	SDR 03-09	Hotel with 86 rooms	2800 W Florida Avenue	Hemet	1.3 ha (3.3 ac)	Operational
Commercial	SDR 03-12	Home improvement warehouse (Lowe's)	Southwest of Sanderson Avenue and Acacia Avenue	Hemet	4.4 ha (10.9 ac)	Operational
Commercial	SDR 03-22	Suzuki automotive dealership in Hemet Auto Mall	Hemet Auto Mall	Hemet	2.8 ha (7.0 ac)	Under Construction
Commercial	SDR 04-02	Warehouse and office space	South of Florida Avenue between Hamilton Street and Wren Lane	Hemet	1.9 ha (4.8 ac)	Application Submitted
Commercial	SDR 04-08	Replace building	West of San Jacinto Street between Menlo Avenue and Oakland Avenue	Hemet	0.2 ha (0.4 ac)	Application Submitted
Commercial	SDR 04-10	Three building office/service commercial complex	Sanderson Avenue	Hemet	0.7 ha (1.8 ac)	Application Submitted
Commercial	SDR 04-23	Steel building for storage of construction materials	1130 N State Street	Hemet	2.8 ha (7.0 ac)	Application Submitted
Commercial	SDR 04-32	Construct restaurant (China Palace)	137 S Palm Avenue	Hemet	0.2 ha (0.4 ac)	Application Submitted
Commercial	SDR 04-37	Addition to existing Smitty's Auto Paint	427 E Oakland Avenue	Hemet	0.2 ha (0.4 ac)	Application Submitted
Commercial	SDR 05-05	Dental office on commercial property	Northeast of San Jacinto Street and Oakland Avenue	Hemet	0.3 ha (0.8 ac)	Application Submitted
Commercial	SDR 05-07	Recreational vehicle and boat storage (Dawn to Dusk)	Northwest of Buena Vista Street and Menlo Avenue	Hemet	1.8 ha (4.5 ac)	Application Submitted
Commercial	SP 04-01	7 small and 3 larger commercial buildings (Hemet Gateway)	Northwest of Florida Avenue and Warren Road	Hemet	19.4 ha (48.0 ac)	Application Submitted
Commercial	SPA 03-01	6 large buildings and additional smaller buildings (Hemet Marketplace)	Southwest of Florida Avenue and Warren Road	Hemet	0.0 ha (0.0 ac)	Application Submitted
Commercial	TPM 29807	8 parcels (Hemet Crossroads)	Northeast of Warren Road and Florida Avenue	Hemet	0.1 ha (0.2 ac)	Application Submitted
Commercial	TPM 29873	2 lots zoned C-2	117 N Harvard Street	Hemet	0.0 ha (0.0 ac)	Project Approved
Commercial	TPM 30204	14 commercial parcels	South of Esplanade between State Street and Palm Avenue	Hemet	0.6 ha (1.4 ac)	Application Submitted
Commercial	TPM 30424	4 lots zoned C-2	Northeast of Florida Avenue and Meridian Street	Hemet	1.6 ha (3.9 ac)	Project Approved
Commercial	TPM 30968	13 commercial parcels (Page Community Plaza)	Southwest of Stetson Avenue and Sanderson Avenue	Hemet	16.1 ha (39.9 ac)	Under Construction
Commercial	TPM 31668	6 commercial lots	Southeast of Devonshire Avenue and Sanderson Avenue	Hemet	4.2 ha (10.5 ac)	Under Construction
Commercial	TPM 31697	4 medical offices	Southeast of Florida Avenue and Santa Fe Street	Hemet	0.4 ha (1.1 ac)	Project Approved
Commercial	TPM 31718	2 commercial parcels (Hemet Auto Mall)	Southeast of Florida Avenue and Warren Road	Hemet	0.4 ha (1.0 ac)	Project Approved
Commercial	TPM 31992	3 retail/commercial office condo parcels	Southwest of Sanderson Avenue and Devonshire Avenue	Hemet	0.8 ha (2.0 ac)	Under Construction
Commercial	TPM 32484	4 commercial parcel	Southwest of Florida Avenue and Kirby Street	Hemet	2.4 ha (6.0 ac)	Under Construction
Commercial	TPM 32607	2 commercial lots	Northeast of Sanderson and Acacia	Hemet	0.8 ha (2.0 ac)	Project Approved
Commercial	TPM 32700	16 lots for future commercial development	Southwest of Wentworth Drive and Sanderson Avenue	Hemet	2.8 ha (7.0 ac)	Project Approved
Commercial	TPM 34463	Subdivide into 2 commercial lots	Northeast of SR74 and Las Lunas Street	Hemet	0.3 ha (0.8 ac)	Application Submitted
Commercial	TPM31268	Subdivide into four lots on property zoned A-1-C-1	East of Lyon Avenue between Commonwealth and Esplanade Avenue	Hemet	2.0 ha (5.0 ac)	Under Construction
Commercial	TTM 33003	Office condominium project	Southwest of Devonshire Avenue and Sanderson Avenue	Hemet	0.8 ha (2.0 ac)	Under Construction
Commercial	Unknown-1	Hemet Auto Mall North	Northeast of Warren Road and Whittier Avenue	Hemet	6.1 ha (15.0 ac)	Operational

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Commercial	Unknown-2	Hemet Auto Mall South	Northeast of Warren Road and Whittier Avenue	Hemet	1.2 ha (3.0 ac)	Under Construction
Commercial	Unknown-3	Mixed use	No information	Hemet	2.4 ha (6.0 ac)	Pre-Application
Commercial	Unknown-4	Commercial development on 25 acres	Southwest of Devonshire Avenue and Lyon Avenue	Hemet	10.1 ha (25.0 ac)	Under Construction
Commercial	Unknown-5	Proposed development	Domenigoni Parkway between Cawston Avenue and California Avenue	Hemet	165.2 ha (408.3 ac)	Pre-Application
Commercial	VTTM 30602	6 parcel commercial development	Northeast of Wentworth Drive and Cawston Avenue	Hemet	7.9 ha (19.4 ac)	Project Approved
Industrial	SDR 04-34	Two industrial use buildings	Northwest of Tanya Avenue and Sanderson Avenue	Hemet	0.3 ha (0.7 ac)	Application Submitted
Industrial	TPM 29338	Not Specified	West of Kirby between Acacia Avenue and the Railroad	Hemet	0.0 ha (0.0 ac)	Application Submitted
Other	CUP 01-01	Salvation Army building	Southeast of Palm Avenue and Acacia Avenue	Hemet	1.6 ha (4.0 ac)	Application Submitted
Other	CUP 01-06	Spirit of Joy Community Church	Northeast of Sanderson Avenue and Johnson Avenue	Hemet	2.0 ha (5.0 ac)	Project Approved
Other	CUP 02-04A	Twelve cellular antennae telecommunications facility	701 N Sanderson Street	Hemet	1.6 ha (4.0 ac)	Project Approved
Other	CUP 03-03	Expansion at Hemet Valley Medical Center	1117 E Devonshire Avenue	Hemet	2.4 ha (6.0 ac)	Project Approved
Other	CUP 03-08	67-foot monopole telecommunications facility	Northwest of Lyon Avenue and Acacia Avenue	Hemet	1.6 ha (4.0 ac)	Project Approved
Other	CUP 03-11	Convert building to multi-tenant use	Northwest of Stetson Avenue and State Street	Hemet	0.0 ha (0.0 ac)	Project Approved
Other	CUP 04-01	Existing commercial building rehab and landscape modifications	Northwest of Florida Avenue and Meridian Avenue	Hemet	1.4 ha (3.4 ac)	Project Approved
Other	CUP 04-02	Telecommunications facility	760 W Acacia	Hemet	1.5 ha (3.6 ac)	Application Submitted
Other	CUP 04-03	Berean Fellowship Baptist Church facility	South of Devonshire between Warren Road and California Avenue	Hemet	2.0 ha (5.0 ac)	Project Approved
Other	CUP 04-16	Expansion church facilities	812 S State Street	Hemet	0.1 ha (0.3 ac)	Application Submitted
Other	CUP 04-21	Wireless telecommunications facility	450 N State Street	Hemet	0.6 ha (1.4 ac)	Project Approved
Other	CUP 05-14	Wireless telecommunications facility	Northeast of Acacia Avenue and Raymond Street	Hemet	1.7 ha (4.3 ac)	Application Submitted
Other	Unknown-6	Fire Station #4	No information	Hemet	3.6 ha (8.9 ac)	Operational
Other	Unknown-7	Fire Station #5	No information	Hemet	8.2 ha (20.3 ac)	Operational
Other	GPA 06-01	Not specified	Southeast of Devonshire Avenue and Los Rancherias Road	Hemet	5.7 ha (14.0 ac)	Application Submitted
Other	SDR 04-35	Community park and aquatic center	Diamond Valley Lake Park	Hemet	784.2 ha (1,937.9 ac)	Project Approved
Other	SDR 05-21	Rehabilitate facade of Odd-Fellows Lodge	Southeast of Harvard Street and Florida Avenue	Hemet	0.1 ha (0.2 ac)	Application Submitted
Other	SP 02-03	Recreation center and stock farm	South of Oakland, east of State Street, north of Devonshire, and west of Gilbert	Hemet	14.5 ha (35.9 ac)	Application Submitted
Other	Unknown-8	Harmony Elementary School	1500 S Cawston Avenue	Hemet	4.1 ha (10.1 ac)	Operational
Other	Unknown-9	Historic home	No information	Hemet	6.1 ha (15.0 ac)	Operational
Other	Unknown-10	Park 1	No information	Hemet	0.7 ha (1.8 ac)	Operational
Other	Unknown-11	Rancho Viejo Middle School	985 N Cawston Avenue	Hemet	14.8 ha (36.6 ac)	Under Construction
Residential	CUP 00-01	53 unit Brook Terrace Senior Apartments	Northwest of Devonshire Avenue and Circeli Way	Hemet	1.2 ha (3.0 ac)	Under Construction
Residential	CUP 02-07/ TPM 30934	240 unit home for the aged and 6 restaurant pads (Rico Development)	West of Sanderson between Acacia Avenue and Florida Avenue	Hemet	4.0 ha (10.0 ac)	Under Construction
Residential	CUP 03-02	18 unit affordable housing complex for the disabled	Northeast of Acacia Avenue and San Jacinto Street	Hemet	0.4 ha (1.0 ac)	Under Construction
Residential	CUP 03-13	90-unit elderly residential care facility	Northeast of Stetson Avenue and Palm Avenue	Hemet	0.7 ha (1.7 ac)	Project Approved
Residential	CUP 04-11	75 unit senior citizen apartment complex	465 N Palm Avenue	Hemet	1.7 ha (4.1 ac)	Under Construction

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Residential	CUP 04-20	73 unit expansion (Hemet West Mobile Estates)	Southwest of Myers Street and Florida Avenue	Hemet	5.8 ha (14.3 ac)	Application Submitted
Residential	CUP 05-02	127 unit senior apartment complex	3400 W Devonshire	Hemet	1.6 ha (4.0 ac)	Project Approved
Residential	CUP 05-11	81 unit apartment complex	Northwest of Acacia Avenue and Yale Street	Hemet	2.4 ha (5.9 ac)	Application Submitted
Residential	CUP 05-15	94 apartment units	1000 N Buena Vista Street, north of Fruitvale	Hemet	2.0 ha (4.9 ac)	Application Submitted
Residential	CUP 06-006	400 multi-family units and 200,000 sq ft commercial	Northeast of Florida Avenue and Myers Street	Hemet	23.5 ha (58.0 ac)	Application Submitted
Residential	CUP 06-01	76 buildings for apartments/condos	Southwest of Florida Avenue and California Avenue	Hemet	12.1 ha (30.0 ac)	Application Submitted
Residential	Del Webb	Residential development for senior living (Del Webb)	Southeast of Warren Road and Stetson Avenue	Hemet	21.4 ha (53.0 ac)	Operational
Residential	GPA 05-04/ ZC 05-04	Mixed use development with commercial, medium density residential, and airpark residential	West of Cawston between Acacia Avenue and Whittier Avenue	Hemet	134.8 ha (333.0 ac)	Application Submitted
Residential	SDR 03-10	Storage building	3710 Park Avenue	Hemet	0.6 ha (1.4 ac)	Project Approved
Residential	SDR 03-24	Accessory structure with guest house on top	345 Juel Street	Hemet	0.4 ha (1.0 ac)	Project Approved
Residential	SDR 03-30	Detached garage with a patio	950 N Lyon Avenue	Hemet	0.9 ha (2.2 ac)	Project Approved
Residential	SDR 04-14	Home and accessory structure	North of Park Hill on Park Hill Avenue	Hemet	1.5 ha (3.7 ac)	Under Construction
Residential	SDR 04-30	Metal structure to store recreational vehicles	Northwest of Palm and Fruitvale	Hemet	0.4 ha (1.0 ac)	Application Submitted
Residential	SDR 05-10	Car wash	4888 E Florida Avenue	Hemet	0.1 ha (0.3 ac)	Application Submitted
Residential	SDR 05-13	Harvard Street Apartments	Northwest of Acacia Avenue and Harvard Street	Hemet	0.2 ha (0.5 ac)	Application Submitted
Residential	SDR 05-23	Garage/storage shed	Northeast of Lyon and Eaton Avenue	Hemet	0.4 ha (0.9 ac)	Application Submitted
Residential	SDR 05-24	Not specified	Northeast of Lyon and Eaton Avenue	Hemet	0.4 ha (0.9 ac)	Application Submitted
Residential	SP 05-01	Emerald Acres	Southwest of Florida Avenue and California Avenue	Hemet	134.8 ha (333.0 ac)	Application Submitted
Residential	SP 05-02	Canyon Trails at Reinhardt Canyon	Northwest of Tres Cerritos Avenue and California Avenue	Hemet	146.1 ha (361.2 ac)	Application Submitted
Residential	SP 06-003	174 single-family and 111 Triplex units (Warren Road Village)	Warren Road between Devonshire Avenue and Esplanade Avenue	Hemet	32.2 ha (79.6 ac)	Application Submitted
Residential	SP 88-19	McSweeny Ranch Planned Community	No information	Hemet	306.4 ha (757.2 ac)	Project Approved
Residential	TPM 32108	4 single-family residential parcels	Southeast of Charlton Avenue and Hemet Street	Hemet	1.6 ha (4.0 ac)	Under Construction
Residential	TPM 32131	4 residential parcels	West of Eaton and Palm; on Eaton	Hemet	2.8 ha (7.0 ac)	Under Construction
Residential	TPM 32132	Single-family dwellings	Southwest of Lincoln Avenue and Soboba Street, east of Zolder Street	Hemet	0.4 ha (1.0 ac)	Application Submitted
Residential	TPM 32168	4 lots zoned A-1-C-1	East of Lyon Avenue between Commonwealth Avenue and Esplanade Avenue	Hemet	2.0 ha (5.0 ac)	Under Construction
Residential	TPM 32274	3 new homes (Habitat for Humanity)	357 N Wren	Hemet	0.4 ha (1.0 ac)	Project Approved
Residential	TPM 32516	1 residential lot and 1 landscape lot	McCarron Way	Hemet	0.4 ha (1.0 ac)	Application Submitted
Residential	TPM 32678	3 single-family residential lots	South of Menlo between Santa Fe and San Jacinto	Hemet	0.4 ha (1.0 ac)	Under Construction
Residential	TPM 32733	2 single-family residential parcels	Northeast of Devonshire Avenue and Hyatt Avenue	Hemet	22.3 ha (55.0 ac)	Application Submitted
Residential	TPM 32905	2 single-family residential lots	East of Park Avenue and Oakland Avenue	Hemet	57.9 ha (143.0 ac)	Project Approved
Residential	TPM 33522	2 single-family lots	Northwest of Ramona Street and Central Avenue	Hemet	0.2 ha (0.5 ac)	Application Submitted
Residential	TPM 33915	4 residential lots	Northeast of Commonwealth Avenue and Lyon Avenue	Hemet	1.8 ha (4.5 ac)	Application Submitted

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Residential	TPM 34116	Convert 20 unit apartment complex to condominiums	Southeast of Mayflower Street and Mayflower Pl	Hemet	0.3 ha (0.7 ac)	Application Submitted
Residential	TTM 28558	78 single-family homes (Crean Homes)	3821 W Fruitvale Avenue / North of Menlo Avenue	Hemet	7.8 ha (19.2 ac)	Under Construction
Residential	TTM 28654	Homes and golf course (Tres Cerritos East)	North of Rose Road, west of Cawston, south of Menlo, east of Extension	Hemet	63.5 ha (157.0 ac)	Application Submitted
Residential	TTM 29129	405 single-family residential lots (Stoney Mountain Ranch)	Southeast of Warren Road and Esplanade Avenue	Hemet	50.6 ha (125.0 ac)	Under Construction
Residential	TTM 29581	56 tract homes	West of Kirby Street between Esplanade Avenue and Commonwealth Avenue	Hemet	6.1 ha (15.0 ac)	Operational
Residential	TTM 29615	38 lots	Southeast of Hemet Street and Berkley Avenue	Hemet	0.0 ha (0.0 ac)	Application Submitted
Residential	TTM 29673	18 lots	Southwest of Kirby Street and Eaton Avenue	Hemet	1.6 ha (4.0 ac)	Application Submitted
Residential	TTM 29674	70 single-family lots	Southwest of Fruitvale Avenue and Palm Avenue	Hemet	6.4 ha (15.9 ac)	Operational
Residential	TTM 29810	30-lot single-family residential subdivision	Southeast of San Jacinto Street and Whittier Avenue	Hemet	2.6 ha (6.5 ac)	Application Submitted
Residential	TTM 29915	89 single-family subdivision	South of Harrington Avenue between Cawston and Fisher Street	Hemet	35.0 ha (86.4 ac)	Under Construction
Residential	TTM 30158	73 residential units	901 Buena Vista Street	Hemet	0.0 ha (0.0 ac)	Project Approved
Residential	TTM 30689	174 lots for single-family subdivision (Woodcrest)	Northwest of Sanderson Avenue and Eaton Avenue	Hemet	18.2 ha (45.0 ac)	Operational
Residential	TTM 30724	16 single-family residences	Lincoln Avenue between Hemet Street and Meridian Street	Hemet	3.8 ha (9.5 ac)	Under Construction
Residential	TTM 31179	8-lot, single-family subdivision	Northwest of Florida and Soboba	Hemet	0.8 ha (2.0 ac)	Under Construction
Residential	TTM 31280	97-lot, single-family residential subdivision	1470 W Commonwealth Avenue	Hemet	6.6 ha (16.2 ac)	Under Construction
Residential	TTM 31295	74 single-family lots	3660 Menlo Place and 3625 W Fruitvale Avenue	Hemet	7.9 ha (19.5 ac)	Under Construction
Residential	TTM 31576	15 lots for single-family homes	Southwest of Devonshire Avenue and Columbia Street	Hemet	1.1 ha (2.7 ac)	Under Construction
Residential	TTM 31731	167 single-family and one multi-family lots (Capstone)	Northeast of Florida Avenue and Hyatt Avenue	Hemet	22.2 ha (55.0 ac)	Application Submitted
Residential	TTM 31737	Subdivide into 19 parcels and zone A-1	West of Palm Avenue between Eaton Avenue and Esplanade Avenue	Hemet	8.0 ha (19.8 ac)	Under Construction
Residential	TTM 31796	193 single-family homes	Northeast of Fruitvale Avenue and Palm Avenue	Hemet	11.1 ha (27.4 ac)	Project Approved
Residential	TTM 31807	249 single-family lots (Rancho Diamante)	North of Mustang Way between Warren Road and Fisher Street (Page Ranch)	Hemet	30.4 ha (75.0 ac)	Under Construction
Residential	TTM 31808	408 single-family lots (Rancho Diamante)	South of the Thornton Avenue between Warren Road and Fisher Street	Hemet	29.9 ha (74.0 ac)	Under Construction
Residential	TTM 31864	96-unit townhouse condo project (Lighthouse Townhomes)	Northeast of Madrid Street and Devonshire Avenue	Hemet	2.8 ha (7.0 ac)	Project Approved
Residential	TTM 31970	104 single-family residential lots (Reed Springs)	Southeast of Myers Street and Devonshire Avenue	Hemet	10.1 ha (25.0 ac)	Under Construction
Residential	TTM 32183	6 lots for single-family residential (Oakland/Girard)	Northwest of Girard Street and Oakland Avenue	Hemet	0.8 ha (2.0 ac)	Under Construction
Residential	TTM 32359	7 single-family residential lots	Northeast of Charlton Avenue and Park Avenue	Hemet	1.6 ha (4.0 ac)	Application Submitted
Residential	TTM 32519	8 lots for single-family residences	Southwest of Johnston Avenue and San Jacinto Street	Hemet	0.8 ha (2.0 ac)	Under Construction
Residential	TTM 32529	Divide the parcel in preparation for future development (McSweeny Farms)	Southeast of State and Domenigoni	Hemet	57.9 ha (143.0 ac)	Project Approved
Residential	TTM 32551	10 lots for single-family residential development	South of Charlton Avenue between Hemet Street and Soboba Street	Hemet	2.8 ha (7.0 ac)	Application Submitted
Residential	TTM 33075	38 single-family lots (Autumn Ridge II)	North of Fruitvale between Sanderson Avenue and Cawston Avenue	Hemet	4.0 ha (10.0 ac)	Under Construction

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Residential	TTM 33118	146 single-family residential lots (Mazestone Village)	North of Florida Avenue between Rancherias Road and Hyatt Avenue	Hemet	22.7 ha (56.0 ac)	Application Submitted
Residential	TTM 33230	8 lots for the development of 8 duplexes	236 N Girard	Hemet	0.8 ha (2.0 ac)	Application Submitted
Residential	TTM 33288	68 single-family lots	West of Los Rancherias Road between Devonshire Avenue and Florida Avenue	Hemet	12.5 ha (31.0 ac)	Application Submitted
Residential	TTM 33327	40 single-family residential lots (Logan Estates)	Northeast of Menlo and Sanderson	Hemet	3.6 ha (8.8 ac)	Application Submitted
Residential	TTM 33424	21 lots for single-family residential	North of Fruitvale between Palm and Lyon	Hemet	5.3 ha (13.0 ac)	Project Approved
Residential	TTM 33426	125 single-family lots and open space (Devonshire Estates)	Northwest of Warren Road and Devonshire Avenue	Hemet	17.0 ha (42.0 ac)	Application Submitted
Residential	TTM 33602	170 lots for condominium	Southeast of Gilbert Street and Johnston Avenue	Hemet	4.7 ha (11.5 ac)	Application Submitted
Residential	TTM 33774	10 single-family lots	Southeast of Kirby Road and Fruitvale Avenue	Hemet	1.1 ha (2.6 ac)	Application Submitted
Residential	TTM 33824	260 single-family residential developments	Northeast of the of Newport Road and State Street	Hemet	23.1 ha (57.0 ac)	Project Approved
Residential	TTM 33825	260 single-family residential developments	Southeast of the of Domenigoni Parkway and State Street	Hemet	30.8 ha (76.0 ac)	Project Approved
Residential	TTM 33858	37 single-family lots	South of Eaton Avenue between Sanderson Avenue and Kirby Avenue	Hemet	3.9 ha (9.6 ac)	Project Approved
Residential	TTM 33961	Divide in preparation for future development	Southeast of State Street and Domenigoni	Hemet	212.5 ha (525.0 ac)	Project Approved
Residential	TTM 34117	16 condo units	Southeast of Thornton and Buena Vista Streets	Hemet	0.2 ha (0.4 ac)	Project Approved
Residential	TTM 34125	7 single-family residential and a detention basin/park	920 N Palm Avenue	Hemet	0.8 ha (2.1 ac)	Application Submitted
Residential	Unknown-12	Residential development (Rancho Diamante)	Between Warren Road and California Avenue	Hemet	108.9 ha (269.0 ac)	Application Submitted
Residential	Unknown-13	Stetson Ranch	No information	Hemet	14.8 ha (36.6 ac)	Under Construction
Residential	Unknown-14	123 units on 40 acres	Northeast of Commonwealth Avenue and Kirby Street	Hemet	16.2 ha (40.0 ac)	Application Submitted
Residential	Unknown-15	Residential development on 163 acres to be annexed by the Hemet	Domenigoni Parkway and Girard Street	Hemet	66.0 ha (163 ac)	Application Submitted
Residential	VTPM 30970	4 residential parcels	Southeast of Berkeley Avenue and Lake Street	Hemet	0.9 ha (2.2 ac)	Project Approved
Residential	VTPM 31075	8 commercial parcels (Diamond Valley Gateway)	Northeast of State Street and Gibbel Road	Hemet	38.9 ha (96.1 ac)	Project Approved
Residential	VTPM 31165	256 single-family lots and commercial uses	Southeast of Hemet Street and Mountain Avenue	Hemet	33.6 ha (83.1 ac)	Application Submitted
Residential	VTTM 28286	1,368 residential lots, a commercial site, and golf club (Heartland Village)	Northwest of Florida Avenue and California Avenue	Hemet	267.5 ha (661.0 ac)	Under Construction
Residential	VTTM 29843	456 senior-restricted single/multiple family dwelling units (Peppertree)	Northwest of Cawston Avenue and Menlo Avenue	Hemet	33.4 ha (82.5 ac)	Under Construction
Residential	VTTM 30041	427 single-family lots (Sanderson Lakes)	Southeast of Stetson and Sanderson	Hemet	45.6 ha (112.7 ac)	Under Construction
Residential	VTTM 30558	372 single-family residential lots (Cottonwood Ranch)	South of Harrison Avenue between Cawston Avenue and Fisher Street	Hemet	35.0 ha (86.4 ac)	Under Construction
Residential	VTTM 30560	199 single-family lots (Autumn Ridge)	West of Sanderson Avenue between Fruitvale Avenue and Eaton Avenue	Hemet	26.1 ha (64.5 ac)	Under Construction
Residential	VTTM 30869	17 lots for single-family residential	South of Berkley Avenue between Soboba and Lake Streets	Hemet	4.2 ha (10.5 ac)	Under Construction
Residential	VTTM 30969	39 single-family lots	Northeast of Hemet Street and Berkley Avenue	Hemet	3.7 ha (9.1 ac)	Under Construction
Residential	VTTM 31146	86 single-family lots	Northeast of Old Warren Road and Devonshire Avenue	Hemet	10.9 ha (26.9 ac)	Under Construction
Residential	VTTM 31188	28 single-family lots	Southwest of Palm Avenue and Eaton Avenue	Hemet	3.7 ha (9.1 ac)	Under Construction

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Residential	VTTM 31466	88 single-family lots	Northwest of Florida Avenue and Lake Street	Hemet	8.5 ha (20.9 ac)	Project Approved
Residential	VTTM 31513	178 single-family residential lots (Tres Cerritos West)	North of Devonshire, east of Old Warren Road, west of Cawston, south of Menlo and Tres Cerritos Hills	Hemet	49.0 ha (121.0 ac)	Under Construction
Residential	VTTM 31620	100 single-family residential units	Northeast of Lake Street and Florida Avenue	Hemet	9.9 ha (24.5 ac)	Project Approved
Residential	VTTM 33916	7 single-family residential units	Northeast of Kit Avenue and Carson Street	Hemet	0.8 ha (1.9 ac)	Project Approved
Residential	Wilhelm	Not specified	No information	Hemet		
Residential	Unknown-20	Del Webb	Southeast of Warren Road and Stetson Avenue	Hemet	21.4 ha (53.0 ac)	Operational
Other	Unknown-21	Not specified	Warren Road and Esplanade Avenue	Hemet	5.3 ha (13.0 ac)	Pre-Application
Commercial	CUP 02492S1	Recreational vehicle storage area	Southeast of Florida Avenue and California Avenue	Riverside County	2.0 ha (5.0 ac)	Project Approved
Commercial	CUP 03421	Not specified	Northeast of Winchester Road and Newport Road	Riverside County	14.6 ha (36.0 ac)	Project Approved
Commercial	CUP 03426	Not specified	Southeast of Florida Avenue and Cornell Street	Riverside County	0.2 ha (0.6 ac)	Application Submitted
Commercial	CUP 03479	Not specified	Southeast of SR74 and Winchester Road	Riverside County	0.5 ha (1.2 ac)	Application Submitted
Commercial	CUP 03489	Not specified	Southwest of Florida and Chicago Avenue	Riverside County	0.9 ha (2.2 ac)	Application Submitted
Commercial	CUP 03491	Grocery market	Southeast of Winchester Road and Simpson Road	Riverside County	0.8 ha (2.0 ac)	Application Submitted
Commercial	PM 31720	Not specified	Northwest of State Highway and Old Chicago Avenue	Riverside County	4.0 ha (10.0 ac)	Project Approved
Commercial	PM 31861	Not specified	Southwest of Hemet and SR 74	Riverside County	1.2 ha (3.0 ac)	Project Approved
Other	GPA 716	Not specified	Southwest of Hemet, various locations	Riverside County	439.9 ha (1,086.9 ac)	Project Approved
Other	GPA 717	Not specified	East and West of Hemet, various locations	Riverside County	233.9 ha (578.0 ac)	Pre-Application
Other	PM 31847	Not specified	Northwest of Pleasant Street and Stetson Avenue	Riverside County	2.0 ha (5.0 ac)	Project Approved
Other	PM 34893	Subdivide into 3 lots	Southwest of Byerly Street and Shady Tree Lane	Riverside County	1.3 ha (3.1 ac)	Application Submitted
Other	Well Permit	Permit for a new well	Southeast of Warren Road and Cottonwood Avenue	Riverside County	10.9 ha (27.0 ac)	Application Submitted
Residential	CUP 02631R1	Peppertree Lakes development	East of California Avenue between Simpson and San Jacinto Branch Line	Riverside County	1.2 ha (3.0 ac)	Project Approved
Residential	GPA 720	Not specified	Southeast of Ramona Expressway and E Boundary Road	Riverside County	1,135.3 ha (2,805.3 ac)	Application Submitted
Residential	PM 30445	Not specified	Southwest of Grave Street and Winesap Avenue	Riverside County	3.2 ha (8.0 ac)	Project Approved
Residential	PM 30564	Not specified	East of Hemet, north of Chambers Avenue	Riverside County	0.8 ha (2.0 ac)	Project Approved
Residential	PM 31083	Not specified	Southeast of Johnston Avenue and Yale Street	Riverside County	1.2 ha (3.0 ac)	Project Approved
Residential	PM 31624	Not specified	Northeast of Johnston Avenue and Pleasant Avenue	Riverside County	1.2 ha (3.0 ac)	Project Approved
Residential	PM 32089	Residential	Northwest of Johnston Avenue and Meridian Street	Riverside County	1.6 ha (4.0 ac)	Project Approved
Residential	PM 32348	Residential	Northwest of Asbury Street and Longfellow Avenue	Riverside County	0.8 ha (2.0 ac)	Application Submitted
Residential	PM 33564	Not specified	Southwest of Milan Road and Oxbow Drive	Riverside County	1.8 ha (4.4 ac)	Application Submitted
Residential	PM 33829	Not specified	Southeast of Charlene Way and Vista Road	Riverside County	3.7 ha (9.2 ac)	Application Submitted
Residential	PM 33872	Residential	Northeast of Acacia Avenue and Dartmouth Street	Riverside County	0.4 ha (1.1 ac)	Project Approved
Residential	PM 34378	Residential	Northwest of Stanford Street and Whittier Avenue	Riverside County	0.2 ha (0.5 ac)	Application Submitted

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Residential	SP 288A1	The Crossroads in Winchester Mixed Use	West of Winchester Road between Newport Road and Salt Creek Channel	Riverside County	93.5 ha (231.0 ac)	Application Submitted
Residential	SP 310	Not specified	West of Winchester Road between Holland Road and Keller Road	Riverside County	690.7 ha (1,706.7 ac)	Project Approved
Residential	SP 322	421 dwelling units, commercial areas and open space	Winchester Road between Craig Avenue and Patton Avenue	Riverside County	173.6 ha (429.0 ac)	Project Approved
Residential	TR 30037	514 residential units	Northwest of Gibbel Road and State Street	Riverside County	190.9 ha (471.6 ac)	Application Submitted
Residential	TR 30322	272 residential units	East of Olive Avenue, north of Beeler Road, west of Newport Road	Riverside County	25.7 ha (63.6 ac)	Under Construction
Residential	TR 30351	260 residential units	North of Stetson Avenue, east of Green Avenue, west of Winchester Road	Riverside County	31.0 ha (76.5 ac)	Under Construction
Residential	TR 30653	278 single-family lots	Newport Road and Rice Road	Riverside County	113.3 ha (280.0 ac)	Application Submitted
Residential	TR 30806	192 residential units	Southeast of Newport Road (Patton Avenue) and Leon Road	Riverside County	33.0 ha (81.5 ac)	Project Approved
Residential	TR 30807	206 residential units	Southwest of Newport Road (Patton Avenue) and Beller Road	Riverside County	68.8 ha (170.1 ac)	Project Approved
Residential	TR 30808	346 residential units	Southeast of Olive Avenue and Leon Road	Riverside County	48.8 ha (120.6 ac)	Under Construction
Residential	TR 30809	123 residential units	North of Newport Road (Patton Avenue), east of "B" Street, west of Beeler Road	Riverside County	12.5 ha (30.9 ac)	Project Approved
Residential	TR 30976	162 residential units	Southwest of Leon Road and Newport Road (Patton Avenue)	Riverside County	20.4 ha (50.3 ac)	Application Submitted
Residential	TR 30977	414 residential units	Northeast of Ano Crest Road and Leon Road	Riverside County	104.2 ha (257.5 ac)	Application Submitted
Residential	TR 30989	202 residential units	North of Simpson Road, south of BNSF Railroad, east of Leon Road	Riverside County	23.6 ha (58.4 ac)	Project Approved
Residential	TR 31008	373 residential units	North of Craig Avenue, east of Leon Road, south of Holland Road, west of Eucalyptus Road	Riverside County	63.3 ha (156.4 ac)	Project Approved
Residential	TR 31076	16 single-family lots	Los Rancherias Road and Tres Cerritos Avenue	Riverside County	32.0 ha (79.0 ac)	Project Approved
Residential	TR 31099	207 residential units	East of Beeler Road, south of Simpson Road, north of Olive Avenue	Riverside County	26.9 ha (66.5 ac)	Application Submitted
Residential	TR 31101	160 residential units	South of Simpson Road, east of Dawn Lane, west of Beeler Road	Riverside County	16.1 ha (39.9 ac)	Application Submitted
Residential	TR 31131	57 residential units	North of Cactus Valley Road, east of State Street, south of Vista Road	Riverside County	35.9 ha (88.8 ac)	Application Submitted
Residential	TR 31141	Not specified	South of Newport Road (Patton Avenue), southeast of Adams Street	Riverside County	15.3 ha (37.9 ac)	Under Construction
Residential	TR 31142	Not specified	South of Newport Road (Patton Avenue), southeast of Adams Street	Riverside County	31.9 ha (78.9 ac)	Under Construction
Residential	TR 31264	31 residential units	South of Lake Street, east of Whittier Avenue, west of Mayberry Avenue	Riverside County	6.6 ha (16.3 ac)	Under Construction
Residential	TR 31291	42 residential units	Southeast of Girard Street and Cactus Valley Road	Riverside County	16.1 ha (39.7 ac)	Project Approved
Residential	TR 31292	21 residential units	Southeast of Cactus Valley Road and Sage Road	Riverside County	7.8 ha (19.3 ac)	Application Submitted
Residential	TR 31342	8 residential units	East of Yale Street, north of Boyer Avenue, south of Lela May Avenue	Riverside County	1.2 ha (3.0 ac)	Under Construction
Residential	TR 31537	Not specified	South of Simpson Road, east of Adams Street, north of Haddock Street	Riverside County	77.9 ha (192.6 ac)	Application Submitted
Residential	TR 31538	257 single-family lots (Empire Winchester II)	Olive Avenue and Whittier Avenue	Riverside County	27.9 ha (69.0 ac)	Project Approved

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Residential	TR 31625	25 residential units	North of Acacia Avenue, east of Meridian Street, south of Florida Avenue, west of Hemet Street	Riverside County	3.0 ha (7.3 ac)	Project Approved
Residential	TR 31632	Not specified	Northwest of Newport Road (Patton Avenue) and Rice Road	Riverside County	24.3 ha (60.0 ac)	Project Approved
Residential	TR 31633	136 single-family lots	Newport Road and Rice Road	Riverside County	35.6 ha (88.0 ac)	Project Approved
Residential	TR 31857	140 residential units	North of Santa Fe Railroad, south of Grand Avenue	Riverside County	17.4 ha (43.1 ac)	Application Submitted
Residential	TR 31858	185 residential units	South of Grand Avenue, north of Simpson Road	Riverside County	23.0 ha (56.9 ac)	Application Submitted
Residential	TR 32027	41 residential units	East of Eucalyptus Road, west of Holcomb Road	Riverside County	11.3 ha (27.9 ac)	Application Submitted
Residential	TR 32081	16 residential units	Northwest of Dartmouth Street and Crest Drive	Riverside County	2.5 ha (6.1 ac)	Project Approved
Residential	TR 32177	25 residential units	East of Yale Street, north of Crest Drive, west of Columbia Street	Riverside County	3.8 ha (9.3 ac)	Application Submitted
Residential	TR 32222	5 residential units	Southwest of Mayberry Avenue and Soboba Avenue	Riverside County	0.6 ha (1.6 ac)	Project Approved
Residential	TR 32237	98 single-family lots	Patterson Avenue and Simpson Avenue	Riverside County	13.0 ha (32.2 ac)	Application Submitted
Residential	TR 32248	86 residential units	Northeast of Hwy 74 and Cortrite Avenue	Riverside County	22.8 ha (56.4 ac)	Application Submitted
Residential	TR 32282	62 residential units	North of Olive Avenue	Riverside County	8.0 ha (19.8 ac)	Project Approved
Residential	TR 32285	16 residential units	Southwest of Stetson Avenue and Yale Street	Riverside County	1.5 ha (3.8 ac)	Project Approved
Residential	TR 32394	127 residential units	North of Simpson, west of Beeler Road, south of BNSF Railroad	Riverside County	16.1 ha (39.9 ac)	Application Submitted
Residential	TR 32458	25 residential units	Southwest of Mayberry Avenue and Lake Street	Riverside County	6.2 ha (15.4 ac)	Project Approved
Residential	TR 32485	17 residential units	Southeast of Acacia Avenue and Soboba Avenue	Riverside County	1.9 ha (4.7 ac)	Project Approved
Residential	TR 32489	20 residential units	Southwest of Stetson Avenue and Aurora Drive	Riverside County	2.5 ha (6.2 ac)	Project Approved
Residential	TR 32582	192 single-family lots	East of Alessandro Avenue and between Ramona Expressway and Main Street	Riverside County	19.8 ha (49.0 ac)	Project Approved
Residential	TR 32679	62 residential units	North of Olive Avenue, south of Simpson Road, west of Hwy 79	Riverside County	7.9 ha (19.4 ac)	Application Submitted
Residential	TR 32731	20 residential units	Northeast of Girard Street and Stetson Avenue	Riverside County	1.9 ha (4.6 ac)	Application Submitted
Residential	TR 32816	42 residential units	Northeast of Newport Road and Leon Road	Riverside County	5.4 ha (13.5 ac)	Project Approved
Residential	TR 32817	Mixed-use 34 units	Northeast of Newport Road and Leon Road	Riverside County	15.9 ha (39.2 ac)	Project Approved
Residential	TR 32818	85 mixed-use residential units	Northeast of Newport Road and Leon Road	Riverside County	10.0 ha (24.7 ac)	Project Approved
Residential	TR 32873	154 residential units	Northeast of Holland Road and Holcomb Road	Riverside County	18.4 ha (45.4 ac)	Application Submitted
Residential	TR 33117	469 single-family lots	Winchester Road	Riverside County	63.5 ha (157.0 ac)	Application Submitted
Residential	TR 33145	378 multi-family residential units	Southeast of Newport Road and Leon Road	Riverside County	13.0 ha (32.2 ac)	Project Approved
Residential	TR 33225	4 residential units	Southeast of Grand Avenue and Beeler Road	Riverside County	1.6 ha (4.0 ac)	Project Approved
Residential	TR 33228	98 residential units	Northwest of Newport Road and Girard Street	Riverside County	29.4 ha (72.7 ac)	Project Approved
Residential	TR 33263	31 residential units	Southwest of Simpson Road and Tierra Flats	Riverside County	4.0 ha (10.0 ac)	Application Submitted
Residential	TR 33270	16 residential units	Southwest of 9th Avenue and Rice Road	Riverside County	2.1 ha (5.2 ac)	Application Submitted
Residential	TR 33323	5 residential units	East of Soboba Avenue, Northeast of Chambers Avenue	Riverside County	2.0 ha (5.0 ac)	Project Approved
Residential	TR 33448	31 residential units	South of Santa Fe Railroad, west of Adams Road, north of Karla Street	Riverside County	3.5 ha (8.7 ac)	Project Approved

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Residential	TR 33449	31 residential units	North of Simpson Road, Northeast of Dawn Lane, south of Santa Fe Railroad	Riverside County	3.9 ha (9.6 ac)	Application Submitted
Residential	TR 33450	57 residential units	South of Grand Avenue, north of Santa Fe Railroad, west of Von Euw Drive	Riverside County	7.8 ha (19.2 ac)	Application Submitted
Residential	TR 33615	9 residential units	North of Mayberry Avenue, south of Acacia Avenue	Riverside County	3.8 ha (9.3 ac)	Application Submitted
Residential	TR 33700	128 residential units	North of Simpson Road between Leon Road and Winchester Road	Riverside County	15.5 ha (38.4 ac)	Application Submitted
Residential	TR 33708	28 residential units	North of Stetson Avenue, south of Little Lake Road	Riverside County	5.7 ha (14.1 ac)	Application Submitted
Residential	TR 33743	616 multi-family units	North of Newport Road, east of Leon Drive, west of Beeler Road	Riverside County	11.7 ha (28.9 ac)	Application Submitted
Residential	TR 33958	36 residential units	North of Grand Avenue, north of Adams Road	Riverside County	19.5 ha (48.2 ac)	Application Submitted
Residential	TR 34031	153 residential units	Southwest of Holland Road and Beeler Road	Riverside County	18.57 ha (45.9 ac)	Application Submitted
Residential	TR 34129	197 single-family lots	Patterson Avenue and Olive Avenue	Riverside County	24.7 ha (61.0 ac)	Application Submitted
Residential	TR 34130	384 single-family lots	Olive Avenue	Riverside County	48.8 ha (120.6 ac)	Application Submitted
Residential	TR 34358	Not specified	No information	Riverside County	0.9 ha (2.3 ac)	Application Submitted
Residential	TR 34363	146 unit housing complex	Southeast of Eucalyptus Road and Ano Crest Road	Riverside County	15.5 ha (38.3 ac)	Application Submitted
Residential	TR 34483	12 unit single-family housing	East of Santa Fe Street between Stetson Avenue and Thornton Avenue	Riverside County	1.6 ha (3.9 ac)	Application Submitted
Residential	TR 34500	15 residential units	Southwest of Soboba Street and Thornton Avenue	Riverside County	3.4 ha (8.4 ac)	Application Submitted
Residential	TR 34534	Withdrawn	Northeast of Holland Road and Leon Road	Riverside County	62.6 ha (154.7 ac)	Application Submitted
Residential	TR 34735	314 single-family lots	Southwest of Craig Avenue and Eucalyptus Road	Riverside County	29.5 ha (73.0 ac)	Application Submitted
Residential	TR 34786	Multi-Family Dwellings	West of Cornell Street between Florida Avenue and Acacia Avenue	Riverside County	0.2 ha (0.4 ac)	Application Submitted
Residential	TR 34842	32 unit residential complex	Northeast of Leon Road and Simpson Road	Riverside County	4.0 ha (10.0 ac)	Application Submitted
Residential	TR 35025	14 residential lots	Southwest of Whittier Avenue and Pleasant Street	Riverside County	0.0 ha (0.0 ac)	Application Submitted
Residential	TR 35069	20 residential lots	Southwest of Rice and Grand Avenue	Riverside County	3.4 ha (8.4 ac)	Application Submitted
Residential	Unknown-16	Residential development (Rancho Diamante II)	Northeast of Domenigoni Parkway and California Avenue	Riverside County	108.9 ha (269 ac)	Pre-Application
Commercial	CUP 1-06	Auto body shop	Northwest of 7th and State Street	San Jacinto	1.6 ha (4.0 ac)	Application Submitted
Commercial	CUP 12-05	Auto body shop and detached accessory building	Northeast of State Street and Esplanade Avenue	San Jacinto	0.4 ha (1.0 ac)	Application Submitted
Commercial	CUP 13-04	Veterinary hospital	Southeast of Kellam Avenue and State Street, north of 7th Street	San Jacinto	0.6 ha (1.5 ac)	Project Approved
Commercial	CUP 4-05	Supermarket with up to 10 additional retail buildings	Northeast of State Street and Ramona Expressway	San Jacinto	5.7 ha (14.0 ac)	Under Construction
Commercial	CUP 4-97	Drug store	No information	San Jacinto	0.0 ha (0.0 ac)	Application Submitted
Commercial	CUP 9-03	Dairy Queen	Northwest of State Street and Idyllwild Drive	San Jacinto	0.6 ha (1.4 ac)	Project Approved
Commercial	CUP 1-06	Convert building into El Toro Market Center	Northwest of 7th Street and State Street	San Jacinto	1.6 ha (4.0 ac)	Application Submitted
Commercial	GPA 8-05	Change to Community Commercial (CC) and General Commercial (C-2)	Southeast of Santa Fe Avenue and Esplanade Avenue	San Jacinto	1.3 ha (3.3 ac)	Application Submitted
Commercial	PM 30464	Future commercial	Northwest of State Street and Esplanade Avenue	San Jacinto	1.3 ha (3.3 ac)	Operational
Commercial	PM 32188	Convert existing building to a retail center (Walmart)	Southwest of Commonwealth Avenue and Girard Street	San Jacinto	10.5 ha (26.0 ac)	Under Construction
Commercial	PM 33196	Commercial development	Northeast of Sanderson Avenue and Esplanade Avenue	San Jacinto	5.7 ha (14.0 ac)	Under Construction

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Commercial	PM 33340	Lot line adjustment	Northwest of Ramona Expressway and State Street	San Jacinto	3.2 ha (8.0 ac)	Under Construction
Commercial	PM 34643	Multi-tenant retail center	State Street and North of Ramona Boulevard	San Jacinto	1.6 ha (4.0 ac)	Project Approved
Commercial	PM 34834	Subdivide into two commercial parcels	Southeast of San Jacinto Avenue and Shaver Street	San Jacinto	0.3 ha (0.7 ac)	Project Approved
Commercial	SR 1-04	Medical Office	No information	San Jacinto	2.7 ha (6.8 ac)	Application Submitted
Commercial	SR 1-05	Office building, four industrial/warehouse use buildings (Agri Empire)	South of 7th Street between Santa Fe Avenue and Railroad Avenue	San Jacinto	0.4 ha (1.0 ac)	Application Submitted
Commercial	SR 1-07	Auto Zone	No information	San Jacinto	0.0 ha (0.0 ac)	Application Submitted
Commercial	SR 12-01	Multi-tenant retail	No information	San Jacinto	0.00 ha (0.0 ac)	Project Approved
Commercial	SR 13-04	Multi-tenant retail	No information	San Jacinto	0.5 ha (1.2 ac)	Application Submitted
Commercial	SR 13-06	Retail building with 42 parking spots	Southwest of State Street and Idyllwild Drive	San Jacinto	3.6 ha (8.8 ac)	Application Submitted
Commercial	SR 14-06	Major retail building, retail building, bank, and restaurant with 352 parking spaces	Northwest of Esplanade Avenue and Sanderson Avenue	San Jacinto	0.5 ha (1.2 ac)	Application Submitted
Commercial	SR 16-06	2 medical office buildings and 70 parking stalls	Northeast of Main Street and Jordan Avenue	San Jacinto	3.2 ha (8.0 ac)	Application Submitted
Commercial	SR 19-06	2 medical office buildings	Northeast of Esplanade Avenue and Palm Avenue	San Jacinto	2.8 ha (6.8 ac)	Application Submitted
Commercial	SR 2-06	2 office buildings with 59 parking stalls	Northeast of Sixth Street and San Jacinto Avenue	San Jacinto	0.4 ha (1.0 ac)	Application Submitted
Commercial	SR 3-06	Retail center	Southwest of Sanderson Avenue and Ramona Expressway	San Jacinto	10.1 ha (25.0 ac)	Application Submitted
Commercial	SR 6-06	Retail with 21 parking stalls and landscaping	Southwest of State Street and Ramona Boulevard	San Jacinto	0.2 ha (0.5 ac)	Application Submitted
Commercial	SR 7-06	Expand Edelbrock Foundry	Northwest of Buena Vista Street and Esplanade Avenue	San Jacinto	1.7 ha (4.2 ac)	Project Approved
Commercial	SR 9-06	Convenience store (Ramona Station)	Southeast of Mountain Avenue and 7th Street	San Jacinto	0.8 ha (2.0 ac)	Project Approved
Commercial	SR 9-06/ SR 10-06	Home improvement center, two retail pads, restaurant, and multi tenant retail uses	East of San Jacinto between Commonwealth Avenue and Midway Street	San Jacinto	8.4 ha (20.8 ac)	Application Submitted
Commercial	Unknown-17	Commercial development on 9 acres	Southwest of Ramona Expressway and Potter Road	San Jacinto	3.6 ha (9.0 ac)	Application Submitted
Commercial	VPM 31281	14 parcels for commercial development	Between Ramona Expressway and MWD Aqueduct	San Jacinto	37.6 ha (93.0 ac)	Application Submitted
Industrial	GPA 9-05/ ZC 15-05	Change zoning to Community Commercial/Gen Commercial	Southeast Santa Fe Avenue and Esplanade Avenue	San Jacinto	1.9 ha (4.8 ac)	Application Submitted
Industrial	PM 30570	Parcel map	East of Grave Avenue between Bissell and Enterprise	San Jacinto	3.3 ha (8.2 ac)	Operational
Industrial	PM 31717	Not specified	Southwest of Esplanade Avenue and Santa Fe Street	San Jacinto	3.6 ha (9.0 ac)	Operational
Industrial	PM 32701	20 parcels for light manufacturing	Southwest of Cawston Avenue and Ramona Expressway	San Jacinto	16.5 ha (40.8 ac)	Project Approved
Industrial	SR 5-06	Multi-tenant	No information	San Jacinto	1.8 ha (4.4 ac)	Application Submitted
Industrial	TR 33889	19 Industrial lots	Northeast of Juanita and Oakwood Street	San Jacinto	6.1 ha (15.0 ac)	Application Submitted
Industrial	VTR 32853	11 lot business park	Southeast of Ramona Expressway and Warren Road	San Jacinto	15.0 ha (37.0 ac)	Application Submitted
Other	CUP 10-05	Wireless telecommunications facility	East of San Jacinto Avenue between Esplanade Avenue and 7th Street	San Jacinto	0.0 ha (0.0 ac)	Application Submitted
Other	CUP 4-06	Monopole with antennas and equipment shelter	Northeast of Mountain Avenue and Esplanade Avenue	San Jacinto	3.6 ha (9.0 ac)	Application Submitted
Other	CUP 5-97	Church expansion including sanctuary, church offices, elementary and preschool, baseball field	1450 W 7th Street (Lyon Avenue)	San Jacinto	5.8 ha (14.4 ac)	Application Submitted
Other	CUP 7-01	20 unit apartments conversion into condos	Santa Fe Avenue south of Oakwood Street	San Jacinto	0.8 ha (2.0 ac)	Project Approved
Other	PM 31522	Not specified	Southeast of Ramona Expressway and Warren Road	San Jacinto	73.4 ha (181.5 ac)	Project Approved

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Other	PM 34675	Multi-family and neighborhood commercial property	1270 San Jacinto Avenue, north of Midway Street	San Jacinto	2.8 ha (7.0 ac)	Project Approved
Other	SR 4-06	New Life Open Bible Church expansion of existing building and new storage building	East of San Jacinto Avenue between Esplanade Avenue and 7th Street	San Jacinto	0.4 ha (0.9 ac)	Application Submitted
Other	SR 8-06	Monopole structure integrated into a building	Northeast of Ramona Expressway and Potter Road	San Jacinto	1.7 ha (4.2 ac)	Application Submitted
Other	TR 32182	Not specified	Southwest of Ramona Boulevard and Lyon Avenue	San Jacinto	15.0 ha (37.0 ac)	Application Submitted
Other	TR 32955 (SP1-02)	Future Elementary School #11	Northeast of Esplanade Avenue and Warren Road	San Jacinto	91.9 ha (227.0 ac)	Project Approved
Other	TR 34198	Not specified	Between De Anza Drive and Sanderson Avenue	San Jacinto	42.5 ha (105.0 ac)	Application Submitted
Residential	CUP 10-03	61 units	Northeast of Commonwealth Avenue and San Jacinto Avenue	San Jacinto	2.0 ha (4.9 ac)	Project Approved
Residential	CUP 2-03	52 apartment units	Southeast of Santa Fe Street and Esplanade Avenue	San Jacinto	1.6 ha (4.0 ac)	Under Construction
Residential	CUP 2-06	81 apartment units	West of Santa Fe Street, south of Esplanade and North of Oakwood Street	San Jacinto	2.0 ha (5.0 ac)	Project Approved
Residential	DV 2-07	McCoy Apartments	No information	San Jacinto	0.9 ha (2.3 ac)	Application Submitted
Residential	PM 29447	Future residential	East of Sanderson Avenue and southeast of De Anza Drive	San Jacinto	42.8 ha (105.8 ac)	Project Approved
Residential	PM 30532	Future residential	South of Ramona Boulevard between Windsong Lane and Skyview Lane	San Jacinto	1.9 ha (4.8 ac)	Operational
Residential	PM 31396	Future residential	Northwest of Chase Street between Ramona Boulevard and Ramona Expressway	San Jacinto	1.2 ha (3.0 ac)	Project Approved
Residential	PM 32060	Not specified	North of 2nd Street between Pico and Estudillo Avenue	San Jacinto	0.2 ha (0.4 ac)	Project Approved
Residential	PM 32061	Residential and commercial	Northeast of Sanderson Avenue and Cottonwood Avenue	San Jacinto	15.8 ha (39.0 ac)	Project Approved
Residential	PM 32573	4 residential parcels	Northwest of De Anza Drive and Young Street	San Jacinto	1.9 ha (4.8 ac)	Operational
Residential	PM 33998	4 single-family residential lots	West of Gateway Avenue between Cottonwood Avenue and Mike Reed Road	San Jacinto	10.9 ha (26.9 ac)	Application Submitted
Residential	PM 34674	3 residential parcels	848 De Anza Drive, west of State Street	San Jacinto	0.8 ha (2.0 ac)	Project Approved
Residential	SP 1-05	753 units and parks/open space (Park Hill)	Southwest of Meridian and Washington Avenue	San Jacinto	128.3 ha (317.0 ac)	Application Submitted
Residential	SP 1-06	564 dwelling units, a school, recreation areas, and retail/office buildings (Valle Resseda)	Southeast of Ramona Boulevard and Sanderson Avenue	San Jacinto	85.8 ha (212.0 ac)	Application Submitted
Residential	SR 1-06	2 duplex manufactured homes	North of Idyllwild Avenue between Penny Lane and Attenborough Way	San Jacinto	0.2 ha (0.5 ac)	Application Submitted
Residential	TR 22665	146 single-family houses (Arterra)	Southeast of 7th Street and Pine Avenue	San Jacinto	15.4 ha (38.0 ac)	Under Construction
Residential	TR 24052	35 single-family residences (Santa Bella)	Southwest of Commonwealth and Van Fleet Drive	San Jacinto	2.8 ha (7.0 ac)	Under Construction
Residential	TR 24054	96 single-family residences (Landera)	Southwest of Villines Avenue and Esplanade	San Jacinto	5.3 ha (13.0 ac)	Operational
Residential	TR 27335	15 lots	Northwest of 7th Street and Kirby Street	San Jacinto	2.0 ha (5.0 ac)	Under Construction
Residential	TR 28224	223 lots	Southeast of Ramona Expressway and 7th Street	San Jacinto	13.0 ha (32.0 ac)	Under Construction
Residential	TR 28858A1	65 lots (Sunset)	Northeast of De Anza Drive and Savory Lane Ext	San Jacinto	6.1 ha (15.0 ac)	Operational
Residential	TR 29314	91 lots (Empire Meridian)	Southeast of Meridian Street and Washington Avenue	San Jacinto	9.8 ha (24.0 ac)	Operational
Residential	TR 29384	66 lots (Heritage Farms)	Northwest of Cottonwood and Palm	San Jacinto	8.1 ha (20.0 ac)	Operational
Residential	TR 29859	82 single-family residences (Summerfield Ranch)	Northwest of 7th Street and Palm Avenue	San Jacinto	7.3 ha (18.0 ac)	Under Construction

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Residential	TR 29917	140 single-family residences (Sunrise at Park Hill)	South of Park Avenue between Windsor and Villines	San Jacinto	17.8 ha (44.0 ac)	Under Construction
Residential	TR 29992	31 single-family lots (Cloverfield)	Northeast of Evans and Hewitt	San Jacinto	2.8 ha (7.0 ac)	Operational
Residential	TR 30033 (SP 1-01)	214 single-family lots (Cove)	Northwest of Warren Road and Cottonwood Avenue	San Jacinto	23.1 ha (57.0 ac)	Under Construction
Residential	TR 30034 (SP 1-01)	50 single-family lots	Northwest of Warren Road and Cottonwood Avenue	San Jacinto	9.3 ha (23.0 ac)	Under Construction
Residential	TR 30035 (SP 1-01)	74 single-family lots	Northwest of Warren Road and Cottonwood Avenue	San Jacinto	13.3 ha (33.0 ac)	Under Construction
Residential	TR 30036 (SP 1-01)	104 single-family lots	Northwest of Warren Road and Cottonwood Avenue	San Jacinto	29.5 ha (73.0 ac)	Under Construction
Residential	TR 30084 (SP 1-01)	111 single-family lots	Northwest of Warren Road and Cottonwood Avenue	San Jacinto	24.7 ha (61.0 ac)	Under Construction
Residential	TR 30262	6 single-family lots	West of State Street between Ramona Expressway and Record Road	San Jacinto	0.4 ha (1.0 ac)	Operational
Residential	TR 30335	73 single-family units	Northeast of Cottonwood Avenue and Kirby Street	San Jacinto	12.1 ha (30.0 ac)	Operational
Residential	TR 30379	181 single-family lots	Northeast of Artesian and Vernon	San Jacinto	18.6 ha (46.0 ac)	Project Approved
Residential	TR 30462	211 single-family lots	Southeast of 7th Street and Sanderson Avenue	San Jacinto	23.4 ha (58.0 ac)	Operational
Residential	TR 30481	137 single-family lots	Northeast of Cottonwood Avenue and Kirby Street	San Jacinto	16.2 ha (40.0 ac)	Operational
Residential	TR 30559	126 lots	West of Kirby Street between 7th Street and Esplanade Avenue	San Jacinto	48.1 ha (119.0 ac)	Project Approved
Residential	TR 30577	72 single-family lots	South of Park Avenue between Menlo Avenue and Yale	San Jacinto	11.7 ha (29.0 ac)	Operational
Residential	TR 30597	116 lot residential subdivision	Northeast of 7th Street and Cawston Avenue	San Jacinto	9.3 ha (23.0 ac)	Under Construction
Residential	TR 30598	Residential development	Southwest of Record Road and State Street	San Jacinto	15.8 ha (39.0 ac)	Operational
Residential	TR 30603	205 single-family lots (Lynden Trails/Remington)	North of Esplanade Avenue between Pine and Lyon	San Jacinto	5.7 ha (14.0 ac)	Operational
Residential	TR 30638	92 single-family lots (Marvilla)	Southeast of Esplanade Avenue and Meridian Street	San Jacinto	4.4 ha (11.0 ac)	Under Construction
Residential	TR 30639	Not specified	Northeast of Washington Avenue and Meridian Street	San Jacinto	7.3 ha (18.0 ac)	Under Construction
Residential	TR 30640	73 single-family lots	Northwest of Beringer Drive and Washington Avenue	San Jacinto	4.0 ha (10.0 ac)	Under Construction
Residential	TR 30641	103 single-family lots	Southeast of Esplanade Avenue and Villines	San Jacinto	4.0 ha (10.0 ac)	Operational
Residential	TR 30644	149 single-family lots (Golden Crest)	Southwest of Ramona Expressway and San Jacinto Avenue	San Jacinto	1.6 ha (4.0 ac)	Operational
Residential	TR 30658	105 single-family lots (Sendro)	Southwest of Commonwealth Avenue and Arroyo Viejo	San Jacinto	27.1 ha (67.0 ac)	Operational
Residential	TR 30659	64 single-family lots	Northwest of Washington Avenue and Arroyo Viejo	San Jacinto	22.7 ha (56.0 ac)	Project Approved
Residential	TR 30660	84 single-family lots	Northwest of Van Fleet and Washington Avenue	San Jacinto	31.6 ha (78.0 ac)	Operational
Residential	TR 30661	47 single-family lots	Northwest of Villines and Washington Avenue	San Jacinto	23.5 ha (58.0 ac)	Operational
Residential	TR 30688	37 single-family lots	East of Hewett Street between Shaver Street and Evans Street	San Jacinto	1.6 ha (4.0 ac)	Application Submitted
Residential	TR 30770	19 single-family lots	West of Santa Fe between Esplanade Avenue and 7th Street	San Jacinto	8.1 ha (20.0 ac)	Operational
Residential	TR 30813	249 lots (Tesoro)	Northwest of Kirby and Cottonwood Avenue	San Jacinto	15.8 ha (39.0 ac)	Project Approved
Residential	TR 30814	179 single-family lots	Northeast of Cottonwood Avenue and Sanderson Avenue	San Jacinto	12.5 ha (31.0 ac)	Operational
Residential	TR 30828	297 single-family lots (Terrazzo at the Ranch)	West of Cawston between 7th Street and Cottonwood Avenue	San Jacinto	8.1 ha (20.0 ac)	Operational
Residential	TR 30878	172 single-family lots (Park Meadows)	Northwest of 7th Street and Lyon Avenue	San Jacinto	15.4 ha (38.0 ac)	Operational

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Residential	TR 30884	14 single-family lots	South of Shaver Street between Mountain Avenue and Hewitt Street	San Jacinto	29.5 ha (73.0 ac)	Under Construction
Residential	TR 30942	78 single-family lots	Southeast of Kirby Street and Cottonwood Avenue	San Jacinto	12.1 ha (30.0 ac)	Under Construction
Residential	TR 30943	212 single-family lots (Sunterra)	Southwest of Sanderson Avenue and Ramona Boulevard	San Jacinto	15.4 ha (38.0 ac)	Operational
Residential	TR 30944	105 single-family lots (Stallion Crossing)	Northwest of Cottonwood Avenue and Lyon Avenue	San Jacinto	39.7 ha (98.0 ac)	Project Approved
Residential	TR 31035	77 single-family lots	Southwest of Ramona Expressway and San Jacinto Avenue	San Jacinto	10.5 ha (26.0 ac)	Under Construction
Residential	TR 31036	133 single-family lots (Durango)	East of Salam Pl between Main Street and 7th Street	San Jacinto	4.0 ha (10.0 ac)	Under Construction
Residential	TR 31037	263 single-family lots (Potter Ranch)	Northwest of Potter Road Between De Anza Drive and Ramona Boulevard	San Jacinto	7.7 ha (19.0 ac)	Operational
Residential	TR 31136	102 single-family lots	Northeast of Cottonwood Avenue and Warren Road	San Jacinto	9.3 ha (23.0 ac)	Under Construction
Residential	TR 31154	94 single-family lots (Alamden)	Southwest of De Anza Drive and East of Lyon Avenue	San Jacinto	15.8 ha (39.0 ac)	Operational
Residential	TR 31246	128 single-family lots (Creekside)	Northeast of Palm Avenue and Cottonwood Avenue	San Jacinto	5.7 ha (14.0 ac)	Operational
Residential	TR 31282	274 single-family lots	Southeast of De Anza and Lyon	San Jacinto	4.4 ha (11.0 ac)	Under Construction
Residential	TR 31293	100 single-family lots	Northeast of Lyon Avenue and Cottonwood Avenue	San Jacinto	7.3 ha (18.0 ac)	Under Construction
Residential	TR 31294	37 single-family lots	Northeast of Kirby Street and 7th Street	San Jacinto	4.0 ha (10.0 ac)	Under Construction
Residential	TR 31296	54 single-family lots	Southeast Cottonwood Avenue and Kirby Street	San Jacinto	4.0 ha (10.0 ac)	Operational
Residential	TR 31544	134 single-family lots (Ashbrook Communities)	Southeast of Sanderson Avenue and De Anza Drive	San Jacinto	17.4 ha (43.0 ac)	Project Approved
Residential	TR 31555	115 single-family lots and some commercial	Northeast of Sanderson Avenue and Cottonwood Avenue	San Jacinto	11.7 ha (29.0 ac)	Project Approved
Residential	TR 31566	61 single-family lots	South of Soboba Road and North of Chabele Drive	San Jacinto	4.4 ha (11.0 ac)	Application Submitted
Residential	TR 31701	30 single-family lots	Northeast of Kirby Street and Esplanade Avenue	San Jacinto	3.6 ha (9.0 ac)	Project Approved
Residential	TR 31759	350 single-family lots (Warren Meadows)	West of Warren Road and Casa Loma Canal	San Jacinto	47.8 ha (118.0 ac)	Application Submitted
Residential	TR 31760	276 single-family lots	West of Warren Road and Casa Loma Canal	San Jacinto	38.4 ha (95.0 ac)	Application Submitted
Residential	TR 31794	63 single-family lots	N Washington, Northeast of Mountain Avenue	San Jacinto	9.7 ha (24.0 ac)	Under Construction
Residential	TR 31806	297 single-family lots	Southwest of MWD Aqueduct and Sanderson Avenue	San Jacinto	26.7 ha (66.0 ac)	Application Submitted
Residential	TR 31855	8 single-family lots	Southeast of Chase Street and Ramona Boulevard	San Jacinto	1.6 ha (4.0 ac)	Project Approved
Residential	TR 31886	326 single-family lots	Southwest of Ramona Expressway and Potter Road	San Jacinto	41.3 ha (102.0 ac)	Under Construction
Residential	TR 31899	60 duplexes and one park	North of Cottonwood Avenue between Warren Road and Cawston Avenue	San Jacinto	7.7 ha (19.0 ac)	Application Submitted
Residential	TR 31900	111 single-family lots	Southwest of Lyon Avenue and De Anza Drive	San Jacinto	16.2 ha (40.0 ac)	Under Construction
Residential	TR 31929	73 single-family lots	East of Kirby between 7th Street and Esplanade Avenue	San Jacinto	7.7 ha (19.0 ac)	Project Approved
Residential	TR 31979	11 single-family lots	South of Angela Way and end of Camelia Way	San Jacinto	1.2 ha (3.0 ac)	Project Approved
Residential	TR 32053	178 single-family lots and open space	Northwest of Ramona Expressway and Main	San Jacinto	28.7 ha (71.0 ac)	Under Construction
Residential	TR 32080	33 single-family lots	Southwest of Ramona Expressway and Skyview Lane	San Jacinto	4.0 ha (10.0 ac)	Project Approved
Residential	TR 32153	54 single-family lots	South of Ramona Boulevard at the end of Virginia Way	San Jacinto	2.4 ha (6.0 ac)	Project Approved

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Residential	TR 32155	254 lots with 2 parks (Tamarisk)	East of Warren between 7th and Cottonwood Avenue	San Jacinto	30.8 ha (76.0 ac)	Operational
Residential	TR 32247	157 single-family lots	Southwest of 7th Street and Lyon Avenue	San Jacinto	13.3 ha (33.0 ac)	Project Approved
Residential	TR 32250	53 single-family lots	Southeast of Kirby Avenue and 7th Street	San Jacinto	5.3 ha (13.0 ac)	Under Construction
Residential	TR 32276	22 single-family lots	East of Palm Avenue between Encanto Drive and Reposo Street	San Jacinto	0.8 ha (2.0 ac)	Project Approved
Residential	TR 32352	140 single-family lots	East of Sanderson between 7th Street and Cottonwood Avenue	San Jacinto	15.8 ha (39.0 ac)	Under Construction
Residential	TR 32376	336 residential lots	North of Ramona Expressway, west of City Limits	San Jacinto	38.0 ha (94.0 ac)	Project Approved
Residential	TR 32499	59 single-family lots	North of Esplanade Avenue between Sanderson Avenue and Kirby Street	San Jacinto	6.9 ha (17.0 ac)	Project Approved
Residential	TR 32518	35 single-family lots	East of Windham Road between Washington Avenue and Park Avenue	San Jacinto	3.2 ha (8.0 ac)	Under Construction
Residential	TR 32549	19 single-family lots	Southeast of 7th Street and Sanderson Avenue	San Jacinto	2.0 ha (5.0 ac)	Project Approved
Residential	TR 32555	12 single-family lots	South of Ramona Expressway between Potter Road and Chase Street, north of Ramona Boulevard	San Jacinto	1.2 ha (3.0 ac)	Project Approved
Residential	TR 32574	135 single-family lots	East of Lyon Avenue between De Anza Drive and Cottonwood Avenue	San Jacinto	15.8 ha (39.0 ac)	Application Submitted
Residential	TR 32656	16 single-family lots	South of 7th Street between Kirby Street and Lyon Avenue	San Jacinto	2.0 ha (5.0 ac)	Project Approved
Residential	TR 32809	260 condo units	Northeast of 7th Street and Palm Avenue	San Jacinto	7.7 ha (19.0 ac)	Project Approved
Residential	TR 32843	143 single-family lots	East of Sanderson between De Anza Drive and Ramona Expressway	San Jacinto	20.2 ha (50.0 ac)	Project Approved
Residential	TR 32955 (SP 1-02)	1,045 single-family lots, an elementary school, a park, and an area for mixed use (The Esplanade)	Northeast of Esplanade Avenue and Warren Road	San Jacinto	91.9 ha (227.0 ac)	Project Approved
Residential	TR 33053	9 condo lots	South of 6th Street between San Jacinto Avenue and Sheriff Avenue	San Jacinto	0.4 ha (1.0 ac)	Under Construction
Residential	TR 33072	152 single-family lots	Northwest of Lyon Avenue and Cottonwood Avenue	San Jacinto	17.0 ha (42.0 ac)	Project Approved
Residential	TR 33080	106 condo lots and open space	Southwest of Ramona Boulevard and Young Street	San Jacinto	3.6 ha (9.0 ac)	Application Submitted
Residential	TR 33106	15 single-family lots	Northeast of Cottonwood and Palm Avenue	San Jacinto	1.6 ha (4.0 ac)	Operational
Residential	TR 33138	28 single-family lots	North of Cottonwood Avenue between Lyon Avenue and Palm Avenue	San Jacinto	2.8 ha (7.0 ac)	Under Construction
Residential	TR 33141	247 single-family homes (Rancho Estrella)	Northwest of Sanderson Avenue and Cottonwood Avenue	San Jacinto	32.4 ha (80.0 ac)	Project Approved
Residential	TR 33249	25 single-family lots	Between Ramona Boulevard and De Anza Drive, west of Chase Street	San Jacinto	4.9 ha (12.0 ac)	Project Approved
Residential	TR 33408	209 single-family lots and open space	Southeast of Sanderson Avenue and Ramona Boulevard	San Jacinto	16.6 ha (41.0 ac)	Application Submitted
Residential	TR 33420	161 residential lots	Southwest of Sanderson Avenue and Cottonwood Avenue	San Jacinto	29.9 ha (74.0 ac)	Project Approved
Residential	TR 33509	37 single-family lots	South of Esplanade between Ramona Expressway and Mountain Avenue	San Jacinto	3.6 ha (9.0 ac)	Project Approved
Residential	TR 33546	5 single-family lots	Lyon Avenue between Cottonwood Avenue and 7th Street	San Jacinto	1.2 ha (3.0 ac)	Under Construction
Residential	TR 33579	160 single-family lots	Northeast of Warren Road and Ramona Expressway	San Jacinto	18.6 ha (46.0 ac)	Application Submitted

Category	Identifier[1]	Description	Location	Jurisdiction	Total Hectares (acres)	Status
Residential	TR 33644	63 condo units	West of Hewitt Street between 7th Street and Shaver Street	San Jacinto	2.8 ha (7.0 ac)	Application Submitted
Residential	TR 33693	10 single-family lots	Northeast of Shaver Street and Miramar Avenue	San Jacinto	0.8 ha (2.0 ac)	Project Approved
Residential	TR 33716	50 single-family lots	East of Lyon Avenue between Cottonwood Avenue and 7th Street	San Jacinto	4.9 ha (12.0 ac)	Project Approved
Residential	TR 33862	139 single-family lots	South of Ramona Expressway between Alessandro Avenue and Vernon Street	San Jacinto	18.2 ha (45.0 ac)	Project Approved
Residential	TR 34081 (SP 1-04)	Residential, commercial, and schools (The Villages)	South of Ramona Boulevard between Sanderson Avenue and Odell Avenue	San Jacinto	1,135.3 ha (2,805.3 ac)	Application Submitted
Residential	TR 34212	12 single-family lots	NW Esplanade Avenue and Kirby Street	San Jacinto	1.2 ha (3.0 ac)	Project Approved
Residential	TR 34271	148 single-family lots, 3 commercial lots, 2 parks, and open spaces	South of Ramona Expressway between Alessandro Avenue and Vernon Street	San Jacinto	18.6 ha (46.0 ac)	Application Submitted
Residential	TR 34364	8 single-family lots	South of Ramona Boulevard, Northwest of Chase Street	San Jacinto	2.0 ha (5.0 ac)	Project Approved
Residential	TR 34455	15 single-family residential lots	1410 Cottonwood Avenue, east of Lyon Avenue	San Jacinto	2.0 ha (5.0 ac)	Application Submitted
Residential	TR 34586	34 lot planned unit development	Northwest of Kirby and Esplanade Avenue	San Jacinto	2.4 ha (6.0 ac)	Application Submitted
Residential	TR 34658	18 single-family lots	Northeast of De Anza Drive and Chase Street	San Jacinto	3.6 ha (9.0 ac)	Project Approved
Residential	TR 34700	41 single-family lots	Northwest of 7th Street and Sanderson Avenue	San Jacinto	4.9 ha (12.0 ac)	Application Submitted
Residential	TR 34789	Convert 20 apartment units into condos	Southeast of Santa Fe and Oakwood	San Jacinto	0.4 ha (1.0 ac)	Application Submitted
Residential	TR 34868	18 single-family residences	Southwest of 7th Street and Kirby Street	San Jacinto	1.7 ha (4.3 ac)	Project Approved
Residential	TR 35447	10 single-family lots	Northeast of Shaver Street and Miramar Avenue	San Jacinto	0.8 ha (2.0 ac)	Project Approved
Residential	Unknown-18	150 lots	Southeast of Cawston Avenue and 7th Street	San Jacinto	15.3 ha (37.9 ac)	Application Submitted
Residential	Unknown-19	Master plan development of about 500 acres	Northwest of Ramona Expressway and Sanderson Avenue	San Jacinto	211.2 ha (522.0 ac)	Application Submitted
Residential	VTR 30484	117 single-family lots	East of Soboba Road	San Jacinto	48.2 ha (119.0 ac)	Project Approved
Residential	VTR 31097	224 lots	Northwest of Estrella Street and Palm Avenue, south of De Anza Drive	San Jacinto	25.9 ha (64.0 ac)	Under Construction
Residential	VTR 31384	91 single-family lots	Northeast of Cottonwood Avenue and Lyon Avenue	San Jacinto	10.5 ha (26.0 ac)	Under Construction
Other	Unknown-22	Elementary School #11	Northeast corner of Esplanade Avenue and Warren Road	San Jacinto	4.9 ha (12.0 ac)	Project Approved

Source: Riverside County General Plan, 2003; City of Hemet General Plan, 1992. City of Hemet Zoning, 2008; City of San Jacinto General Plan, 2006

[1] *Key:*

CUP – Conditional Use Permit
GPA – General Plan Amendment
PM – Parcel Map
SDR – Site Development Review
SP – Specific Plan
TPM – Tentative Parcel Map
TR – Tract Map
TTM – Tentative Tract Map
VTTM – Vesting Tentative Tract Map

Appendix I Section 4(f) Coordination Meetings

In December 2010 and January 2011, Section 4(f) coordination meetings were held with officials from Riverside County, the City of San Jacinto, and the City of Hemet, who confirmed the status of the trails and bike paths in the Project study area. Summaries of those meetings are presented in this appendix as follows.

- County of Riverside, December 15, 2010
- Riverside County Habitat Conservation Agency, December 15, 2010
- City of San Jacinto, December 16, 2010
- City of Hemet, January 20, 2011

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Coordination with County of Riverside Regarding Class 1 Bike Path(s), Class 1 Bike Path(s) / Regional Trail(s), and Regional Trail(s)

December 15, 2010

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SR 79 REALIGNMENT PROJECT

Meeting Summary—Coordination with County of Riverside

DATE: **December 15, 2010**
TIME: **11:30AM**
LOCATION: **RCTC Conf. Room C**

SUBJECT: **Coordination with County of Riverside Regarding Class 1 Bike Path(s), Class 1 Bike Path(s) / Regional Trail(s), and Regional Trail(s)**

Meeting Summary Prepared by:
Carolyn Washburn

Distributed: January 5, 2011
(electronically, via email)

Meeting Summary Approved by:
(all attendees, via email confirmations)

Date Distributed as Final: April 1, 2011
(electronically, via email)

Attendee Names / Agency or Organization	Attendee Names / Company
Cathy Bechtel/RCTC	Patty Romo/Riverside County
James Shankel/Caltrans	Cindy Salazar/CH2M HILL
Kourtney Graves/Caltrans	Carolyn Washburn/CH2M HILL (via telephone)

A brief summary was provided by James Shankel to Patty Romo, referencing **Figure 1.0 Proposed Trails and Bike Paths Within the County of Riverside** (attached), regarding Caltrans' objective of confirming whether the Riverside County Transportation Commission's (RCTC's) proposed State Route 79 Realignment Project was potentially impacting certain resources that might be protected by the provisions of Section 4(f) of the 1966 Department of Transportation Act [49 USC § 303].

Patty Romo confirmed that Riverside County is the official agency with jurisdiction over the Class 1 Bike Path, Class I Bike Path / Regional Trail, and Regional Trail as depicted in Figure 1.0 Proposed Trails and Bike Paths within the County of Riverside.

The facilities within the County of Riverside include:

- Class I Bike Path/Regional Trail within Domenigoni Parkway
- Regional Trail west of California, along Stetson Avenue, Esplanade Avenue and O'Dell Avenue
- Class 1 Bike Path along Ramona Expressway

It is noted that the Regional Trail along O'Dell Avenue and the Class I Bike Path along Ramona Expressway are under the jurisdiction of both the County of Riverside and the City of San Jacinto.

Patty confirmed that the County of Riverside's intent for the identified Class 1 Bike Path is to provide an alternate means of transportation and not recreation. It is the County's vision that the development of these bike paths and trails would be conditioned as development plans are submitted and approved by the County. Currently, no projects are proposed or anticipated to be submitted for this area. In addition, there is no existing right-of-way (ROW) dedicated for the Class 1 Bike Path or Regional Trail. The ROW would be acquired as part of the conditions of a future development.

Listed below is the status of each resource:

- Class I Bike Path/Regional Trail within Domenigoni Parkway: not constructed
- Regional Trail west of California, along Stetson Avenue, Esplanade Avenue and O'Dell Avenue: not constructed
- Class 1 Bike Path along Ramona Expressway: not constructed

Based on the information provided by the County of Riverside during the meeting, Caltrans indicated that the Bike Paths are anticipated to be recognized as an exception to 23 cfr 774, specifically in the context of 23 cfr 774.13 (f) (4) "Trails, paths, bikeways, and sidewalks that are part of the local transportation system and which function primarily for transportation."

It was further indicated that the meeting summary would be distributed, and based on approval by all meeting attendees, would serve as the documentation of coordination efforts in this regard.

Attachments (distributed at the meeting):
Figure 1.0 Proposed Trails and Bike Paths Within the County of Riverside

Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment Match Line[CH]
- Long-Term Traffic Detour[CH]
- Project Right-of-Way[CH]
- Study Area[CH]
- Utility Relocation Area[CH]
- Connection to Hemet Channel Outside the Project Right-of-Way[CH]

Trails

- Class 1 Bike Path[CR]
- Class I Bike Path / Regional Trail[CR]
- Regional Trail[CR]

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Sources: CH - CH2M HILL; CR - County of Riverside

Figure 1.0
Trails and Bike Paths Within the County of Riverside
State Route 79 Realignment Project

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Coordination with Riverside County Habitat Conservation Agency Regarding Proximity or Presence of Recreational and/or Wildlife Refuge Resources

December 15, 2010

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SR 79 REALIGNMENT PROJECT

Meeting Summary—Coordination with Riverside County Habitat Conservation Agency

DATE: **December 15, 2010**
TIME: **12:00 PM**
LOCATION: **RCTC Conf. Room C**

SUBJECT: **Coordination with Riverside County Habitat Conservation Agency Regarding Proximity or Presence of Recreational and/or Wildlife Refuge resources**

Meeting Summary Prepared by:
Carolyn Washburn

Distributed: January 4, 2011
(electronically, via email)

Meeting Summary Approved by:
(all attendees, via email confirmations)

Date Distributed as Final: April 1, 2011
(electronically, via email)

Attendee Names / Agency or Organization	Attendee Names / Company
Cathy Bechtel/RCTC	Gail Barton/Riverside County Habitat Conservation Agency
James Shankel/Caltrans	Cindy Salazar/CH2M HILL
Kourtney Graves/Caltrans	Carolyn Washburn/CH2M HILL (via telephone)

Meeting Summary

Following self-introductions, a brief explanation was provided by James Shankel, referencing exhibits, regarding Caltrans' objective of confirming whether the proposed State Route 79 Realignment Project was potentially impacting certain resources that might be protected by the provisions of Section 4(f) of the 1966 Department of Transportation Act [49 USC § 303].

Gail Barton provided a summary of the Southwestern Riverside County Multi-Species Reserve (SWRCMSR) and the role of the Riverside County Habitat Conservation Agency (RCHCA). The RCHCA implements the Stephens' Kangaroo Rat (SKR) Habitat Conservation Plan (HCP). The SWRCMSR is one of the reserves established under the SKR HCP and that operates consistent with the HCP. The RCHCA sits on the Reserve Management Committee (RMC) along with Riverside County Regional Park and Open Space District, USFWS, CDFG and Metropolitan Water District. The RMC directs the actions of the reserve (Figure 1.0 Southwestern Riverside County Multi-Species Reserve and Parks, Biological Reserves, Trails, and Historic Sites on Land Owned by the Metropolitan Water District – area depicted in green as Southwestern Riverside County Multi-Species Reserve) and operates by unanimous vote.

The recreational facility within the Reserve that is in proximity to the project includes the North Hills Trail. This facility is operational.

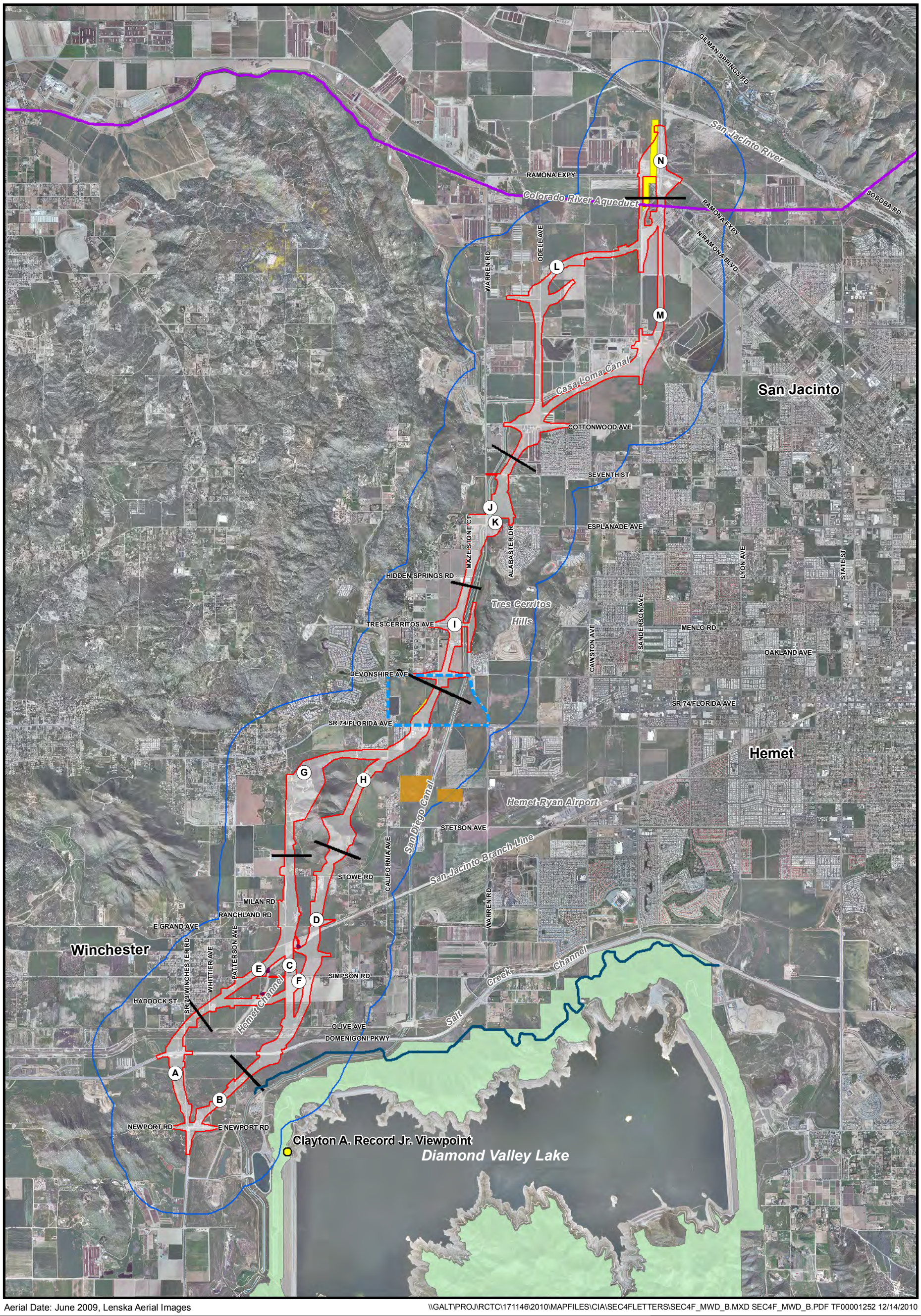
During the meeting discussion, in conjunction with prepared exhibits (attached), it was confirmed that the proposed SR 79 Realignment Project is within approximately 1,219 m (4,000 ft) from Build Alternatives 1a and 2a and approximately 152.4 m (500 ft) from Build alternatives 1b and 2b (including Design Options 1b1 and 2b1) of the Reserve, but will not result in any impacts (permanent or temporary) to recreational resources on Reserve property.

The purpose of the Reserve is to protect biological habitat and their associated species. However, it was specifically noted during the meeting that SWRCMSR is not itself a wildlife refuge nor a part of a wildlife refuge.

It was indicated that the meeting summary would be distributed, and based on approval by all meeting attendees, would serve as the documentation of coordination efforts in this regard.

Attachments (distributed at the meeting):
Figure 1.0 - Southwestern Riverside County Multi-Species Reserve and Parks, Biological Reserves, Trails, and Historic Sites on Land Owned by the Metropolitan Water District

Attachments (as revised after the meeting):
Figure 1.0 - Southwestern Riverside County Multi-Species Reserve and Parks, Biological Reserves, Trails, and Historic Sites on Land Owned by the Metropolitan Water District *(revised to show location of distance from Project ROW)*



Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment Match Line[CH]
- Long-Term Traffic Detour[CH]
- Project Right-of-Way[CH]
- Study Area[CH]
- Utility Relocation Area[CH]
- Connection to Hemet Channel Outside the Project Right-of-Way[CH]
- Clayton A. Record Junior (Jr.) Viewpoint[MW]
- North Hills Trail[MW]
- Colorado River Aqueduct[MW]
- MWD Owned Mitigation Site[CR]
- Southwestern Riverside County Multi-Species Reserve[CR]

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Sources: CH - CH2M HILL; CR - County of Riverside; MW - Metropolitan Water District of Southern California

Figure 1.0
Southwestern Riverside County Multi-Species Reserve and Parks, Biological Reserves, Trails, and Historic Sites on Land Owned by the Metropolitan Water District
State Route 79 Realignment Project

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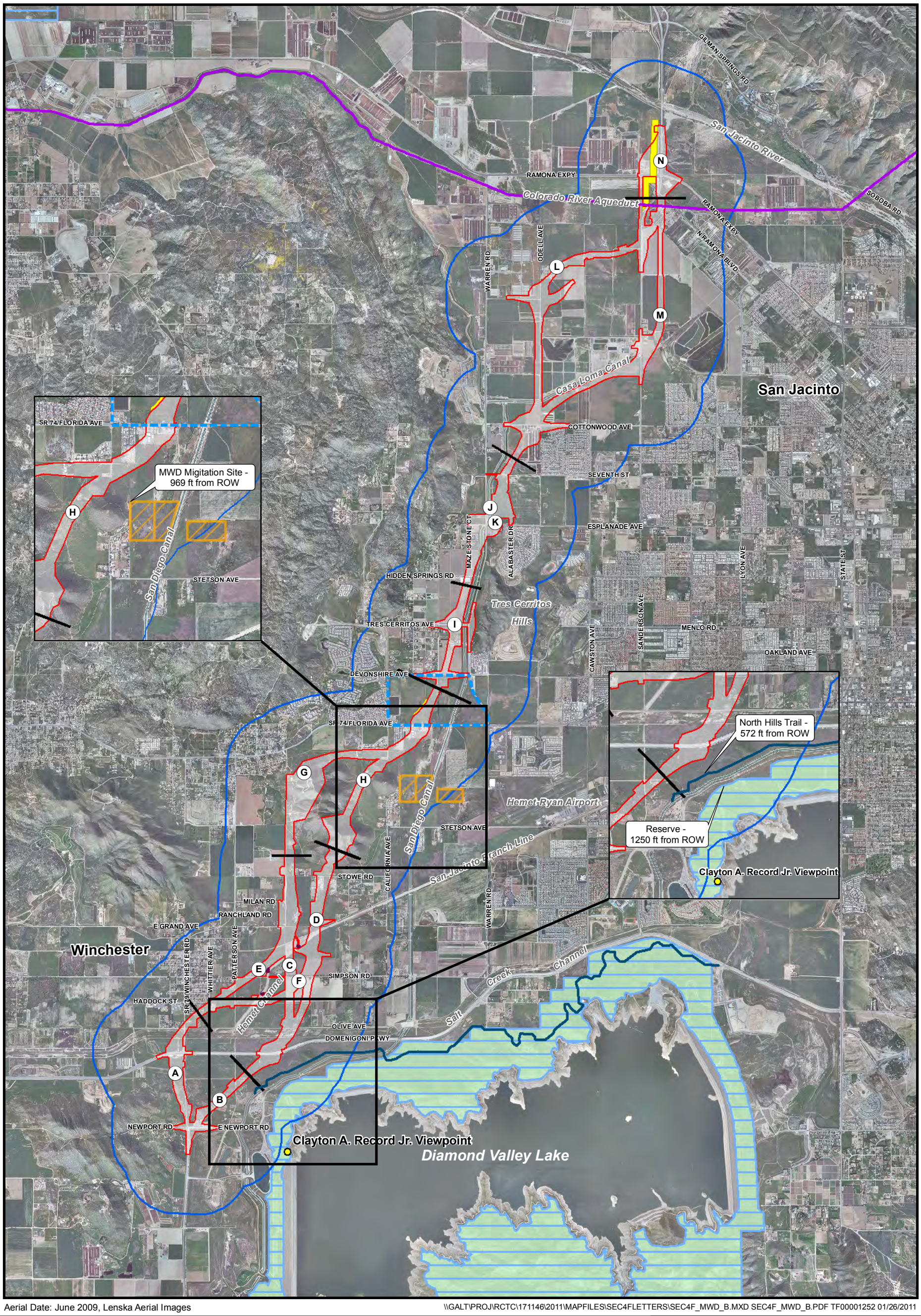

Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment Match Line[CH]
- Long-Term Traffic Detour[CH]
- Project Right-of-Way[CH]
- Study Area[CH]
- Utility Relocation Area[CH]
- Connection to Hemet Channel Outside the Project Right-of-Way[CH]
- Clayton A. Record Junior (Jr.) Viewpoint[MW]
- North Hills Trail[MW]
- Colorado River Aqueduct[MW]
- MWD Owned Migation Site[CR]
- Stephen's Kangaroo Rat Core[CR]
- Southwestern Riverside County Multi-Species Reserve[CR]

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Sources: CH - CH2M HILL; CR - County of Riverside; MW - Metropolitan Water District of Southern California

Figure 1.0
Southwestern Riverside County Multi-Species Reserve and Parks, Biological Reserves, Trails, and Historic Sites on Land Owned by the Metropolitan Water District
State Route 79 Realignment Project

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Coordination with City of San Jacinto Regarding Parks, Sports Field, Regional Trail, Bike Paths, and Community Trails

December 16, 2010

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SR 79 REALIGNMENT PROJECT

Meeting Summary—Coordination with City of San Jacinto

DATE: **December 16, 2010**
TIME: **10:00AM**
LOCATION: **Riverside County Transportation Commission, Conference Room C**

SUBJECT: **Coordination with City of San Jacinto Regarding Parks, Sports Field, Regional Trail, Bike Paths, and Community Trails**

Meeting Summary Prepared by:
Carolyn Washburn

Distributed: January 5, 2011
(electronically, via email)

Meeting Summary Approved by:
(all attendees, via email confirmations)

Date Distributed as Final: April 14, 2011
(electronically, via email)

Attendee Names / Agency or Organization	**Attendee Names / Company**
Cathy Bechtel/RCTC	Tim Hults/City of San Jacinto
James Shankel/Caltrans	Cindy Salazar/CH2M HILL
Kourtney Graves/Caltrans	Carolyn Washburn/CH2M HILL (via telephone)

Meeting Summary

Following self-introductions, a brief explanation was provided by James Shankel, referencing exhibits, regarding Caltrans' objective of confirming whether the proposed State Route 79 Realignment Project was potentially impacting certain resources that might be protected by the provisions of Section 4(f) of the 1966 Department of Transportation Act [49 USC § 303].

Tim Hults confirmed that the City of San Jacinto is the agency with jurisdiction over the following facilities, as depicted in Figure 1.0 Parks, Recreational Areas, Trails and Bike Paths within the City of San Jacinto:

- Ambassador Street Sports Field
- Tamarisk Park
- Regional Trail along Odell Avenue
- Class 1 Bike Path along Ramona Expressway
- Class II Bike Trail along Esplande Avenue, Cottonwood Avenue, and Warren Road
- Proposed Community Trail along Casa Loma Canal
- Potential Community Trail

Listed below is the current status of each recreational resource (or potential recreational resource):

- Ambassador Street Sports Field: currently operational as a recreational facility
- Tamarisk Park: currently operational as a recreational facility
- Regional Trail along O'Dell Avenue: not constructed (and no specific timetable identified for construction)
- Class 1 Bike Path along Ramona Expressway: portions along Ramona Expressway are constructed; however, the portion within the SR 79 Realignment Project right-of-way (ROW) is not constructed (and no specific timetable identified for construction)
- Class II Bike Trail along Esplande Avenue, Cottonwood Avenue, and Warren Road: not constructed (and no specific timetable identified for construction)
- Proposed Community Trail along Casa Loma Canal: portions along Casa Loma Canal are constructed; however, the portion within the SR 79 Realignment Project ROW is not constructed (and no specific timetable identified for construction)
- Potential Community Trail: not constructed (and no specific timetable identified for construction)

Tim stated that the Class 1 Bike path has not been constructed. He could not confirm the primary intent of the use of the Class 1 Bike Path. He offered to review how it is classified in the General Plan and provide a response to the meeting minutes with this clarification.

Tim also stated that there are no projects identified within the near future that would expect to construct the proposed trails and bike paths. In addition, there is no existing ROW dedicated for the Class 1 Bike Path or Class II Bike Trail. The ROW would need to be acquired as part of a future project.

Tim also noted that the Regional Trail along O'Dell Avenue was not shown on the map distributed at the meeting. CH2M HILL agreed to update the map to include this item.

Based on an updated/detailed exhibit presented by CH2M Hill, it was possible to illustrate that Tamarisk Park and Ambassador Street Sports Field are avoided by the proposed SR-79 Realignment Project. Additionally, according to CH2M Hill (also responsible for the preliminary and final design work for the proposed project) no temporary construction easements are expected to be needed in Tamarisk Park or the Ambassador Street Sports Field for the construction of the SR 79 Realignment Project.

It was indicated that the meeting summary would be distributed, and based on approval by all meeting attendees, would serve as the documentation of coordination efforts in this regard.

Attachments (distributed at the meeting and revised):
Figure 1 - Parks, Recreational Areas, Trails and Bike Paths Within the City of San Jacinto

ACTION ITEMS

ITEM	DESCRIPTION	STATUS	OPENED	DUE	ACTION FOR:	FOLLOW UP RESULTS
1	Figure 1.0 Parks, Recreational Areas, Trails and Bike Paths Within the City of San Jacinto needs to be updated to reflect Regional Trail along O'Dell Avenue.	Done	12/16/10	1/3/11	CH2M HILL	Figure 1.0 has been revised to include the Regional Trail along O'Dell Avenue.
2	City of San Jacinto to verify City's primary purpose of Class I Bike Trails per City's General Plan and associated elements.	Done	12/16/10	1/24/11	City of San Jacinto	Tim Hults confirmed in an email on 1/24/11 that per the City's General Plan, the bikeways and trails are included in the circulation element as optional modes of transportation. "As such, they are definitely a component of our transportation program. However, even though we have listed trails and bike lanes as transportation facilities, they have been included in the Community Services and Facilities Element because there is an opportunity for them to be for recreational purposes "

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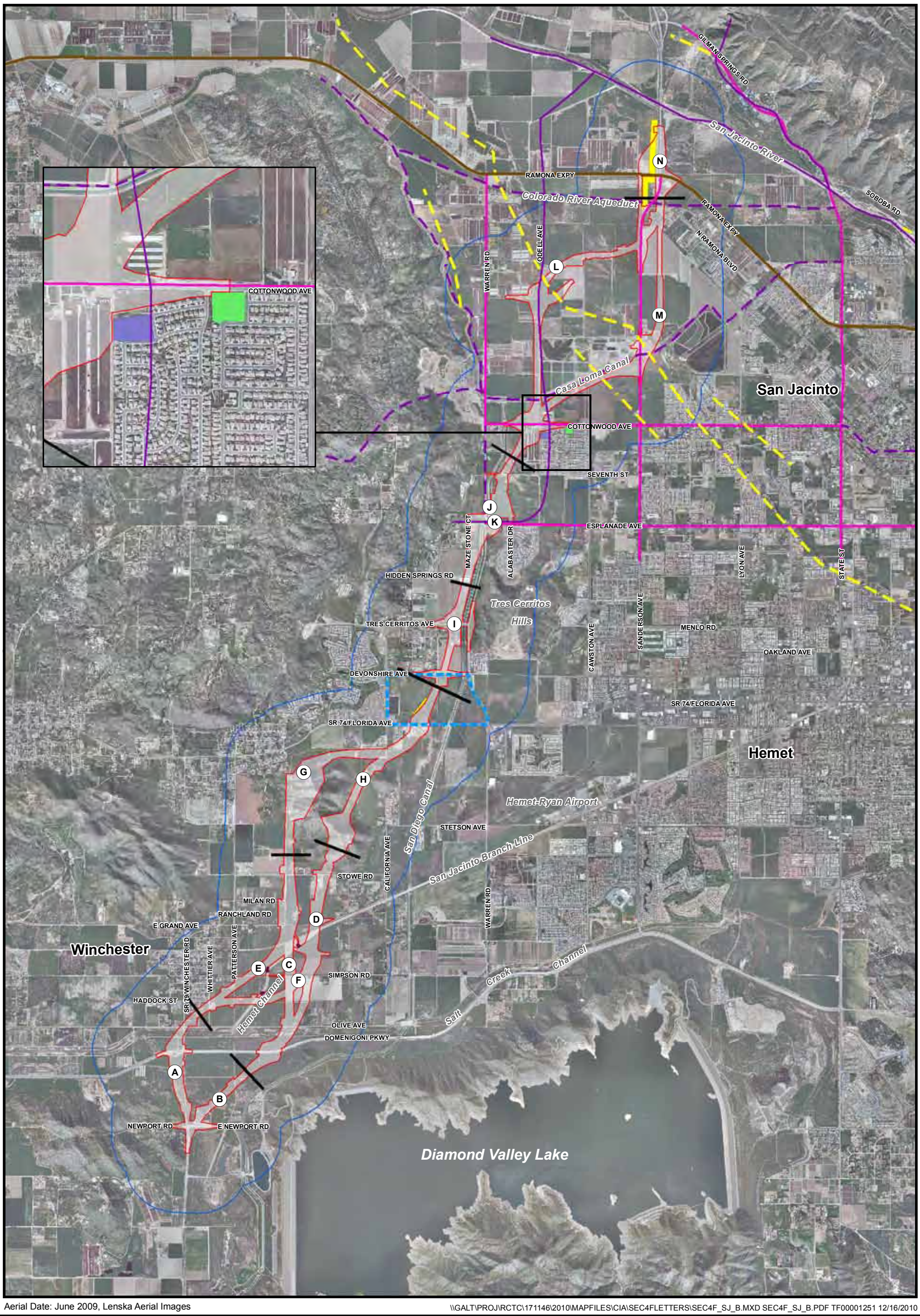

Aerial Date: June 2009, Lenska Aerial Images

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LEGEND

- Roadway Segment Match Line[CH]
- Long-Term Traffic Detour[CH]
- Project Right-of-Way[CH]
- Study Area[CH]
- Utility Relocation Area[CH]
- Connection to Hemet Channel Outside the Project Right-of-Way[CH]
- Tamarisk Park[SJ]
- Ambassador Street Sports Field[SJ]

Trails

- Class 1 Bike Path[SJ]
- Class II Bike Trail[SJ]
- Proposed Community Trail[SJ]
- Potential Trail[SJ]
- Regional Trail[SJ]

Sources: CH - CH2M HILL; SJ - City of San Jacinto

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Figure 1.0
Parks, Recreational Areas, Trails and Bike Paths Within the City of San Jacinto
State Route 79 Realignment Project

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Coordination with City of Hemet Regarding Class 1 Bike Path(s), Class 1 Bike Path(s)/Regional Trail(s), and Regional Trail(s)

January 20, 2011

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SR 79 REALIGNMENT PROJECT

Meeting Summary—Coordination with City of Hemet

DATE: **January 20, 2011**
TIME: **10:30AM**
LOCATION: **Riverside County Transportation Commission, Conference Room C**

SUBJECT: **Coordination with City of Hemet Regarding Class 1 Bike Path(s), Class 1 Bike Path(s) / Regional Trail(s), and Regional Trail(s)**

Meeting Summary Prepared by:
Carolyn Washburn

Distributed: February 2, 2011
(electronically, via email)

Meeting Summary Approved by:
(all attendees, via email confirmations)

Date Distributed as Final: April 1, 2011
(electronically, via email)

Attendee Names / Agency or Organization

Cathy Bechtel/RCTC
James Shankel/Caltrans
Kourtney Graves/Caltrans

Attendee Names / Company

Deanna Elliano/City of Hemet
Richard Masyczek /City of Hemet
Cindy Salazar/CH2M HILL
Carolyn Washburn/CH2M HILL (via telephone)

Meeting Summary

Following self-introductions, a brief explanation was provided by James Shankel, referencing exhibits, regarding Caltrans' objective of confirming whether the proposed State Route 79 Realignment Project was potentially impacting certain resources that might be protected by the provisions of Section 4(f) of the 1966 Department of Transportation Act [49 USC § 303].

Deanna Elliano confirmed that the City of Hemet is the agency with jurisdiction over the Class 1 Bike Path, Class 2 Bike Lane, Class 3 Bike Route, and Class 4 Mixed Use Trail System as depicted in Figure 1.0 Trails and Bike Paths within the City of Hemet (information depicted on figure is from the approved 1992 City of Hemet General Plan).

Additionally, Ms. Elliano noted that the City of Hemet is currently in the process of updating the City of Hemet General Plan. Ms. Elliano referenced a draft figure from the related portion of the in-process version of the City of Hemet General Plan, noting the most current status and locations of the Class I Bike Path, Class II Bike Lane, and Equestrian Trail.

Potential recreational facilities within the City of Hemet, as illustrated in the approved 1992 City of Hemet General Plan (which remains the most current approved General Plan) include:

- Class 4 Mixed Use Trail System along the northwestern edge of Diamond Valley Lake, south of Domenigoni Parkway
- Class 4 Mixed Use Trail System along of California Avenue
- Class 2 Bike Lane along Simpson Road
- Class 1 Bike Path along SR 74/ Florida Avenue
- Class 1 Bike Path along Warren Road
- Class 2 Bike Lane along Devonshire Avenue
- Class 2 Bike Lane along Esplanade Avenue

Listed below is the current status of each potential recreational resource):

- Class 4 Mixed Use Trail System along the northwestern edge of Diamond Valley Lake, south of Domenigoni Parkway: not constructed (and no specific timetable identified for construction)
- Class 4 Mixed Use Trail System along of California Avenue: not constructed (and no specific timetable identified for construction)
- Class 2 Bike Lane along Simpson Road: not constructed (and no specific timetable identified for construction)
- Class 1 Bike Path along SR 74/ Florida Avenue: not constructed (and no specific timetable identified for construction)
- Class 1 Bike Path along Warren Road: not constructed (and no specific timetable identified for construction)
- Class 2 Bike Lane along Devonshire Avenue: not constructed (and no specific timetable identified for construction)
- Class 2 Bike Lane along Esplanade Avenue: not constructed (and no specific timetable identified for construction)

Ms. Elliano confirmed that the City of Hemet's intent for the identified Class 1 Bike Path in the approved 1992 City of Hemet General Plan update is to provide an alternate means of transportation and not recreation.

The Class I Bike Paths (according to the in-process City of Hemet General Plan update) are located parallel to Domenigoni Parkway and along Salt Creek Channel only, and connect to the County of Riverside Regional Trail System. Based on the information provided by the City of Hemet during the meeting, Caltrans indicated that the Bike Paths are anticipated to be recognized as an exception to 23 CFR 774, specifically in the context of 23 CFR 774.13 (f) (4) "Trails, paths, bikeways, and sidewalks that are part of the local transportation system and which function primarily for transportation."

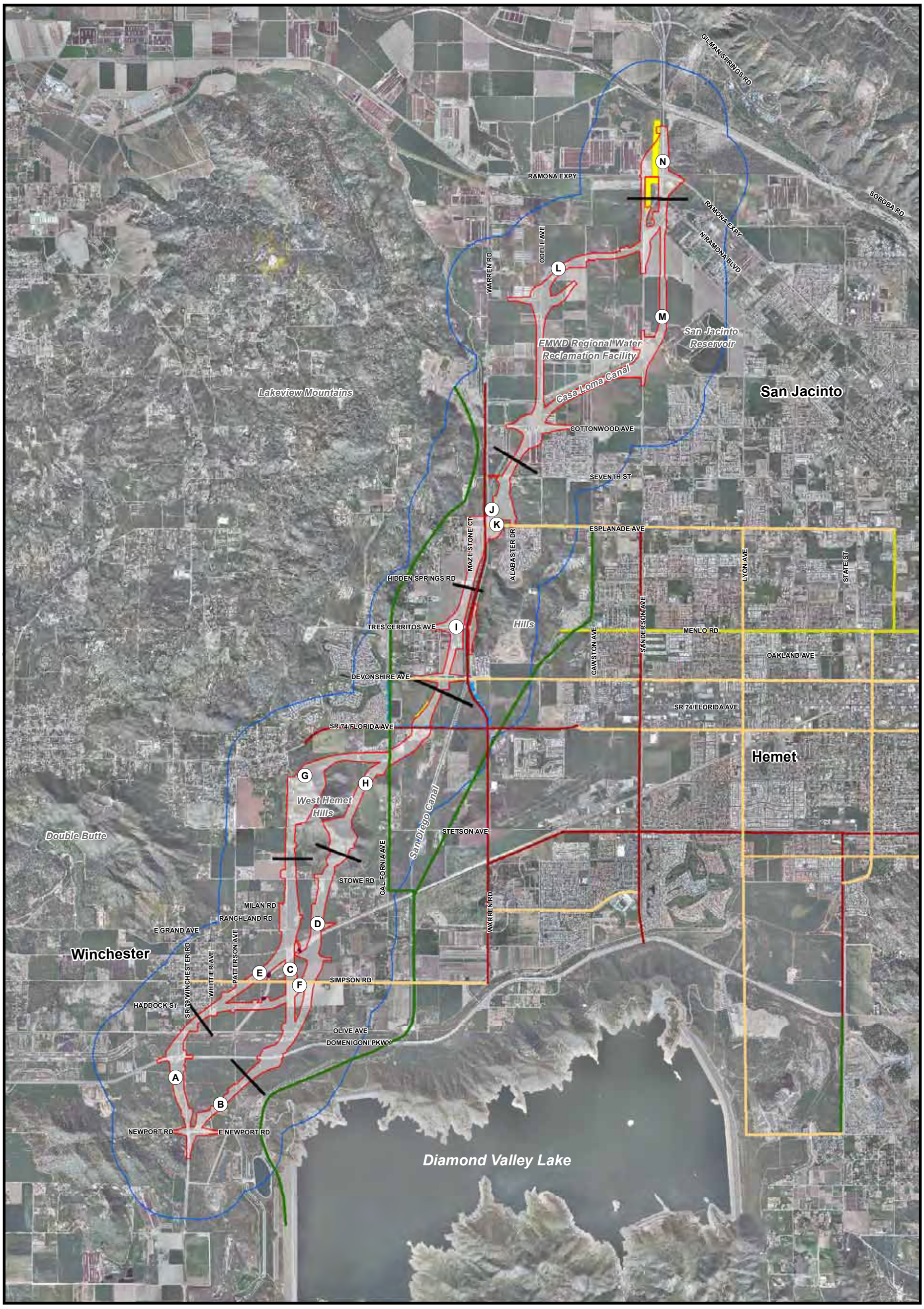
It was noted that the City of Hemet General Plan update has removed the Class 4 Mixed Use Trail System from the location noted in the approved 1992 General Plan. The Class 4 Mixed Use Trail has been removed because the location is adjacent to the Multi-Species Habitat Conservation Plan vernal pool complex (in order for the Class 4 Mixed Use Trail System to have been constructed; right of way would have been needed from the vernal pool complex). Also removed in the City of Hemet General Plan update are the Class 1 Bike Paths along SR 74/ Florida Avenue and Warren Road, and the Class 2 Bike Lanes along Devonshire Avenue and Esplanade Avenue.

It was indicated that the meeting summary would be distributed, and based on approval by all meeting attendees, would serve as the documentation of coordination efforts in this regard.

Attachments (distributed at the meeting):
Figure 1.0 Trails and Bike Paths within the City of Hemet
Draft figure from the in-process version of the City of Hemet General Plan

ACTION ITEMS

ITEM	DESCRIPTION	STATUS	OPENED	DUE	ACTION FOR:	FOLLOW UP RESULTS
1	**City of Hemet to provide PDF figure of draft General Plan update figures the Recreation Element**	Done	1/20/2011	1/31/2011	City of Hemet	City of Hemet emailed draft map of recreational trail system



Aerial Date: June 2009, Lenska Aerial Images

\\GALT\PROJ\RCTC\171146\2010\MAPFILES\CIA\SEC4FLETTERS\SEC4F_HEM_B.MXD SEC4F_HEM_B.PDF TF00001250 9/20/2010

LEGEND

- Roadway Segment Match Line[CH]
- Long-Term Traffic Detour[CH]
- Project Right-of-Way[CH]
- Study Area[CH]
- Utility Relocation Area[CH]
- Connection to Hemet
- Channel Outside the Project Right-of-Way[CH]

Trails

- Class 1 Bike Path[HT]
- Class 2 Bike Lane[HT]
- Class 3 Bike Route[HT]
- Class 4 Mixed Use Trail System[HT]

0 5,000 Feet

0 1,000 Meters

1:60,000

Sources: CH - CH2M HILL; HT - City of Hemet

Figure 1.0
Trails and Bike Paths Within the City of Hemet
State Route 79 Realignment Project

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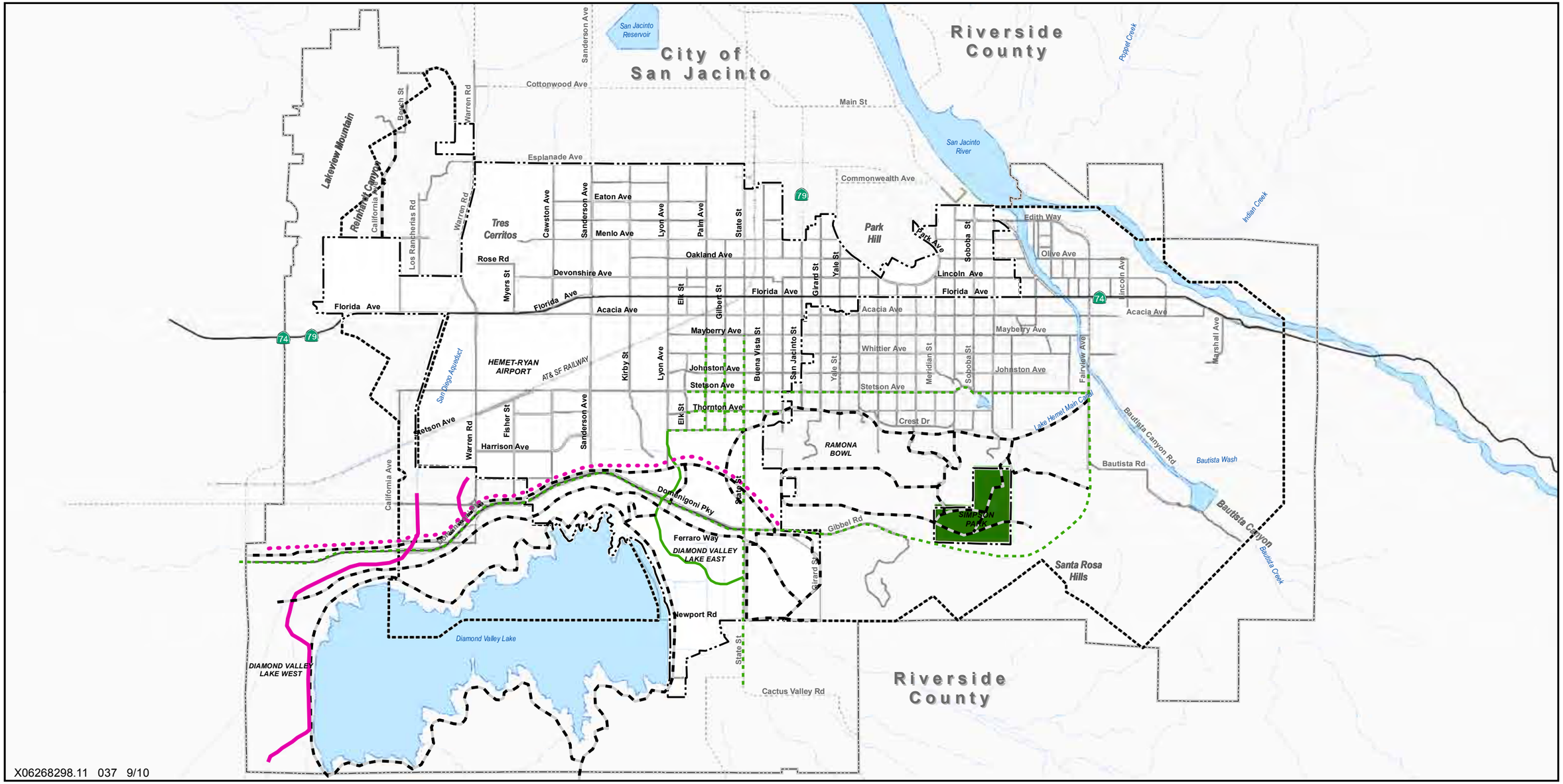

X06268298.11 037 9/10

HEMET General Plan

N

Sources:
City of Hemet and
Census Tiger Line Data, 2005

1 0.5 0 1 2 Miles

LEGEND

Recreational Trails

- Class I Bike Path (Fut.)
- Class I Bike Path
- Class II Bike Path (Fut.)
- Class II Bike Path
- Equestrian

- Hemet City Boundary
- Planning Area
- Sphere of Influence
- River/Lake
- Creek/Canal
- Road
- Major Road (Surrounding City)
- Railroad

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Appendix J Alternatives Evaluated for the Project

This appendix contains selected figures from various documents that were use to develop the Project Build alternatives. See Section 2.2.5, Alternatives Considered But Eliminated from Further Discussion (Volume 1), for a description of the process undertaken and the resulting alternatives evaluated for the Project. The figures in this appendix are in the order the documents are referred to in Section 2.2.5, as follows:

- State Route 79 Realignment Study Report (1998)
  Alternative A
  Alternative B
  Alternative C
  Alternative D
  Alternative E
  Alternative F
  Alternative G
  Alternative H

- Project Study Report/Project Development Support (2002)
  Exhibit B
  Exhibit H

- Final Project Criteria and Alternatives Selection for Preliminary Agreement (June 2004)
  Figure ES
  Figure E3
  Figure K
  Figure L1
  Figure L2
  Figure L3
  Figure L4

- Value Analysis Study Report (2006)
  Number 3.1.2

- Supplemental Information for Project Criteria and Alternatives Selection for Updated Preliminary Agreement (May 2005)
  Figure E4
  Figure E5
  Figure L5
  Figure L6
  Figure L7
  Figure L8

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State Route 79 Realignment Study Report (1998)

Alternative A

Alternative B

Alternative C

Alternative D

Alternative E

Alternative F

Alternative G

Alternative H

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NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

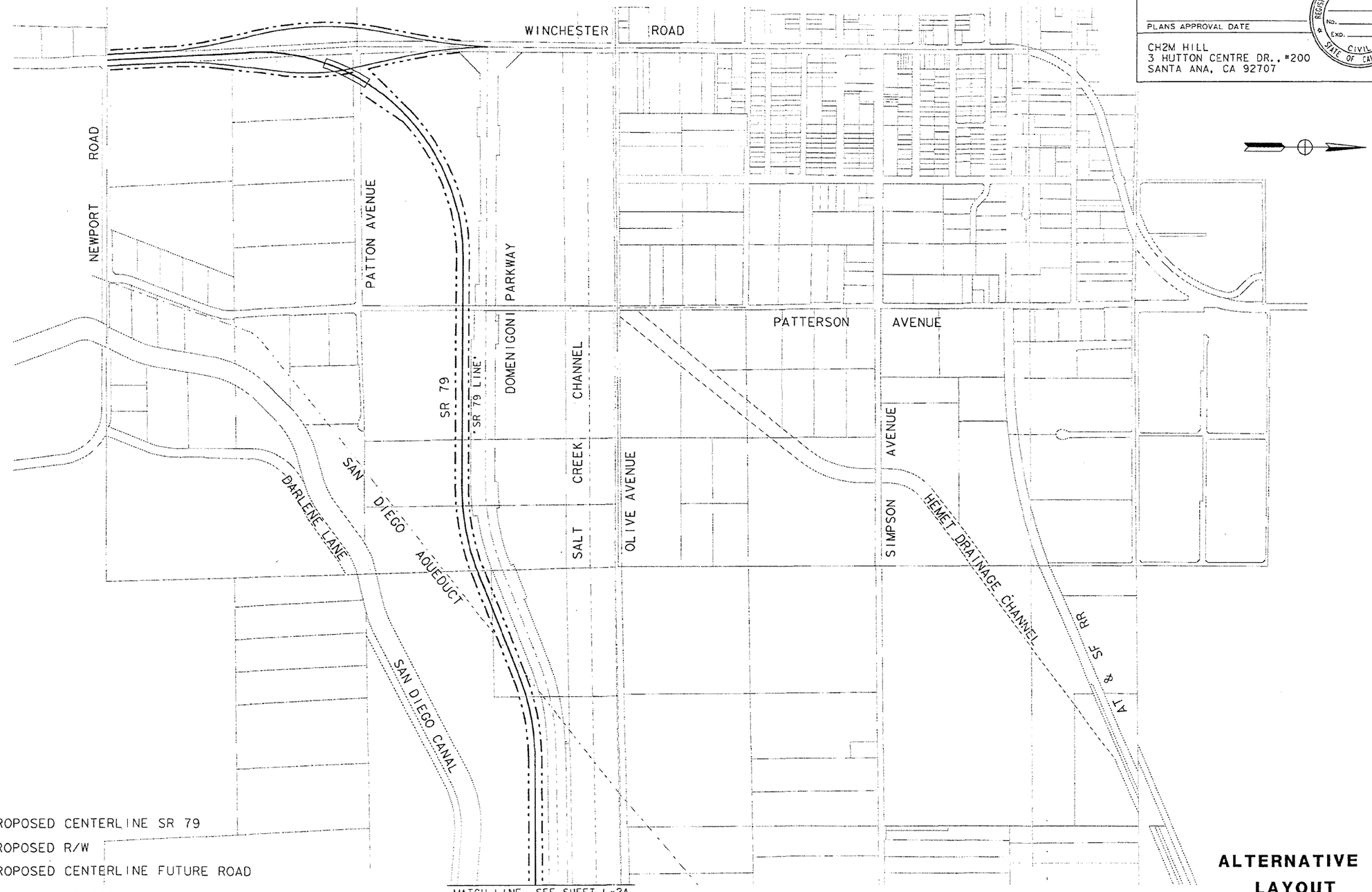
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	79	X.X/X.X	X	XXX

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. Exp. — CIVIL — STATE OF CALIFORNIA

CH2M HILL
3 HUTTON CENTRE DR., #200
SANTA ANA, CA 92707



LEGEND

- PROPOSED CENTERLINE SR 79
- PROPOSED R/W
- PROPOSED CENTERLINE FUTURE ROAD
- PROPOSED BRIDGE

ALTERNATIVE A

LAYOUT
SCALE: 1"=500'

L-1A

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NOTE:
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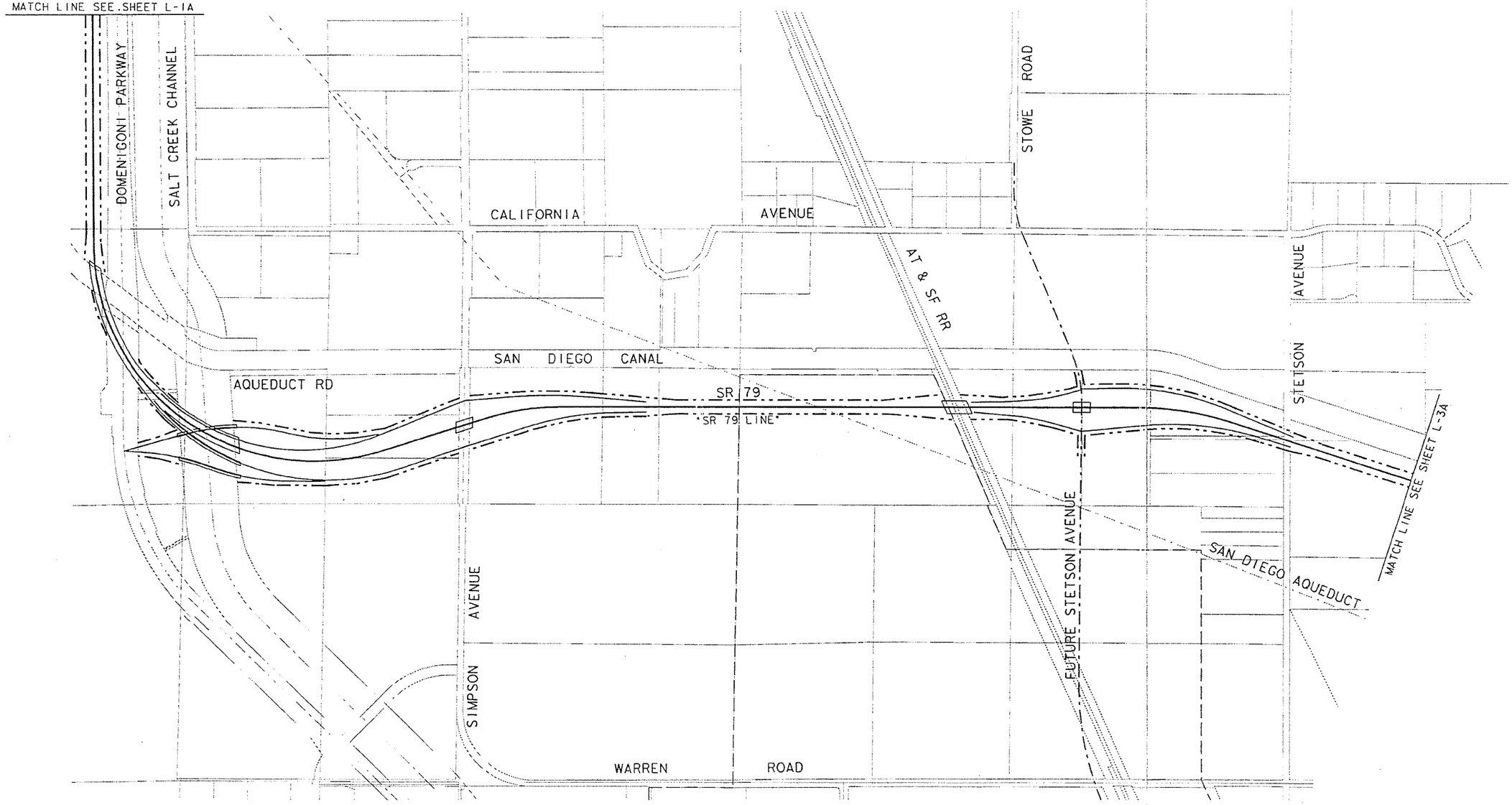

ALTERNATIVE A
LAYOUT
SCALE: 1"=500'

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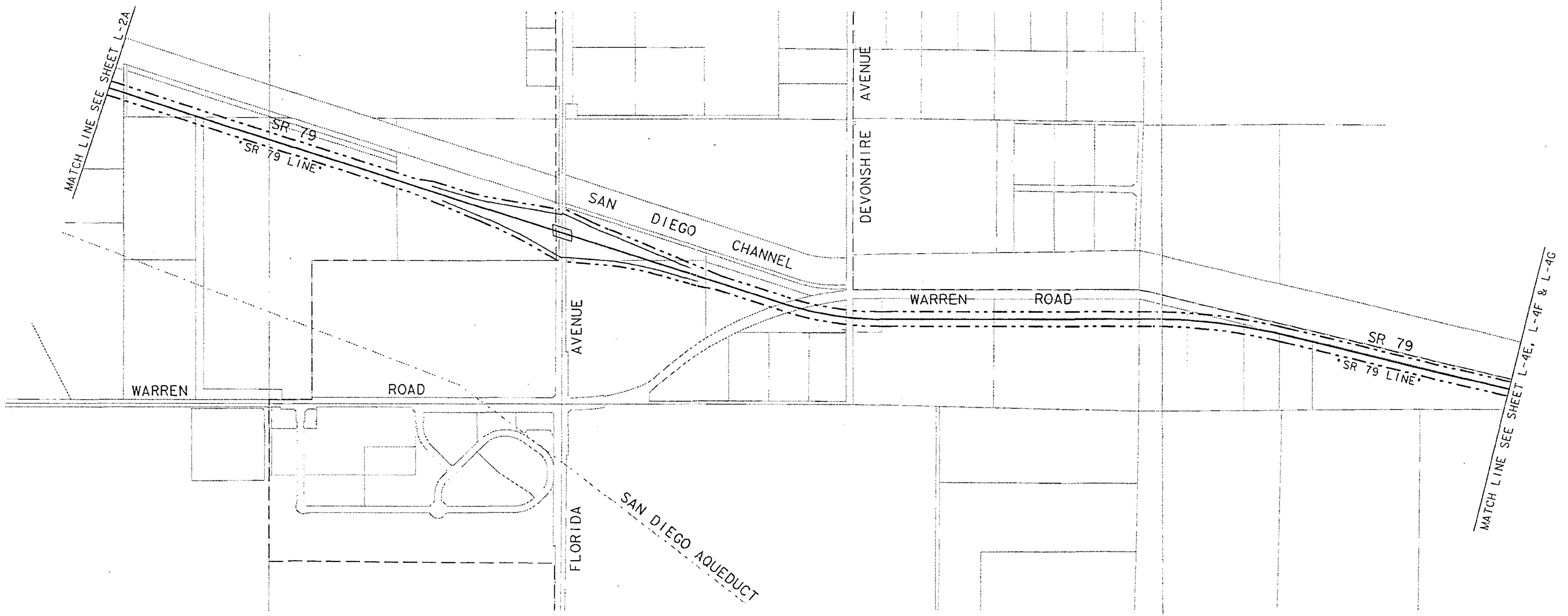

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ALTERNATIVE A
LAYOUT
SCALE: 1" =500'

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NOTE:
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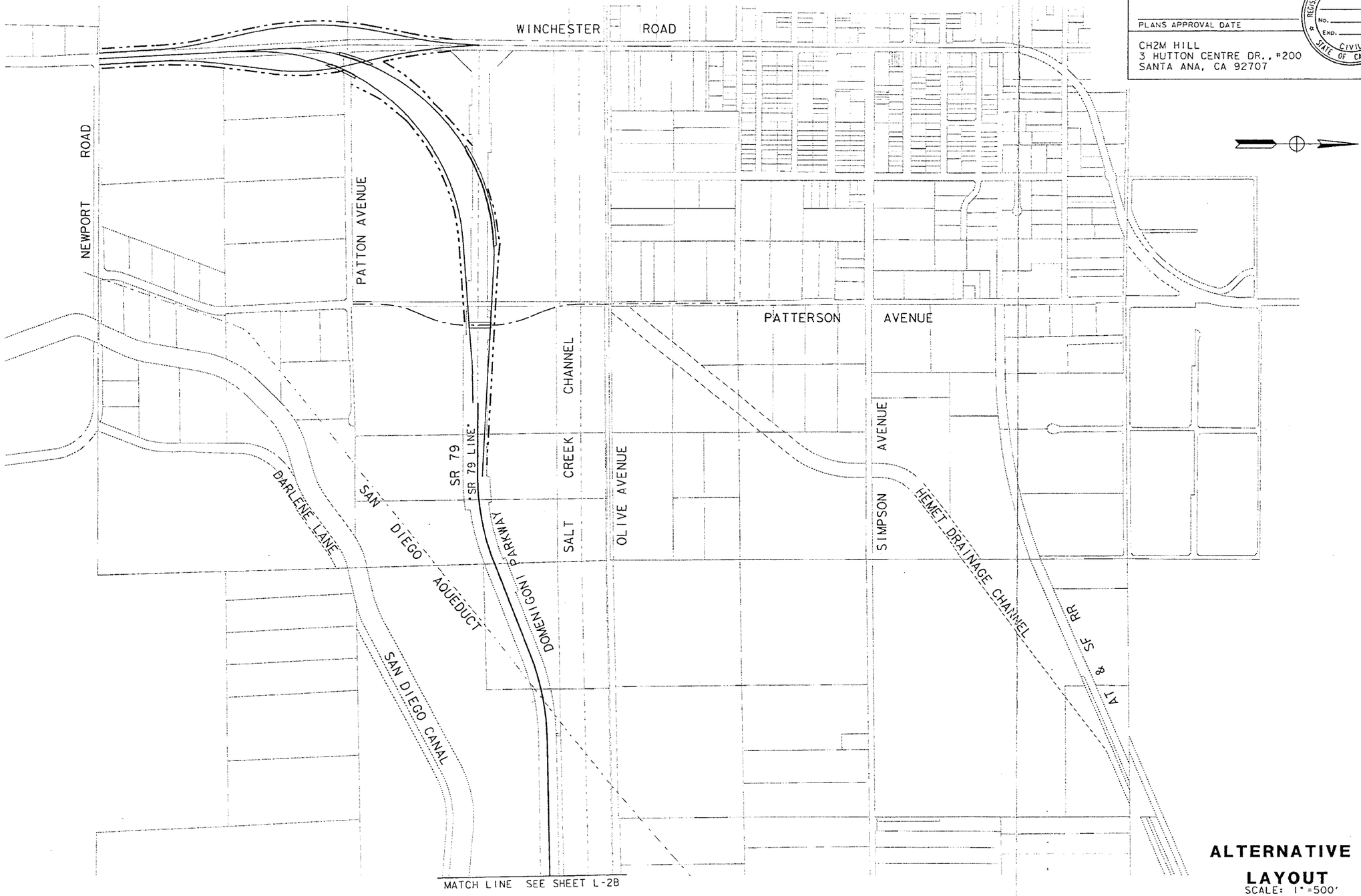

ALTERNATIVE B

LAYOUT
SCALE: 1"=500'

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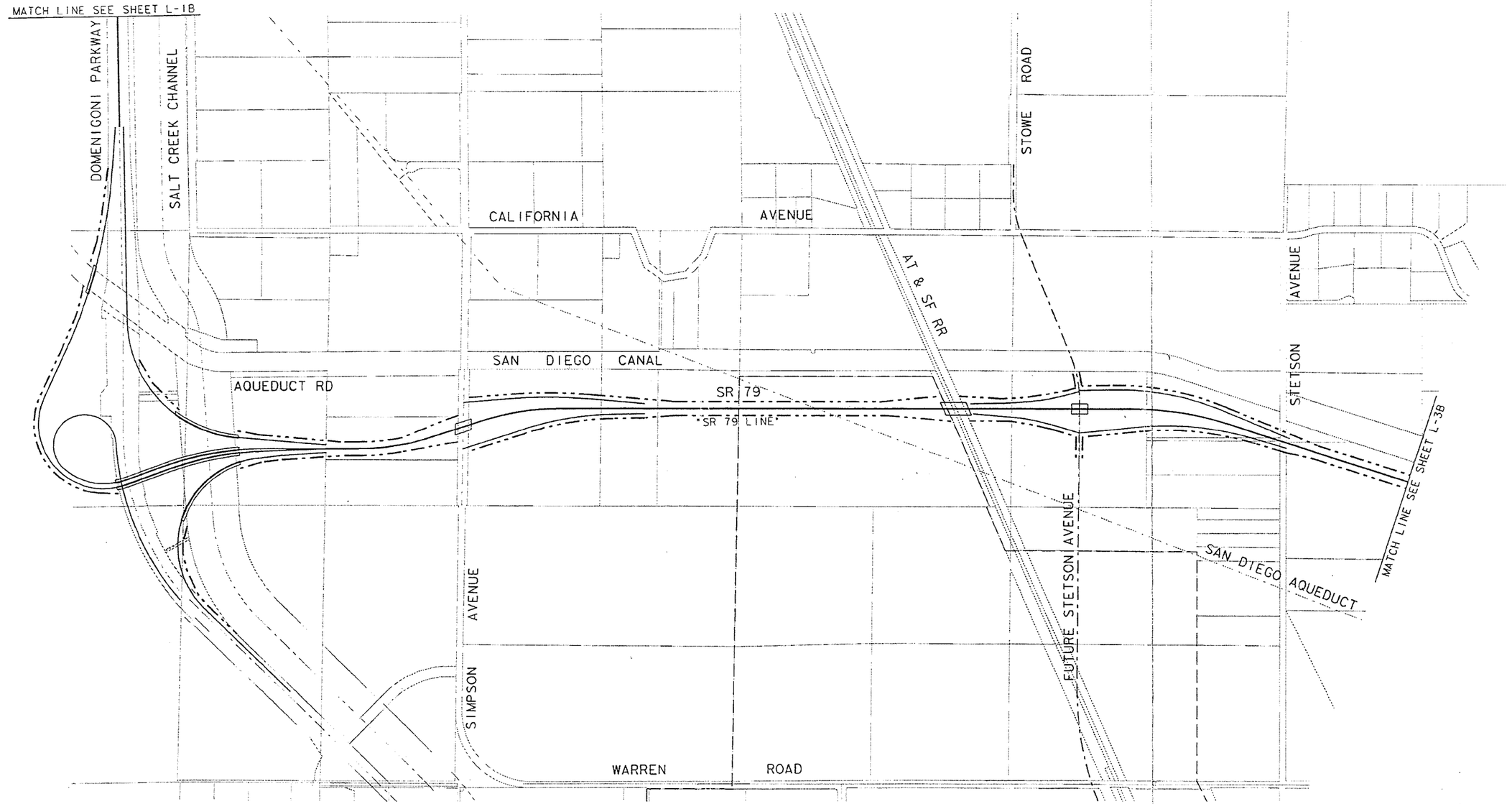

ALTERNATIVE B
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SCALE: 1"=500'

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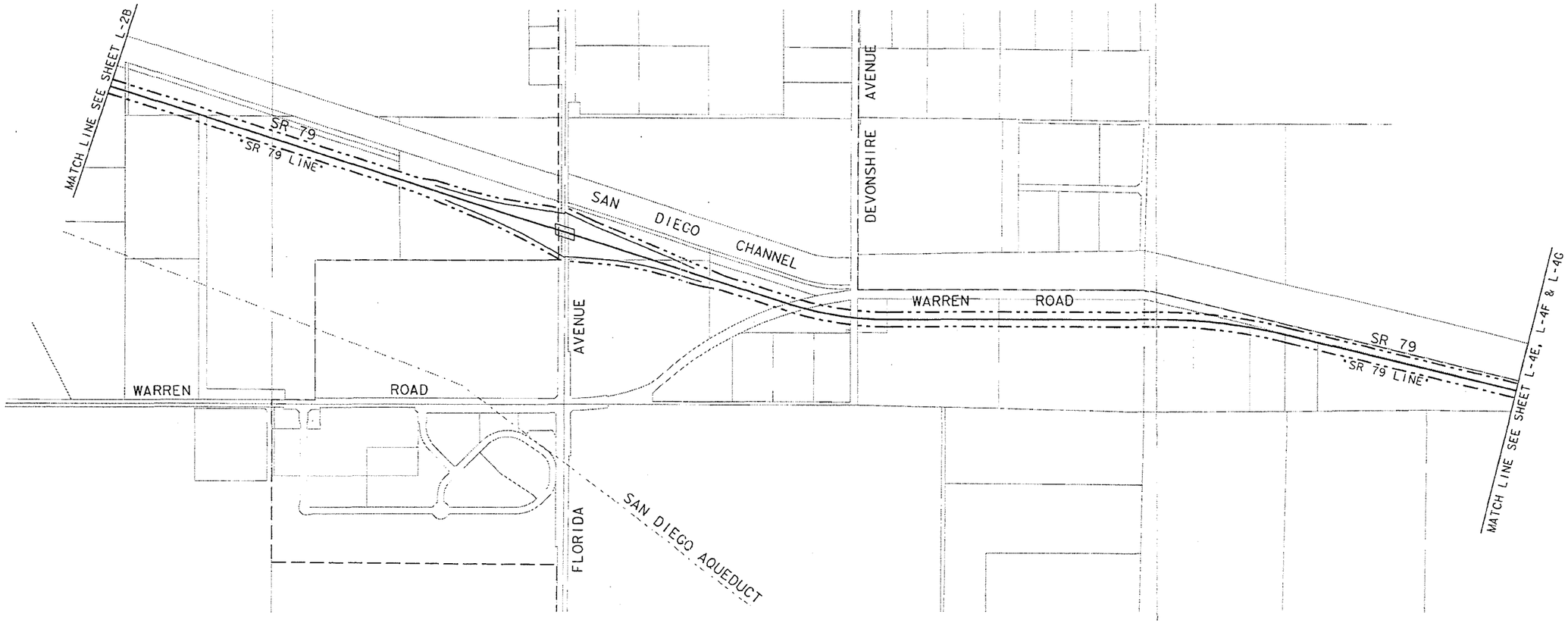

ALTERNATIVE B

LAYOUT
SCALE: 1"=500'

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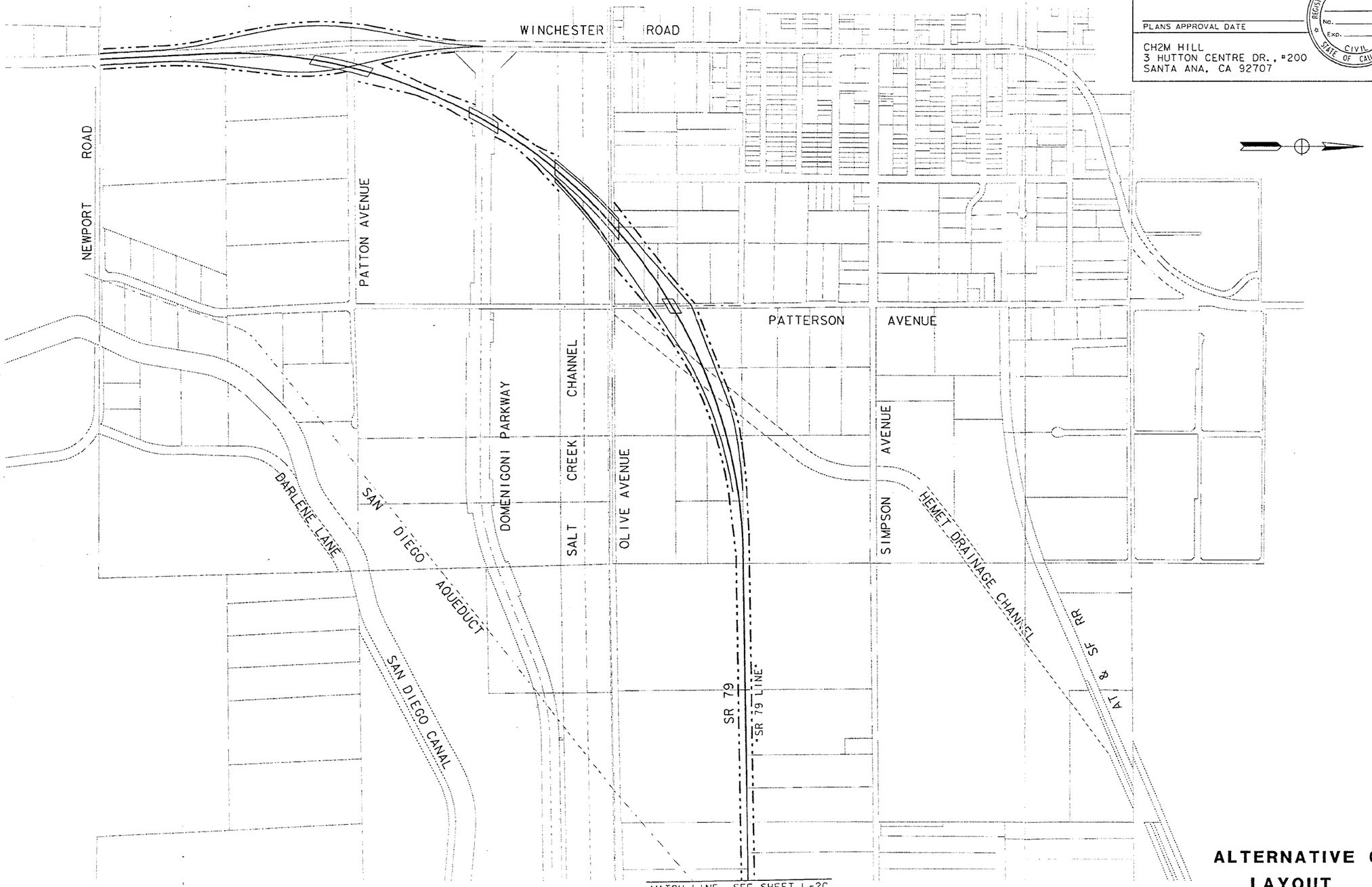

ALTERNATIVE C

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SCALE: 1"=500'

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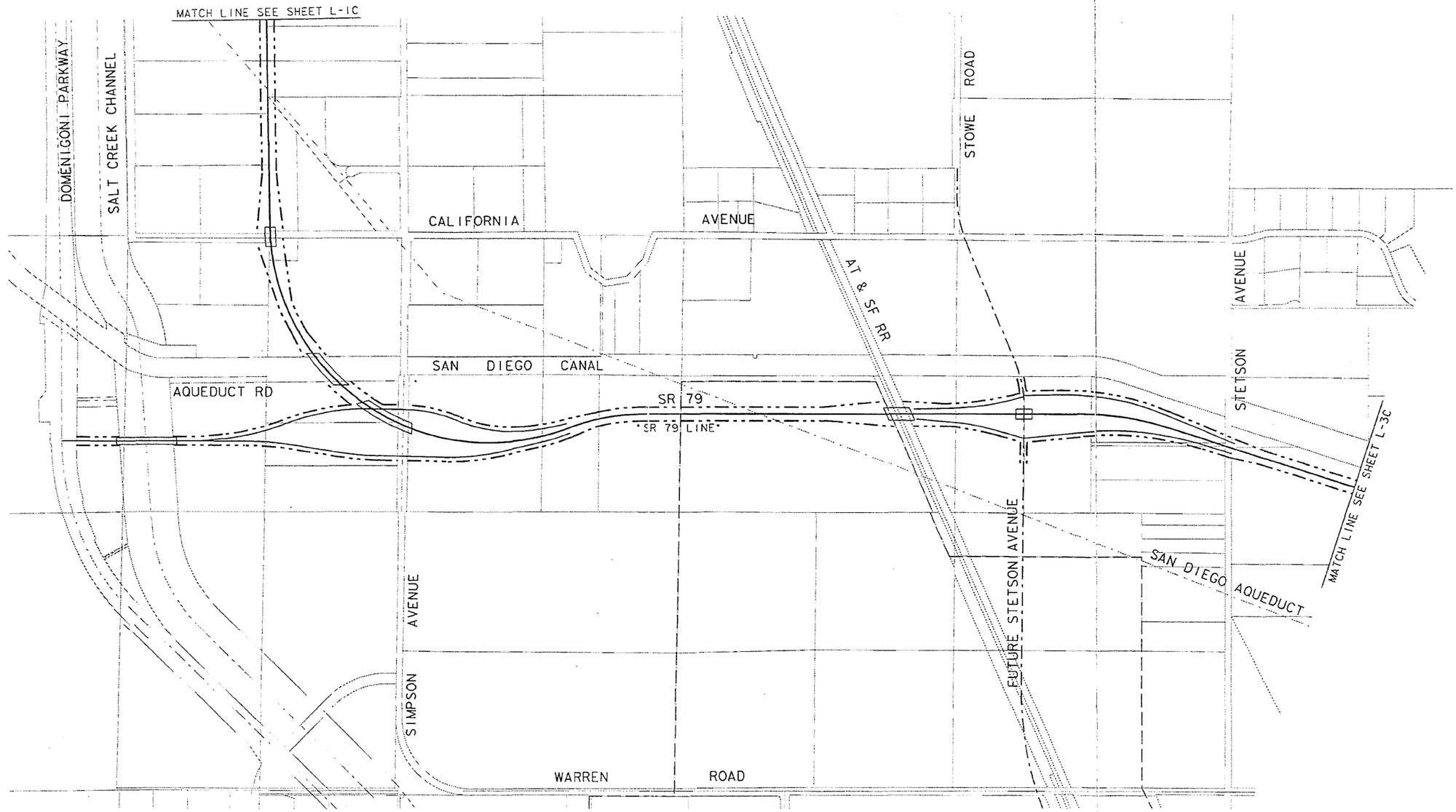

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SCALE: 1"=500'

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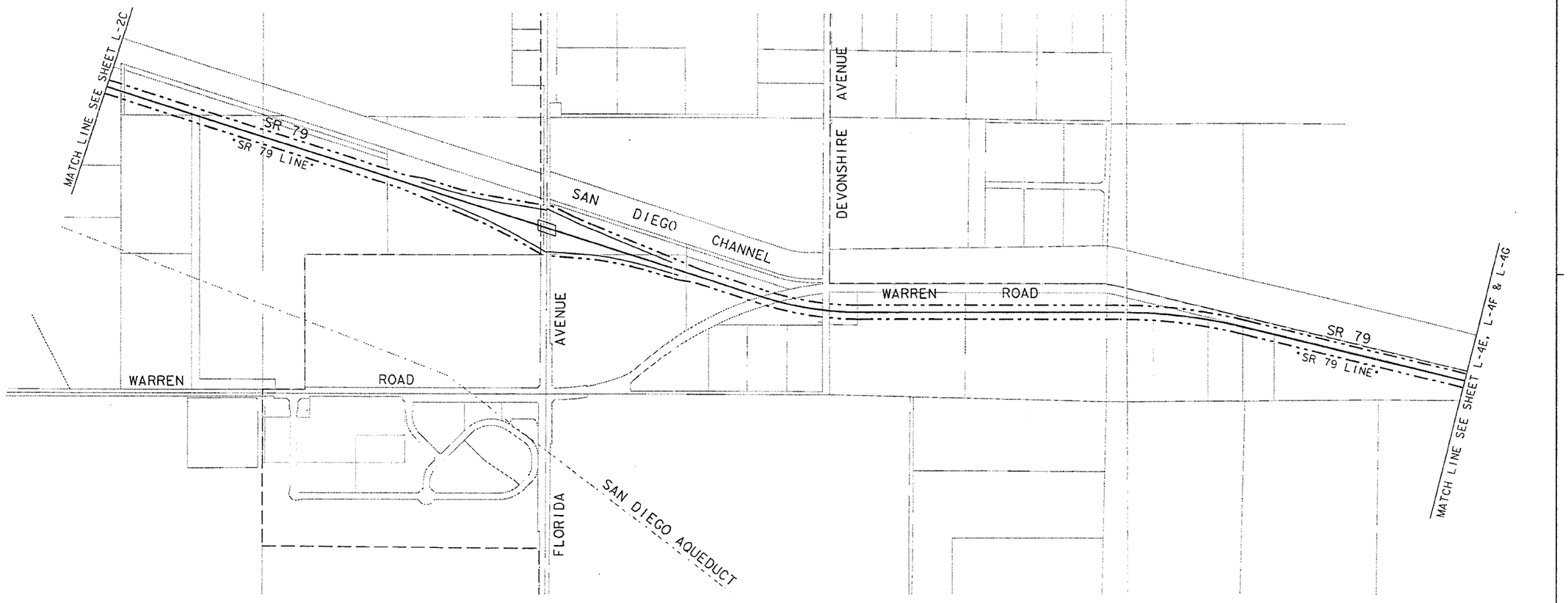

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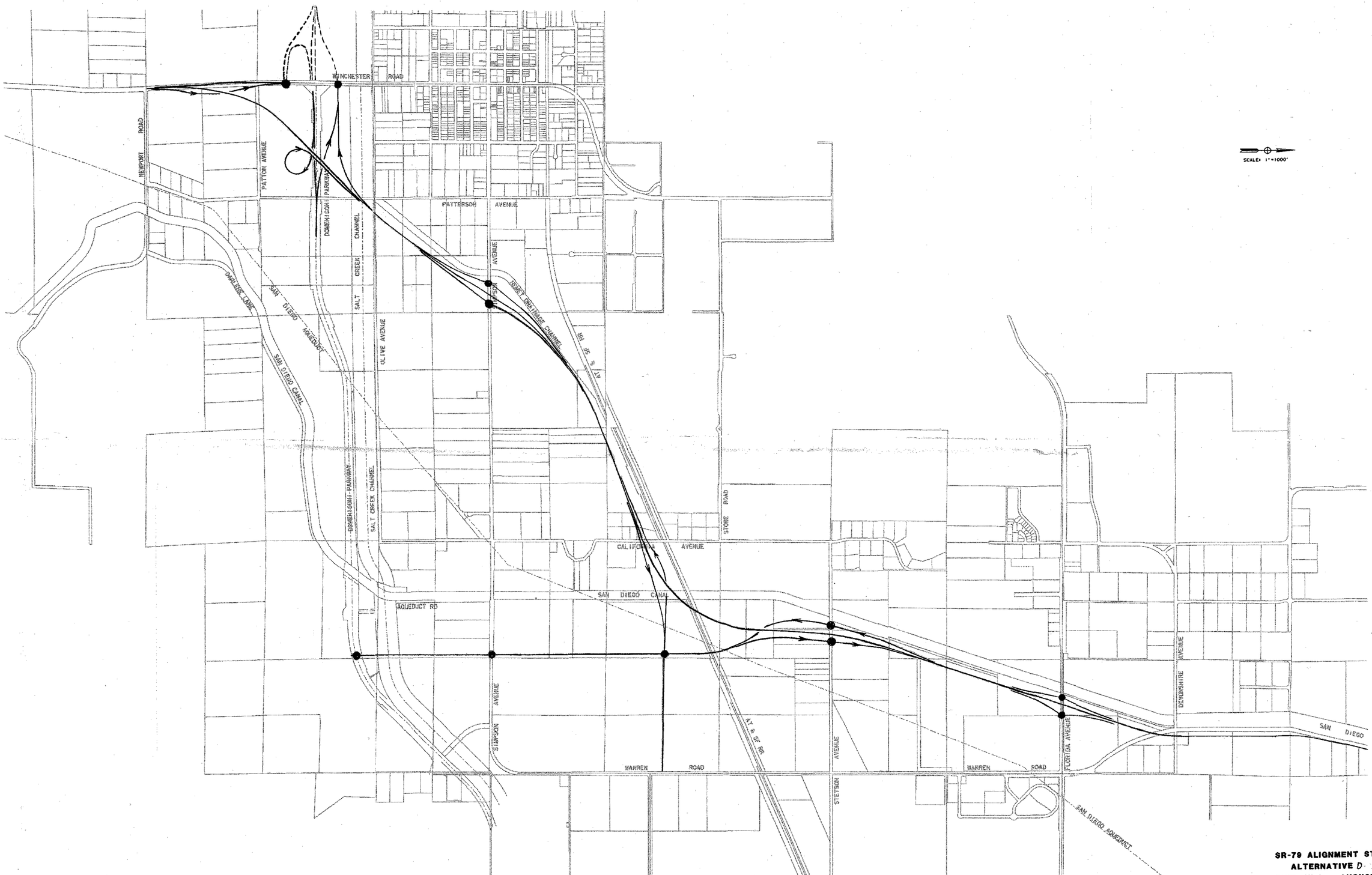

SR-79 ALIGNMENT STUDY
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CH2M HILL AUGUST, 97
SOUTH SEGMENT

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

CH2M HILL
3 HUTTON CENTRE DR., #200
SANTA ANA, CA 92707

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

MATCH LINE SEE SHEET L-3A, L-3B & L-3C

WARREN ROAD

SAN DIEGO CANAL

SAN DIEGO CANAL

AVENUE

STREET

ESPLANDE

7TH

SAN DIEGO AQUEDUCT

SANDERSON AVENUE

AVENUE

COTTONWOOD

CASA LOMA CANAL

SR 79

SR 79 LINE

ROAD

FUTURE

FUTURE ROAD

FUTURE ROAD

FUTURE

MATCH LINE SEE SHEET L-5E

NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

ALTERNATIVE E
LAYOUT
SCALE: 1"=500'

L-4E

LAST REVISION

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OF WAY RECORD MAPS AT DISTRICT OFFICE.

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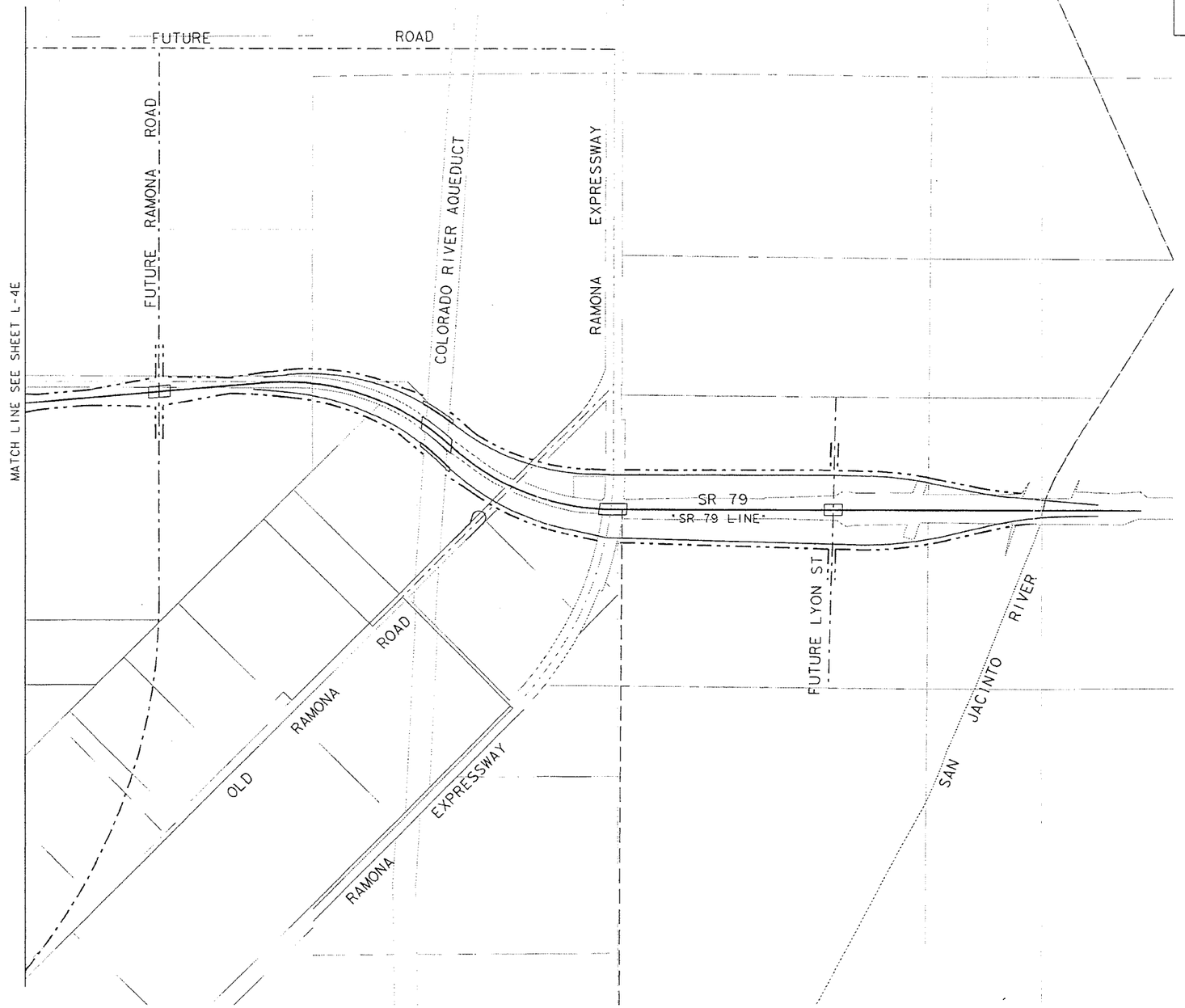
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

CH2M HILL
3 HUTTON CENTRE DR., #200
SANTA ANA, CA 92707



ALTERNATIVE E
LAYOUT
SCALE: 1"=500'

L-5E

STATE OF CALIFORNIA · DEPARTMENT OF TRANSPORTATION
Caltrans

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	DATE REVISED

LAST REVISION

FOR REQUIRED PLANS — USERNAME = \ccccccUSERccccccc

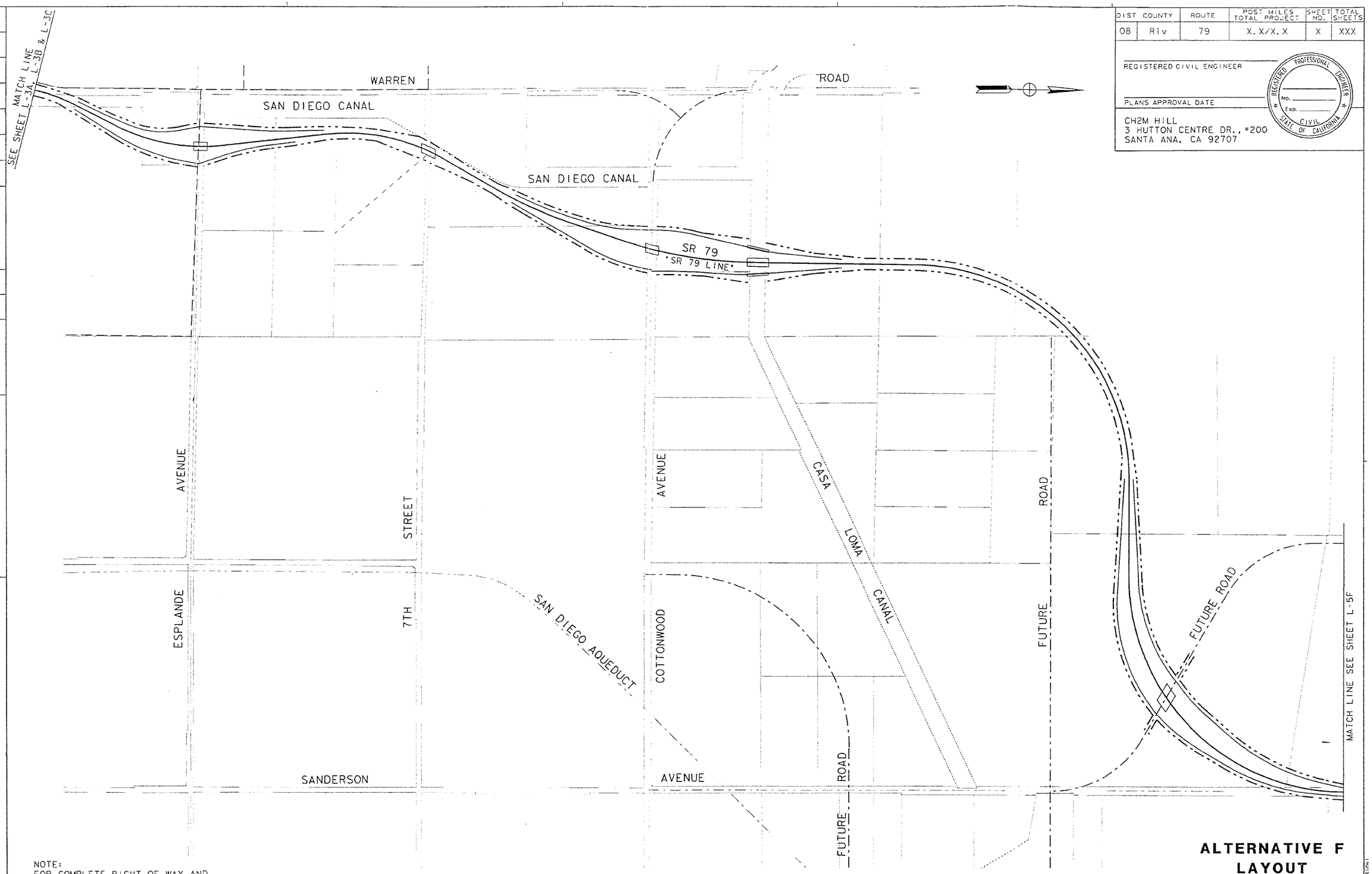
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	79	X.X/X.X	X	XXX

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — NO. — EXP. — STATE OF CALIFORNIA — CIVIL

CH2M HILL
3 HUTTON CENTRE DR., #200
SANTA ANA, CA 92707



NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

ALTERNATIVE F
LAYOUT
SCALE: 1"=500'

L-4F

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION

NOTE:
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ACCURATE ACCESS DATA, SEE RIGHT
OF WAY RECORD MAPS AT DISTRICT OFFICE.

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08	Riv	79	X.X/X.X	X	XXX

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

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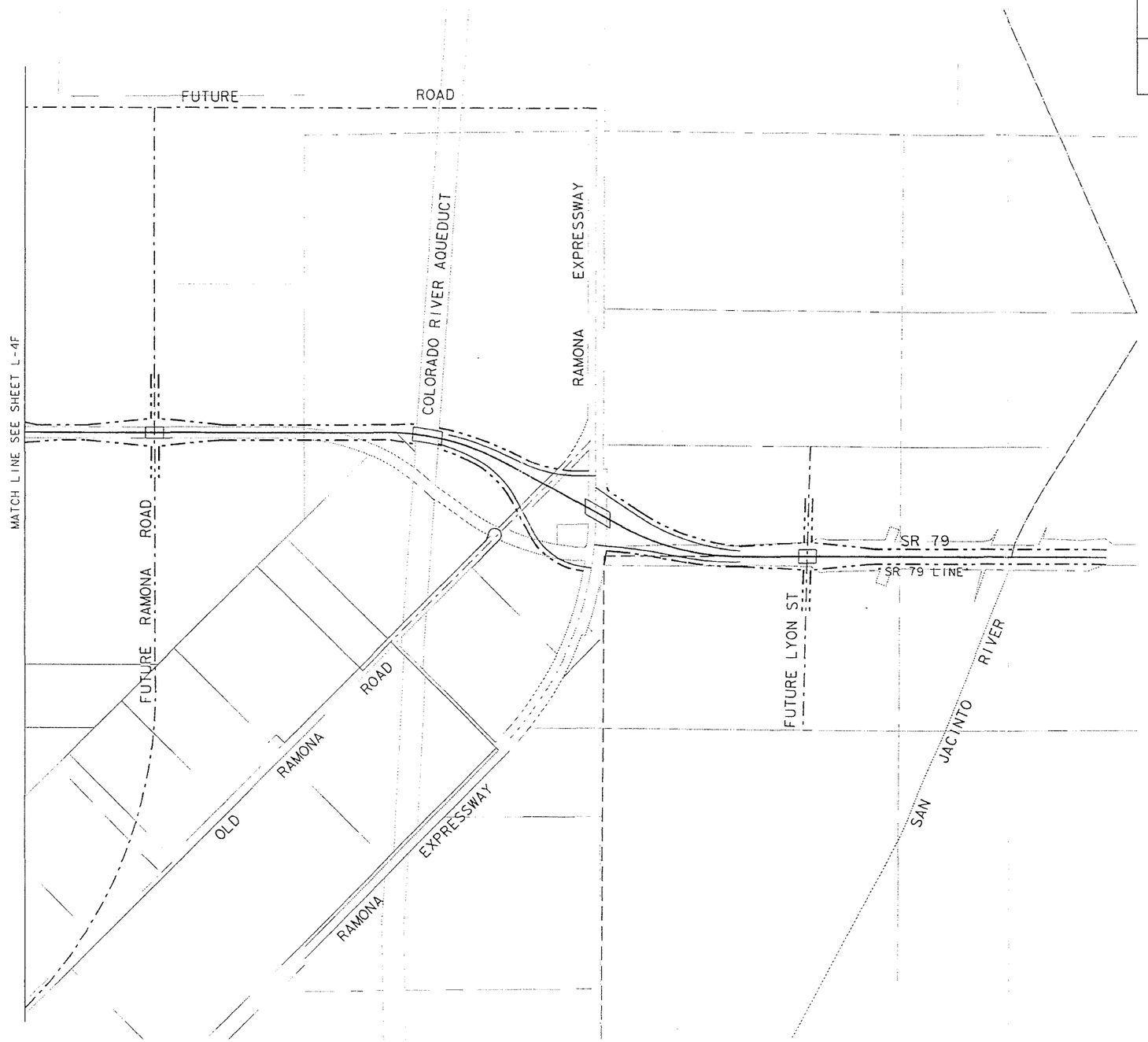
CH2M HILL
3 HUTTON CENTRE DR., #200
SANTA ANA, CA 92707



ALTERNATIVE F
LAYOUT
SCALE: 1"=500'

L-5F

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

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LAST REVISION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

CH2M HILL
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SANTA ANA, CA 92707

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	DATE REVISED

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Caltrans

MATCH LINE SEE SHEET L-3A, L-3B & L-3C

WARREN ROAD

SAN DIEGO CANAL

SAN DIEGO CANAL

SR 79

SR 79 LINE

MATCH LINE SEE SHEET L-5G

AVENUE

STREET

AVENUE

CASA LOMA CANAL

ROAD

ESPLANDE

7TH

SAN DIEGO AQUEDUCT

COTTONWOOD

FUTURE

SANDERSON

AVENUE

ROAD

FUTURE

NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

ALTERNATIVE G
LAYOUT

SCALE: 1"=500'

L-4G

LAST REVISED

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

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CH2M HILL
3 HUTTON CENTRE DR., #200
SANTA ANA, CA 92707

MATCH LINE SEE SHEET L-4G

FUTURE ROAD

SR 79

SR 79 LINE

RAMONA ROAD

COLORADO RIVER AQUEDUCT

RAMONA EXPRESSWAY

SANDERSON AVENUE

FUTURE RAMONA ROAD

SR 79

SR 79 LINE

FUTURE LYON ST

SAN JACINTO RIVER

OLD RAMONA ROAD

RAMONA EXPRESSWAY

NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

ALTERNATIVE G
LAYOUT
SCALE: 1"=500'

L-5G

LAST REVISION

DESIGN OVERSIGHT	CALCULATED/ DESIGNED BY	DATE	REVISED BY
XXXXXX	CHECKED BY	XX	DATE REVISED

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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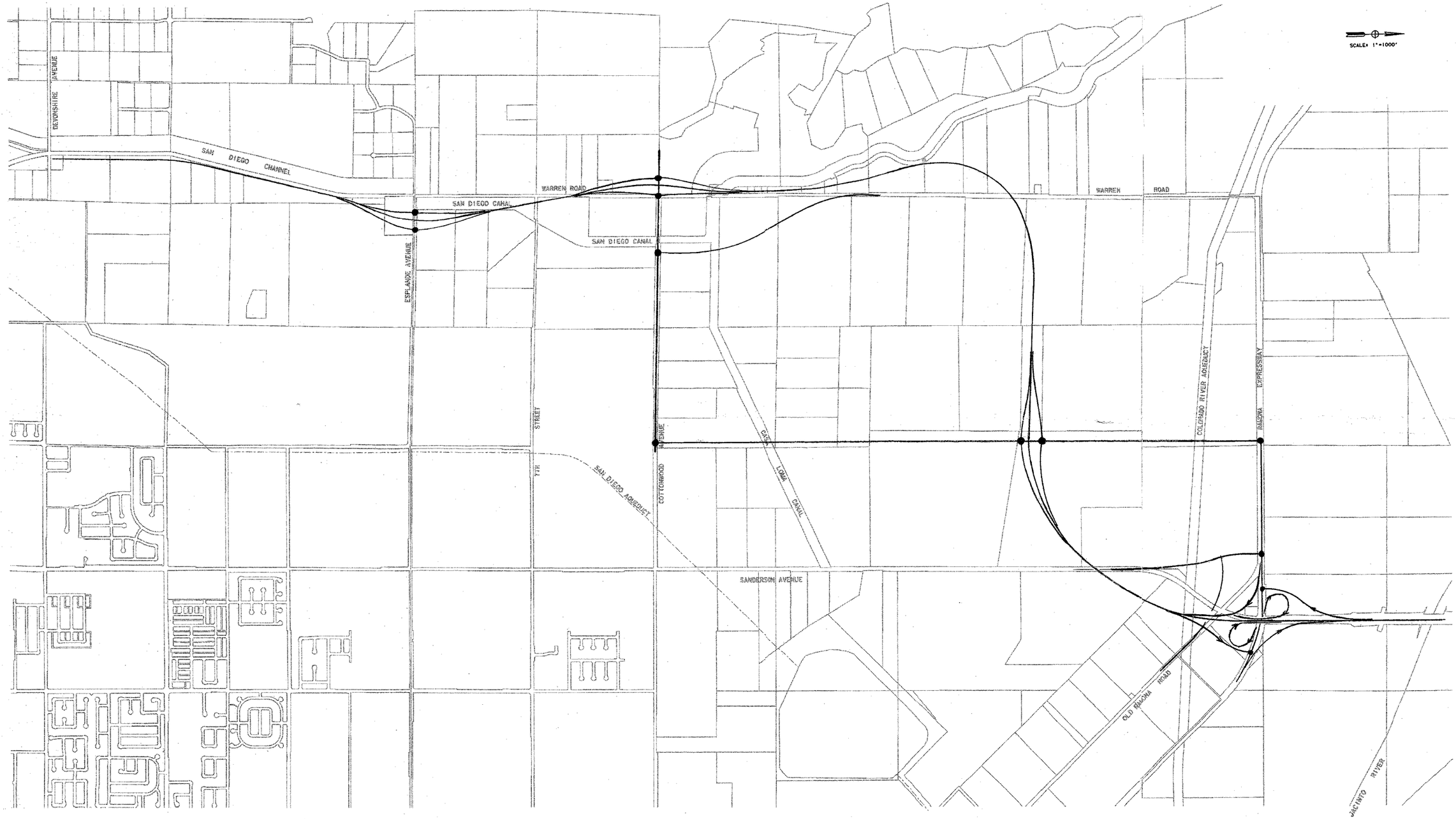

SR-79 ALIGNMENT STUDY
ALTERNATIVE H
CH2M HILL AUGUST, 97
NORTH SEGMENT

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Project Study Report/Project Development Support (2002)

Exhibit B

Exhibit H

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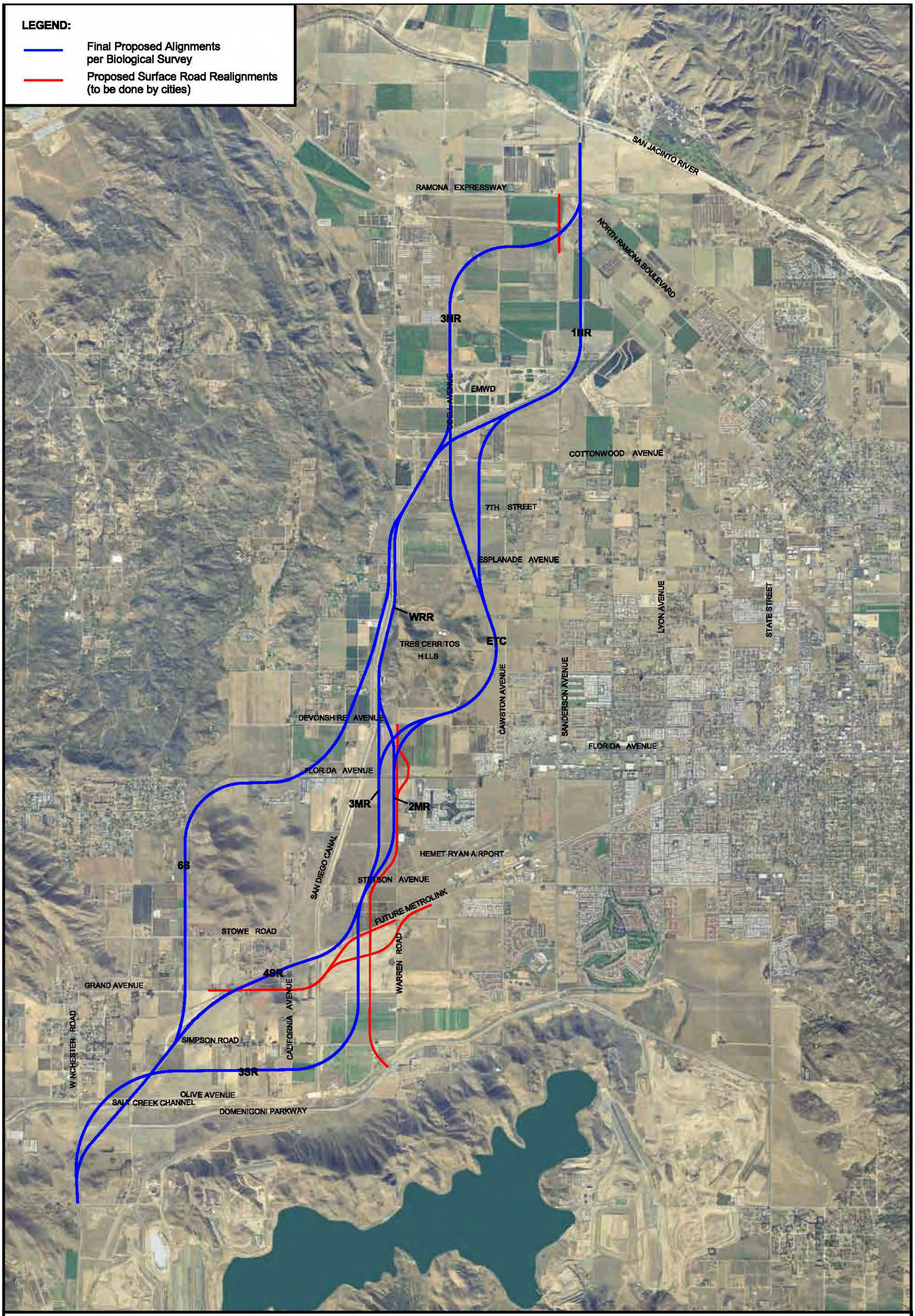
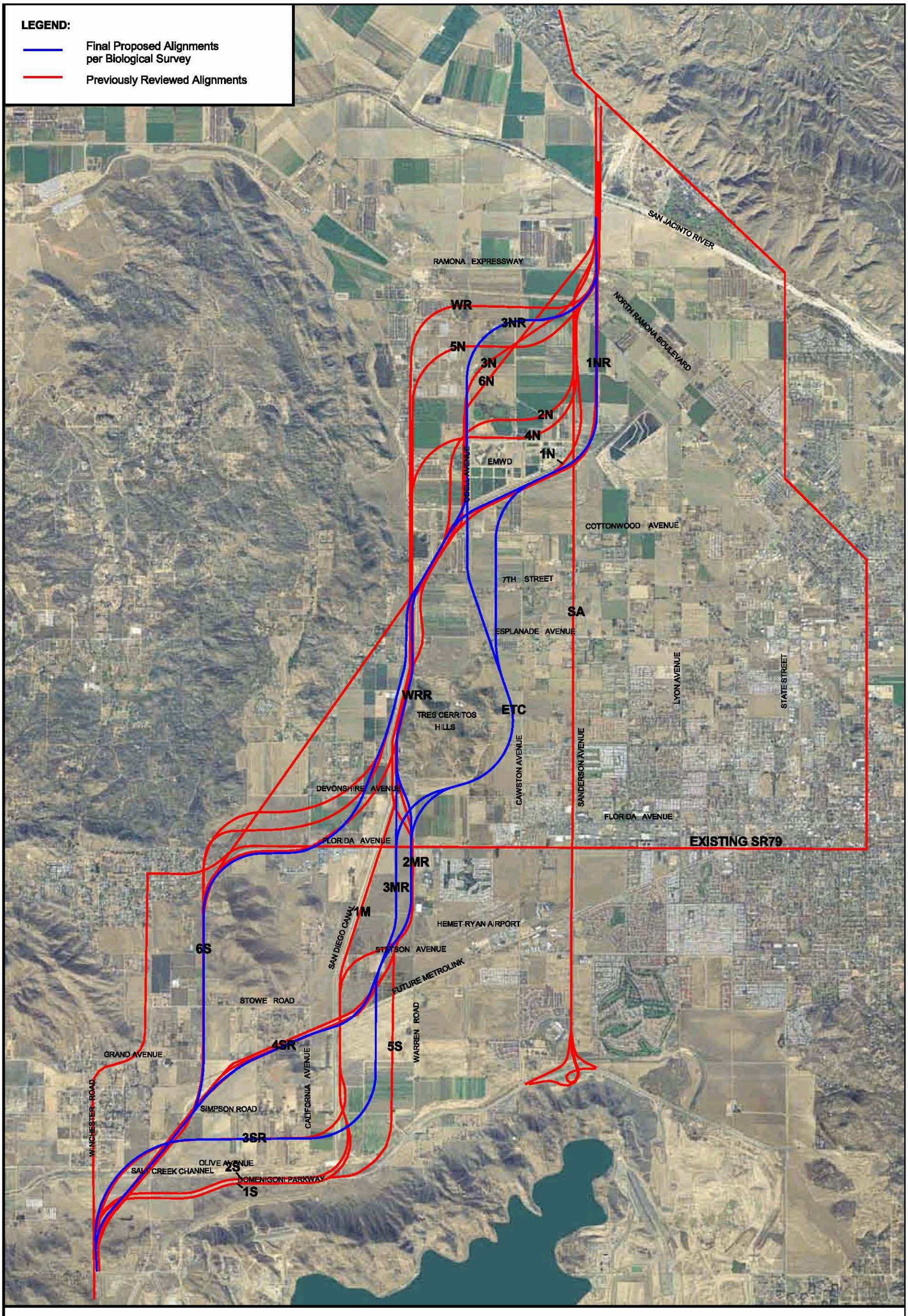

LEGEND:
Final Proposed Alignments per Biological Survey
Proposed Surface Road Realignments (to be done by cities)
SAN JACINTO RIVER
RAMONA EXPRESSWAY
NORTH RAMONA BOULEVARD
3NR
1NR
EMWD
DEL AVENUE
COTTONWOOD AVENUE
7TH STREET
ESPLANADE AVENUE
LYON AVENUE
STATE STREET
WRR
TRES CERRITOS HILLS
ETC
CAWSTON AVENUE
SANDERSON AVENUE
DEVONSHIRE AVENUE
FLORIDA AVENUE
FLORIDA AVENUE
3MR
2MR
HEMET-RYAN AIRPORT
6S
SAN DIEGO CANAL
STETSON AVENUE
FUTURE METROLINK
STOWE ROAD
WARREN ROAD
4SR
GRAND AVENUE
CALIFORNIA AVENUE
WINCHESTER ROAD
SIMPSON ROAD
3SR
OLIVE AVENUE
SALT CREEK CHANNEL
DOMENIGONI PARKWAY
State Route 79
Biological Resource Surveys
0
4500
9000 Feet
1:54000
Exhibit B
Final Realignment Alternatives
K:\SR79\plots\PSR-PDS\sr79_nalign10_24.apr 12/11/2001



State Route 79
Biological Resource Surveys

0 4500 9000 Feet

1:54000

Exhibit H
Evaluated Realignment Alternatives

K:\SR79\plots\PSR-PDS\sr79_history.apr 10/08/2001

Final Project Criteria and Alternatives Selection for Preliminary Agreement (June 2004)

Figure ES

Figure E3

Figure K

Figure L1

Figure L2

Figure L3

Figure L4

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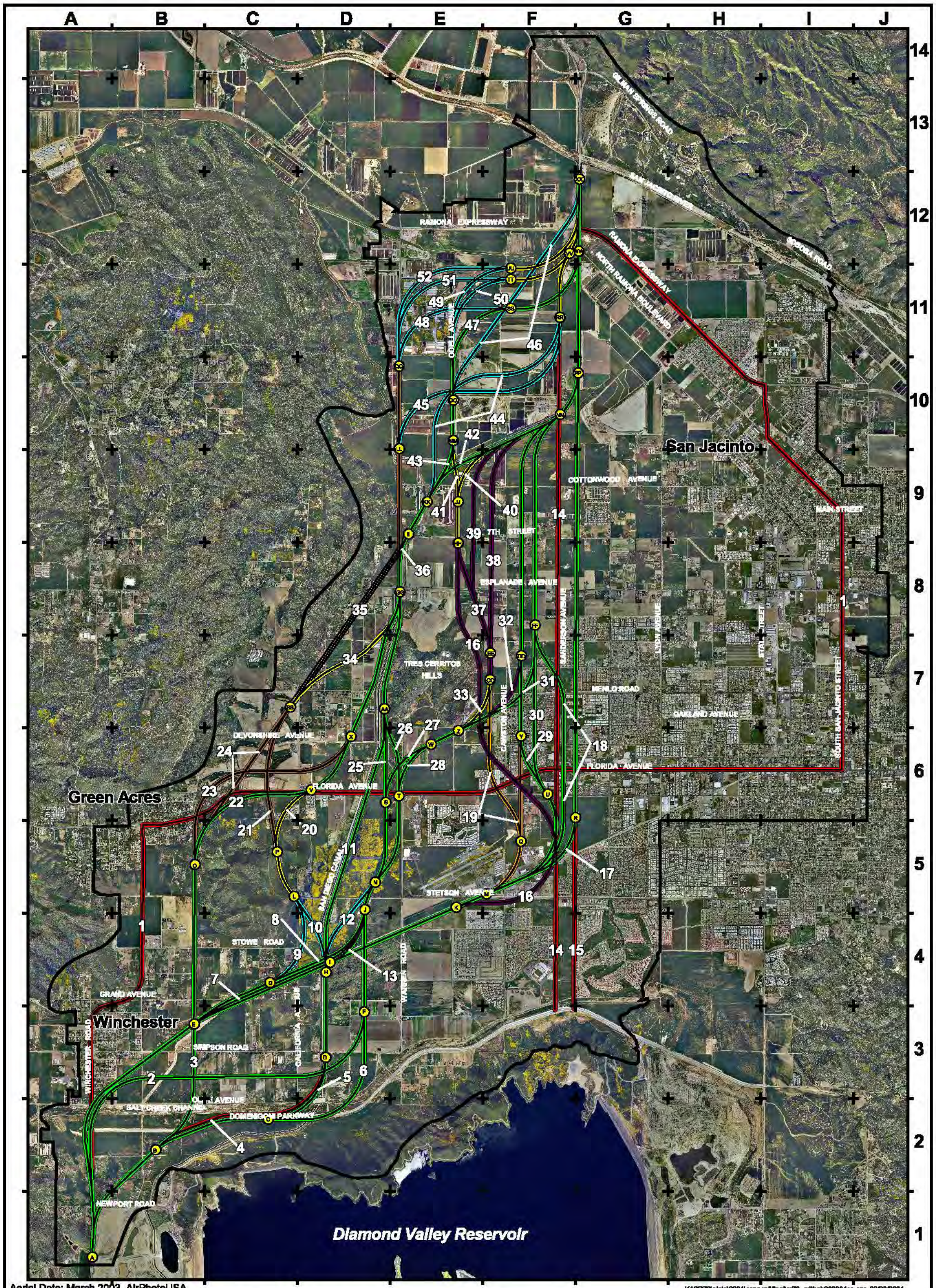


Aerial Date: March 2003, AirPhotoUSA

K:\SR79\plots\2004\conceptfinal\sr79_crithab082804ea.apr 08/29/2004

LEGEND:

- Decision Point
- Centerline
- Study Area

Roadway Cross Section (230 Feet)

- Carried Forward for Further Analysis
- Isolated Segments

Failed Segments Withdrawn from Further Evaluation

- MSHCP Avoidance
- Purpose and Need
- Section 4(f) Avoidance
- Hemet Ryan Airport Avoidance
- Community Impacts
- Landfill Avoidance

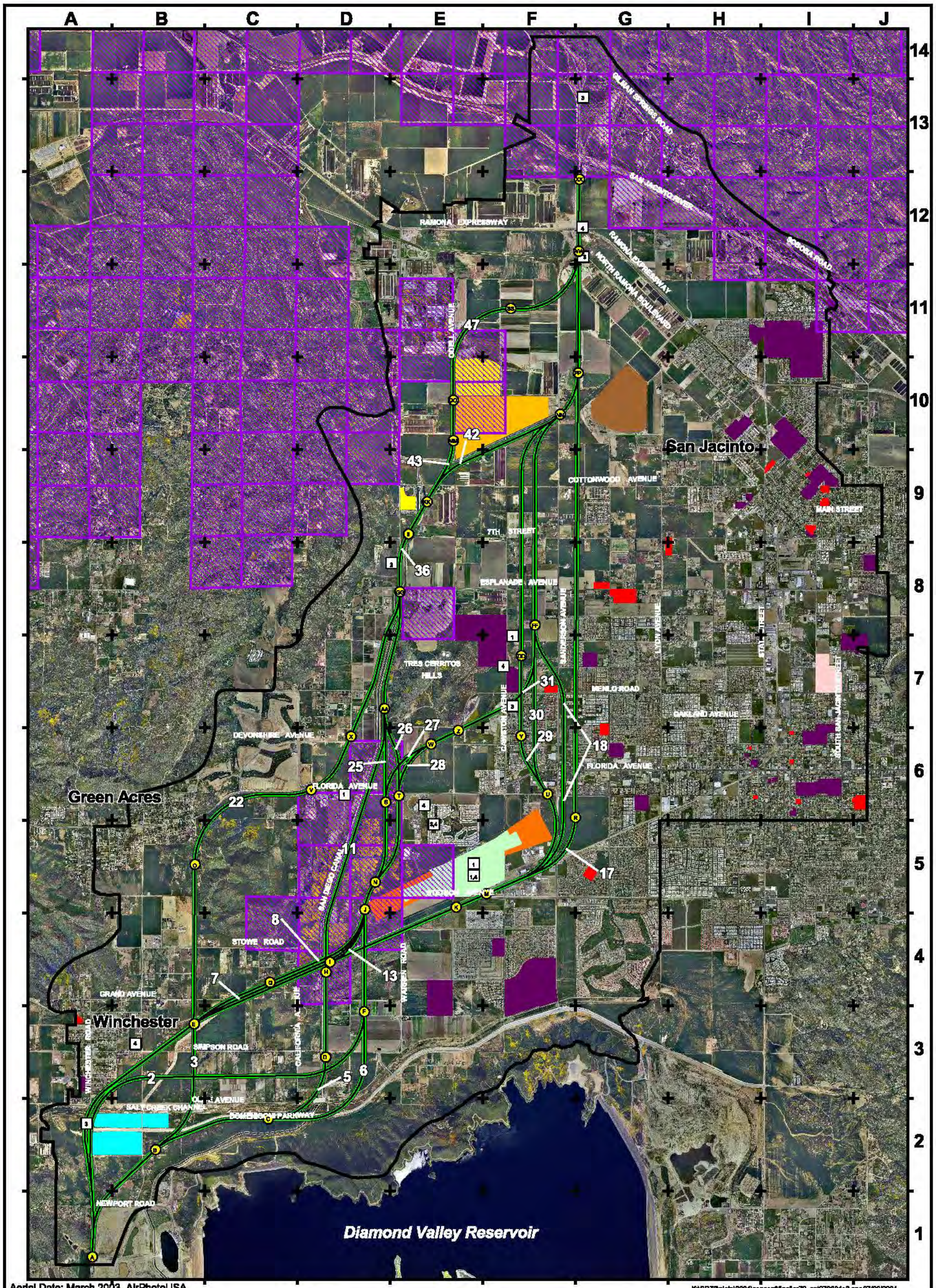
0 4750 Feet

1: 57,000

Hazard Note: 1 - Leaking UST, cases closed; 2 - Solid Waste Landfills; 3 - Underground Storage Tank; 4 - HW Small Quantity Generator

Source: 1 - CH2MHILL

Figure ES
Summary of Alternatives Selection Results
State Route 79 Project



Aerial Date: March 2003, AirPhotoUSA

K:\SR79\plots\2004\concept\finalsr79_cpt070604e3.apr 07/06/2004

LEGEND:

- Decision Point[I]
- Hazard Site[I]
- Centerline[I]
- Study Area[I]
- **Roadway Cross Section (230 Feet)**
  - Carried Forward for Further Analysis[I]
- Cemetery[II]
- Church/Temple[II]
- EMWD Treatment Facility[I]
- Existing RPZ[II]
- Future RPZ[II]
- MSHCP Criteria Cells[II]
- Proposed Soboba Property[I,II]
- Recreation Area[I]
- San Jacinto Reservoir[I]
- School[I,II]

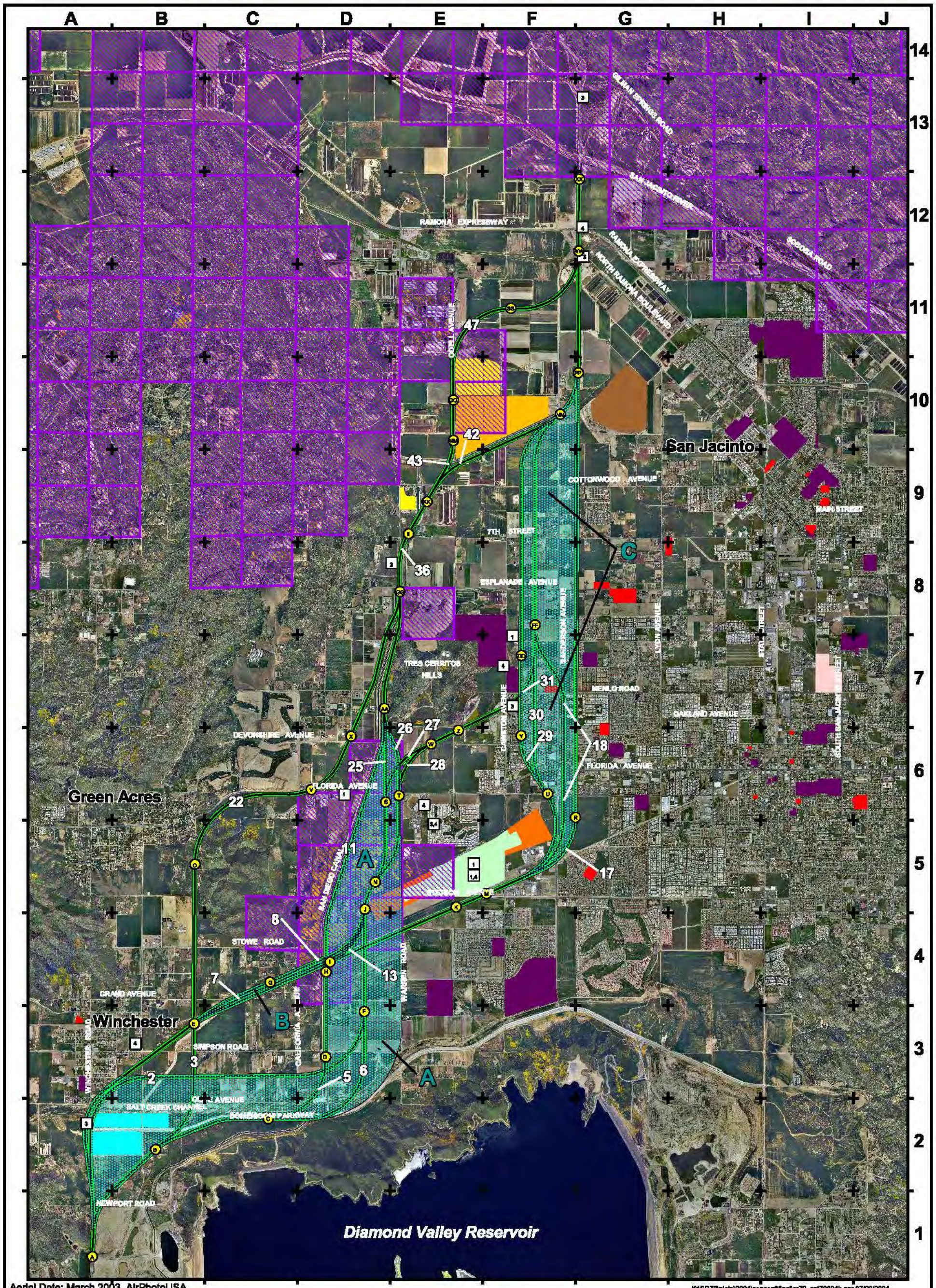
0 4750 Feet

1: 57,000

Hazard Note: 1 - Leaking UST, cases closed; 2 - Solid Waste Landfills; 3 - Underground Storage Tank; 4 - HW Small Quantity Generator

Sources: I - CH2MHILL; II - This contains geographic information owned by the County of Riverside

Figure E3
Concept Segments Carried Forward for Further Analysis
State Route 79 Project



Aerial Date: March 2003, AirPhotoUSA

K:\SR79\plots\2004\concept\finalsr79_cpt70604k.apr 07/06/2004

LEGEND:

- Decision Point [I]
- Hazard Site [I]
- Centerline [I]

Roadway Cross Section (230 Feet)

- Carried Forward for Further Analysis [I]
- Alignment Review Areas [I]
- Cemetery [II]
- Church/Temple [II]
- EMWD Treatment Facility [I]
- Existing RPZ [II]
- Future RPZ [II]
- MSHCP [II] Criteria Cells
- Proposed Soboba [I, II] Property
- Recreation Area [I]
- San Jacinto [I] Reservoir
- School [I, II]

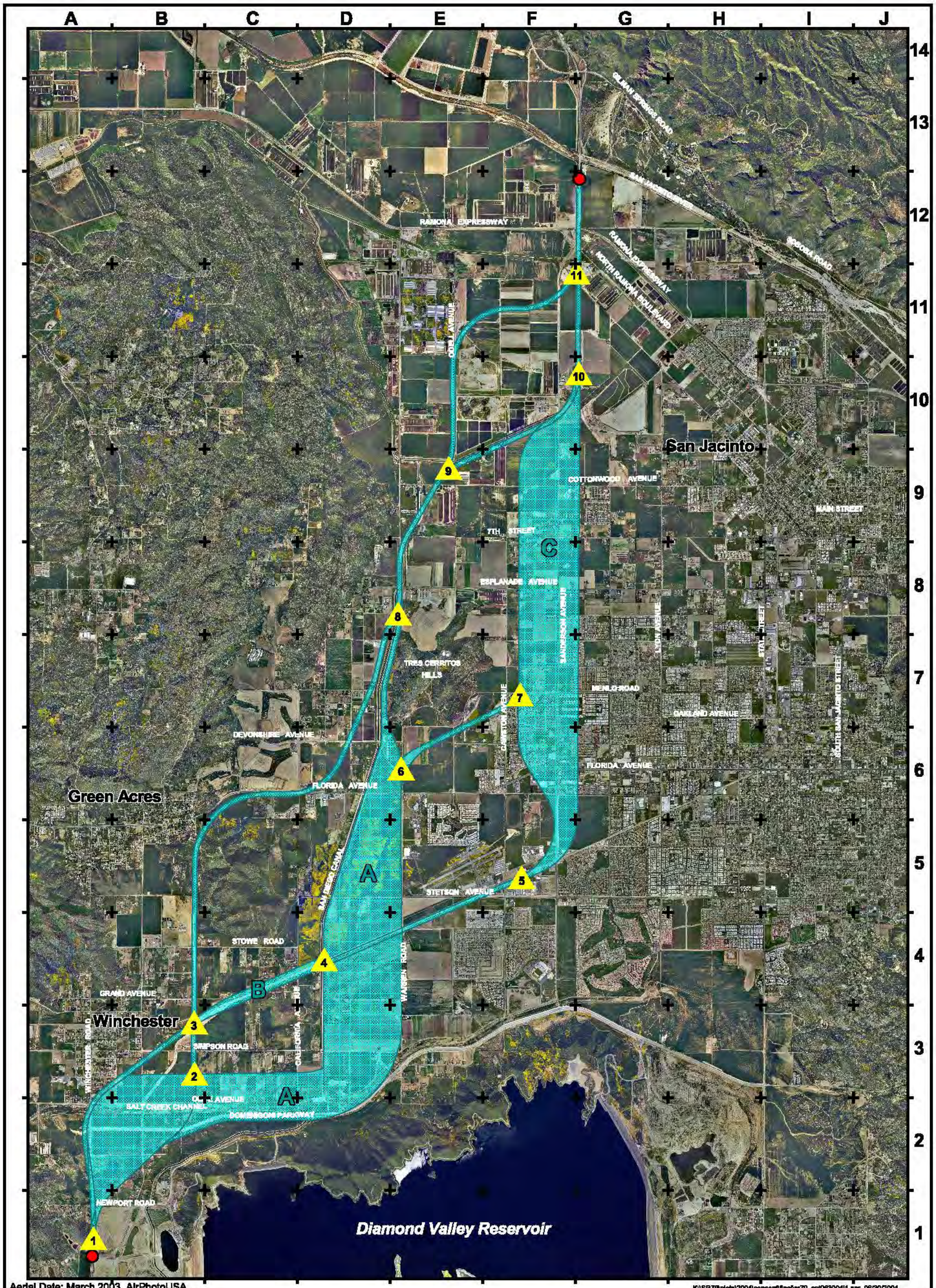
0 4750 Feet

1: 57,000

Hazard Note: 1 - Leaking UST, cases closed; 2 - Solid Waste Landfills; 3 - Underground Storage Tank; 4 - HW Small Quantity Generator

Sources: I - CH2MHILL; II - This contains geographic information owned by the County of Riverside

Figure K
Alignment Review Areas and Viable Remaining Segments
State Route 79 Project



Aerial Date: March 2003, AirPhotoUSA

K:\SR79\plots\2004\concept\final\sr79_cpt063004l1.apr 06/30/2004

LEGEND:

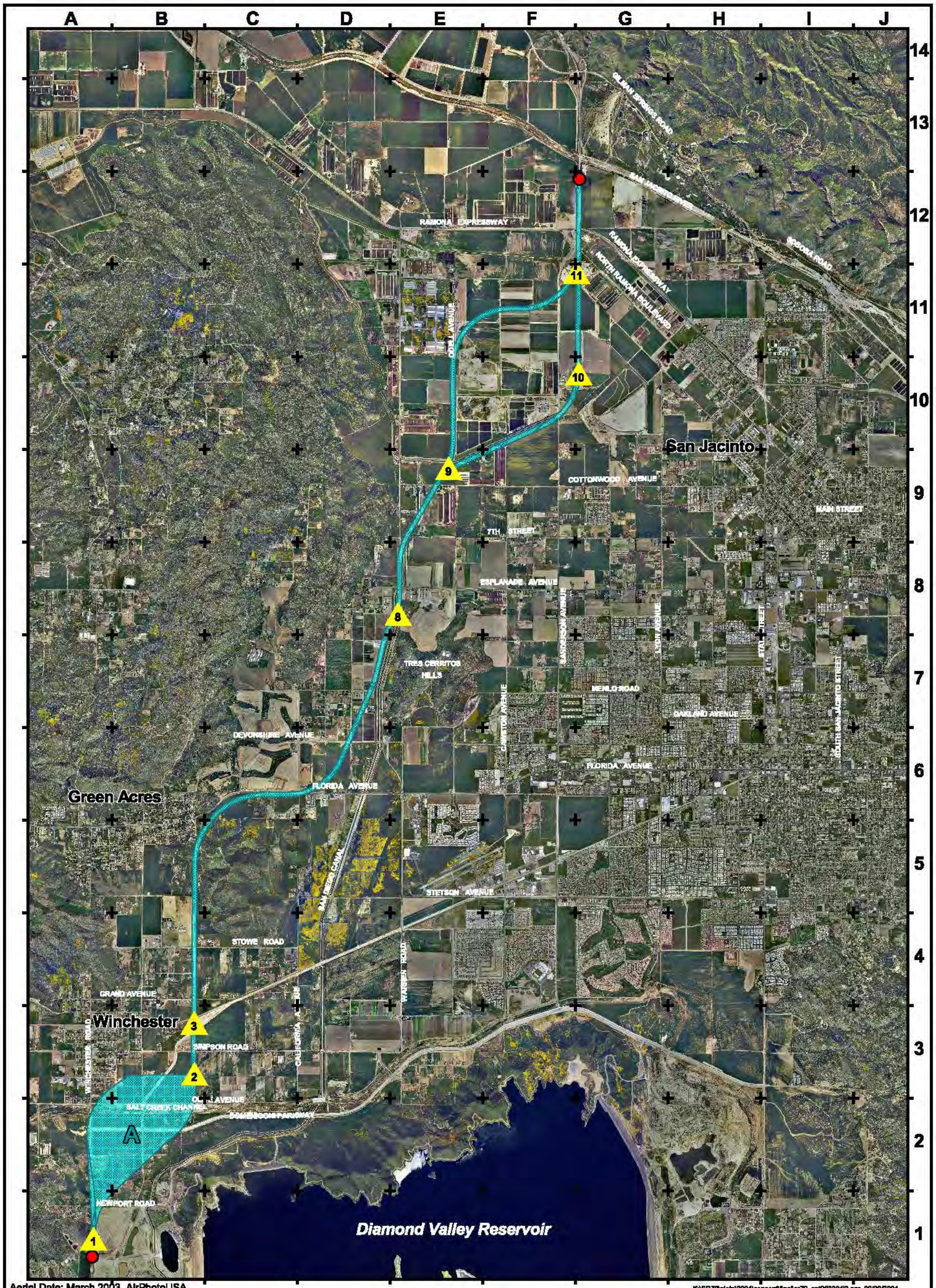
- Decision Point[1]
- Project Limit[1]
- Alignment Review Area and Roadway Cross Section (230 Feet)[1]

0 4750 Feet

1: 57,000

Figure L1
Alignment Review Areas and Renumbered Decision Points
State Route 79 Project

Source: 1 - CH2MHILL



Aerial Date: March 2003, AirPhotoUSA

K:\SR79plots\2004\concept\final\sr79_cpt06300412.apr 06/30/2004

LEGEND:

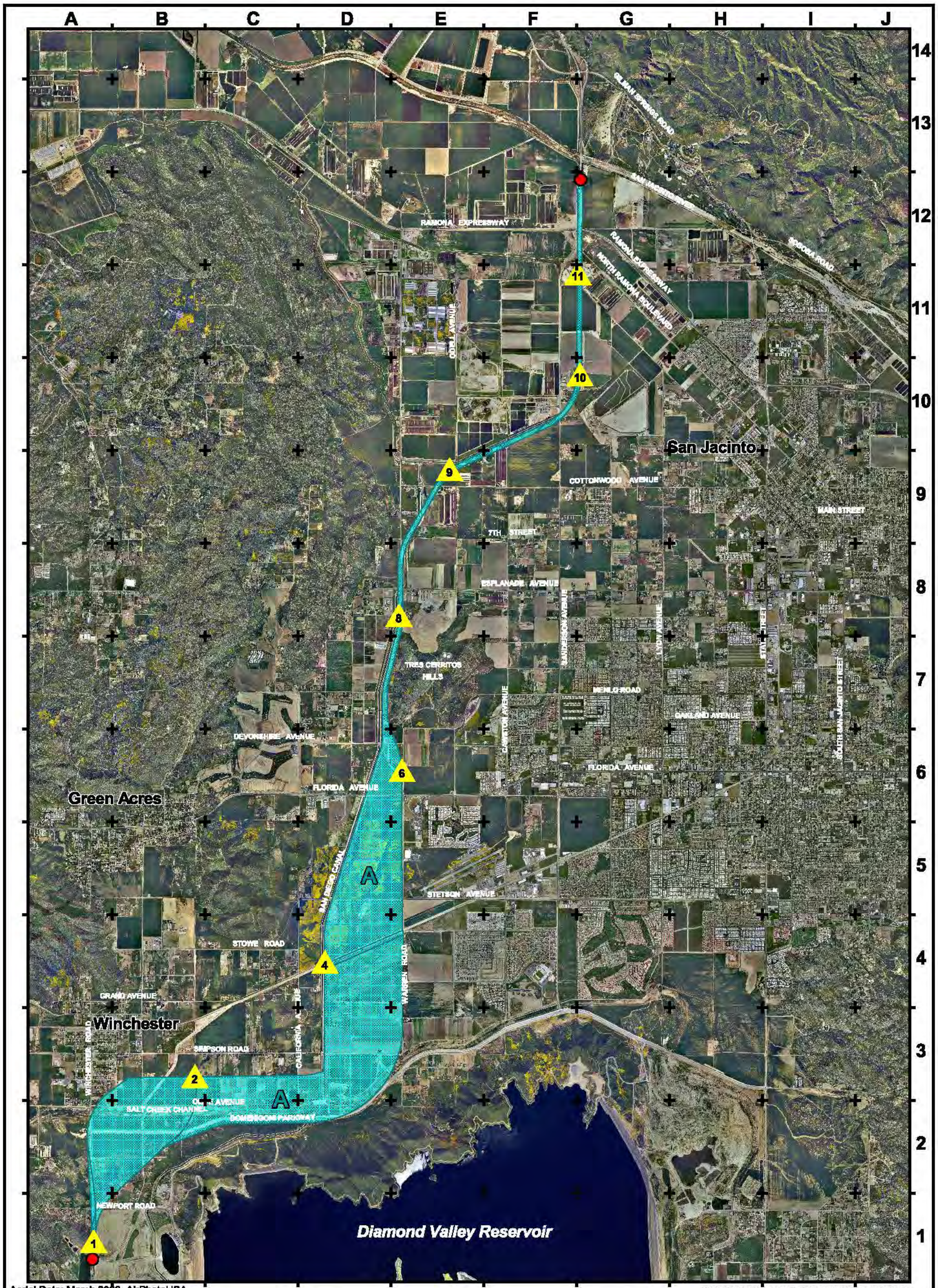
- Decision Point[1]
- Project Limit[1]
- Alignment Review Area and Roadway Cross Section (230 Feet)

0 4750 Feet

1: 57,000

Figure L2
Western Alignment
State Route 79 Project

Source: 1 - CH2MHILL



LEGEND:

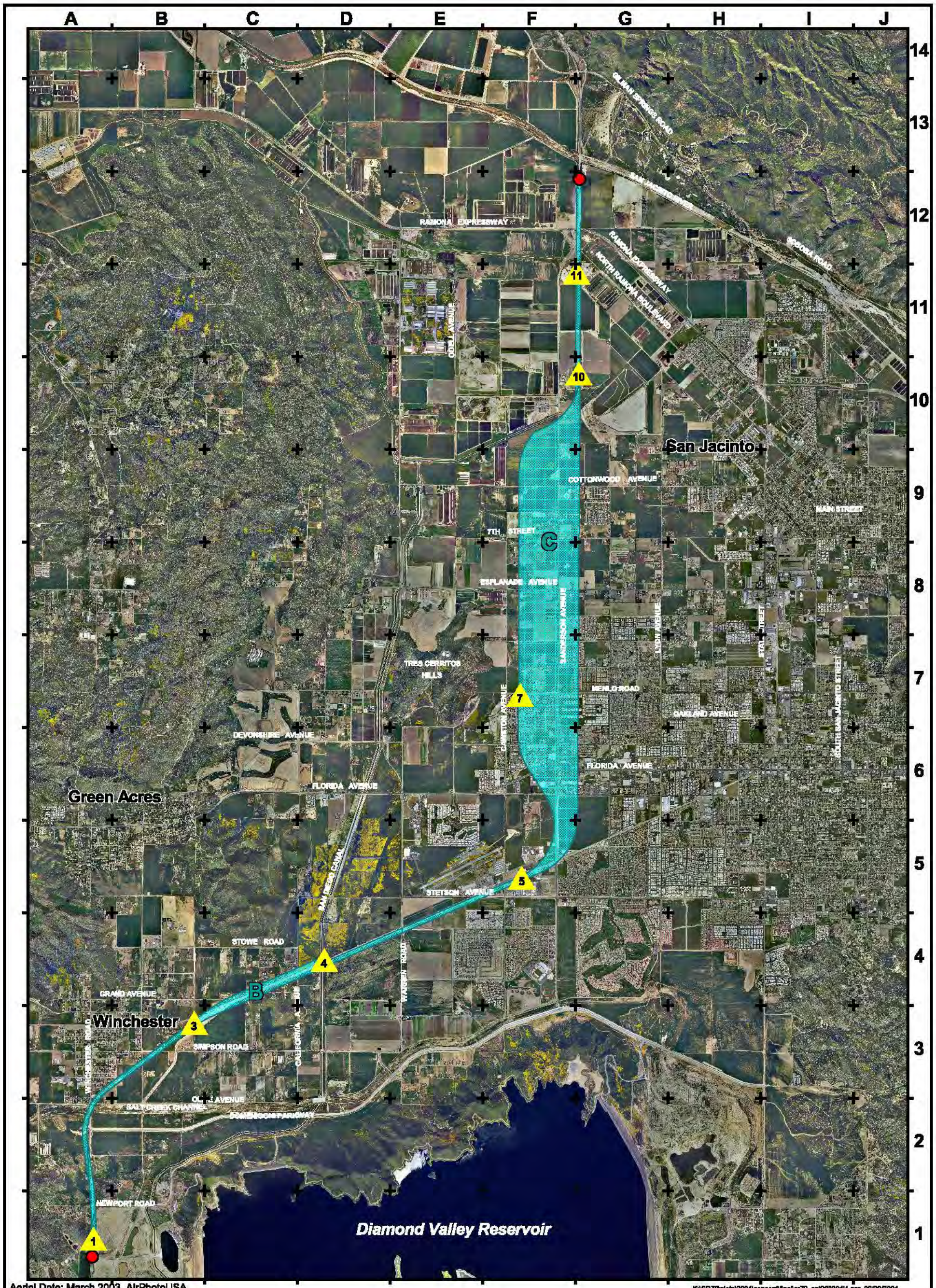
- Decision Point[1]
- Project Limit[1]
- Alignment Review Area and Roadway Cross Section (230 Feet)[1]

0 4750 Feet

1: 57,000

Figure L3
Central Alignment
State Route 79 Project

Source: 1 - CH2MHILL



LEGEND:

- Decision Point[1]
- Project Limit[1]
- Alignment Review Area and Roadway Cross Section (230 Feet)

0 4750 Feet

1: 57,000

Source: 1 - CH2MHILL

Figure L4
Eastern Alignment
State Route 79 Project

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Value Analysis Study Report (2006)

Number 3.1.2

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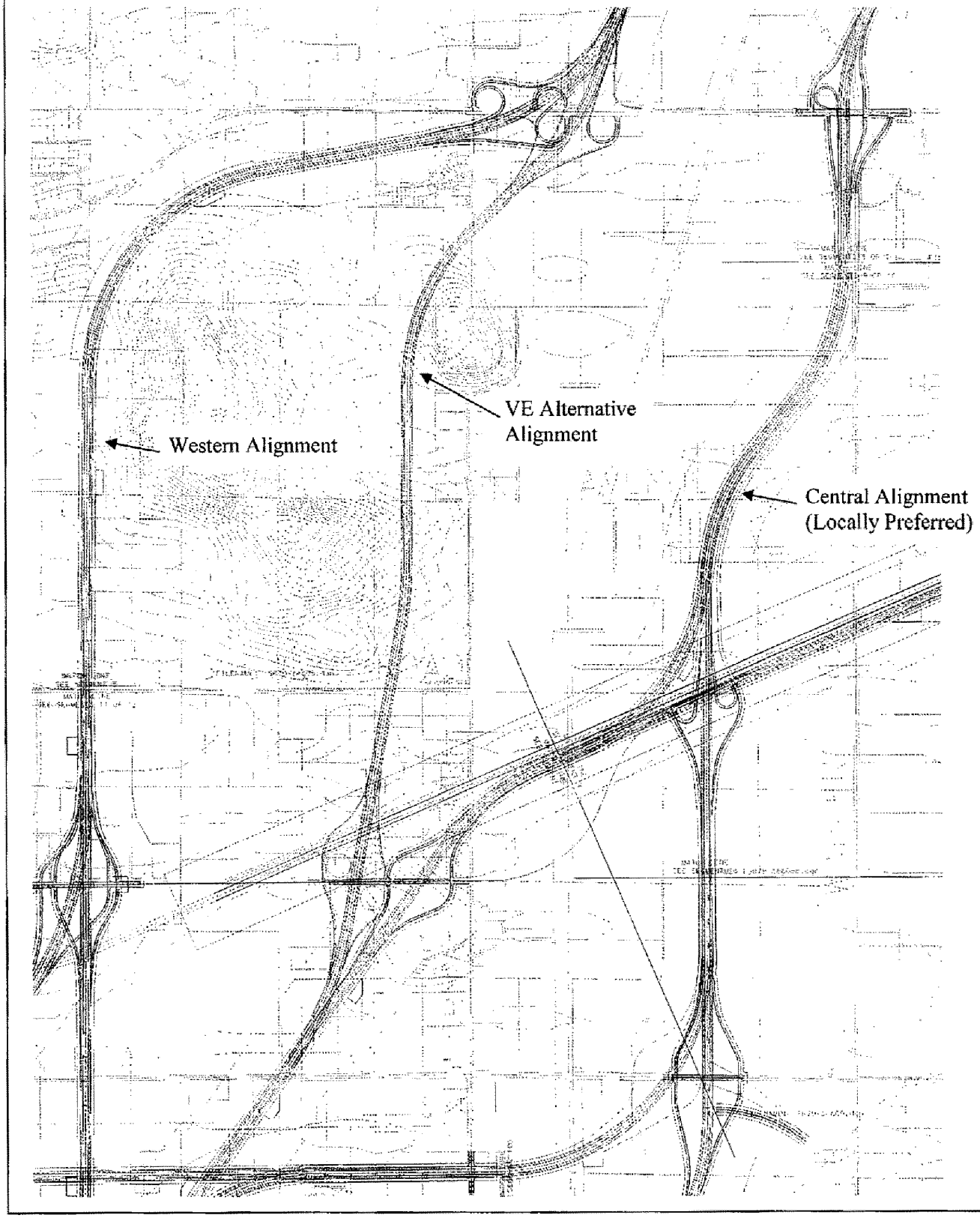
SKETCHES *SR 79 Corridor*	VMS	
TITLE: Shift Florida Western Alignment Interchange to the East Align Just West of Stetson Estates and West of Vernal Pool Area – Tie Into C Alignment (L Alt)	**NUMBER** 3.1.2	**PAGE NO.** 3 of 5



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Supplemental Information for Project Criteria and Alternatives Selection for Updated Preliminary Agreement (May 2005)

Figure E4

Figure E5

Figure L5

Figure L6

Figure L7

Figure L8

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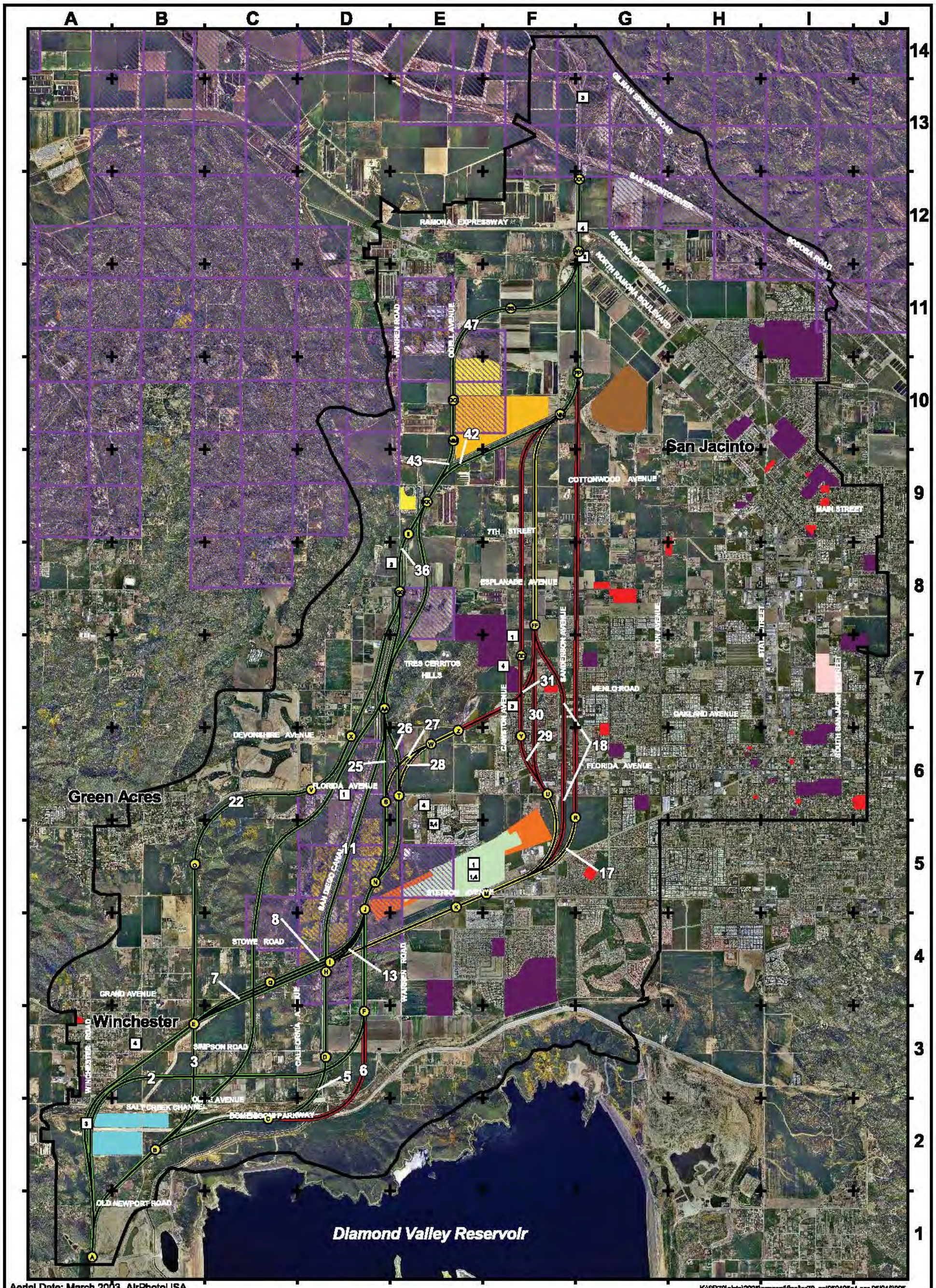


Aerial Date: March 2003, AirPhotoUSA

K:\SR79\plots\2006\concept\final\sr79_opt060405e4.apr 06/04/2006

LEGEND:

- Decision Point [I]
- Hazard Site [I]
- Centerline [I]
- Study Area [I]

Roadway Cross Section (230 Feet)

- Carried Forward for Further Analysis [I]
- Not Carried Forward for Further Analysis [I]
- Isolated Segments [I]
- Cemetery [II]
- Church/Temple [II]
- EMWD Treatment Facility [II]
- Existing RPZ [II]
- Future RPZ [I]
- MSHCP Criteria Cells [II]
- Proposed Soboba Property [I, II]
- Recreation Area [I]
- San Jacinto Reservoir [I]
- School [I, II]

0 1 Miles

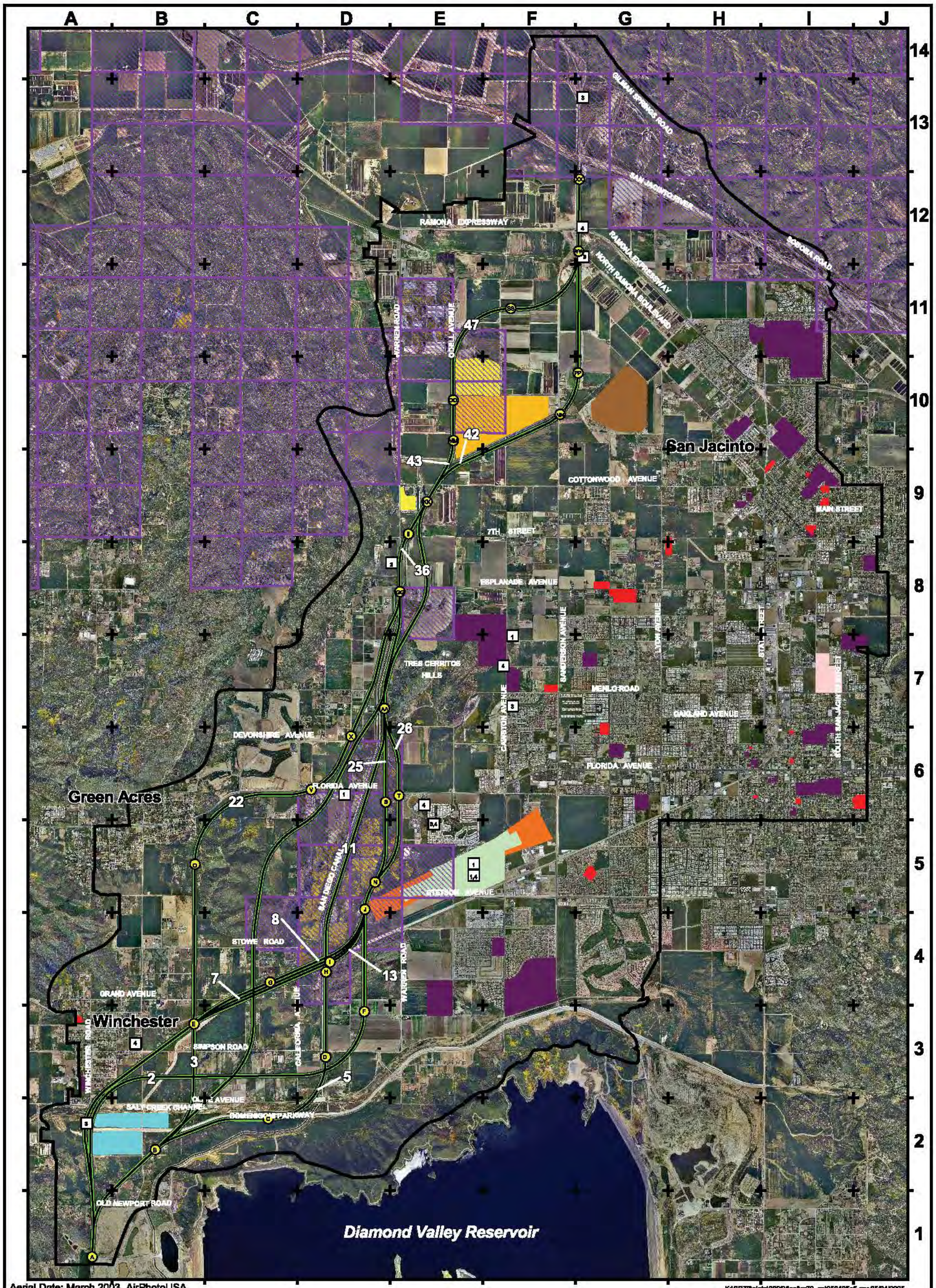
0 1 Km

1: 57,000

Hazard Note: 1 - Leaking UST, cases closed; 2 - Solid Waste Landfills; 3 - Underground Storage Tank; 4 - HW Small Quantity Generator

Sources: I - CH2MHILL; II - This contains geographic information owned by the County of Riverside

Figure E4
Updated Segment Status per Criteria with Isolated Segments Identified
State Route 79 Realignment Project



Aerial Date: March 2003, AirPhotoUSA

K:\SR79\plots\2005\final\sr79_cpt050405e5.apr 05/04/2005

LEGEND:

- Decision Point[I]
- Hazard Site[I]
- Centerline[I]
- Study Area[I]
- **Roadway Cross Section (230 Feet)**
  - Carried Forward for Further Analysis[I]
- Cemetery[II]
- Church/Temple[II]
- EMWD Treatment Facility[I]
- Existing RPZ[II]
- Future RPZ[II]
- MSHCP Criteria Cells[II]
- Proposed Soboba Property[I, II]
- Recreation Area[I]
- San Jacinto Reservoir[I]
- School[I, II]

0 1 Miles

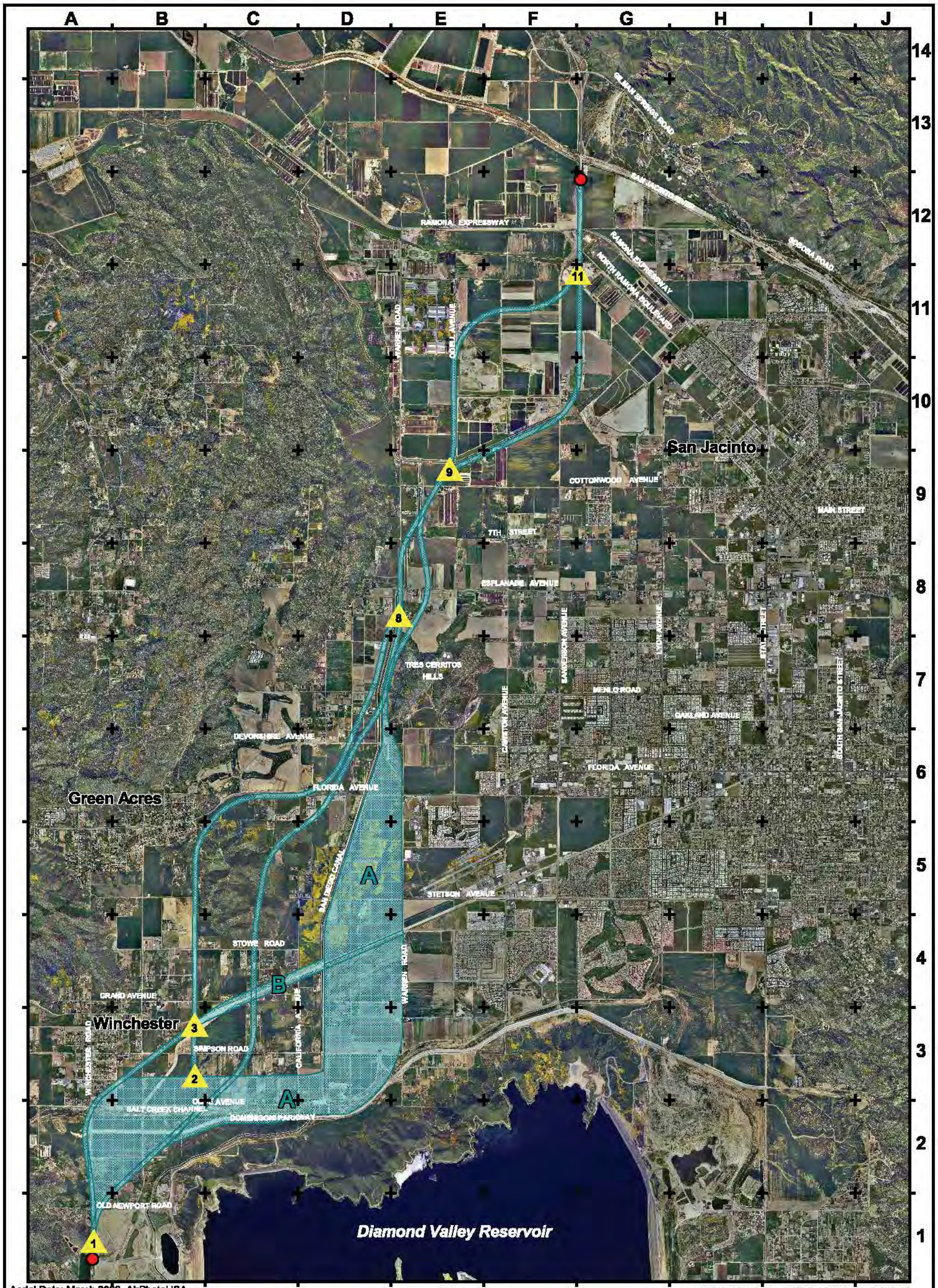
0 1 Km

1: 57,000

Hazard Note: 1 - Leaking UST, cases closed; 2 - Solid Waste Landfills; 3 - Underground Storage Tank; 4 - HW Small Quantity Generator

Sources: I - CH2MHILL; II - This contains geographic information owned by the County of Riverside

Figure E5
Updated Concept Segments Carried Forward for Further Analysis
State Route 79 Realignment Project



Aerial Date: March 2003, AirPhotoUSA

K:\SR79\plots\2005\concept\final\sr79_cpt0504015.apr 05/04/2005

LEGEND:

- Decision Point[1]
- Project Limit[1]
- Alignment Review Area and Roadway Cross Section (230 Feet)[1]

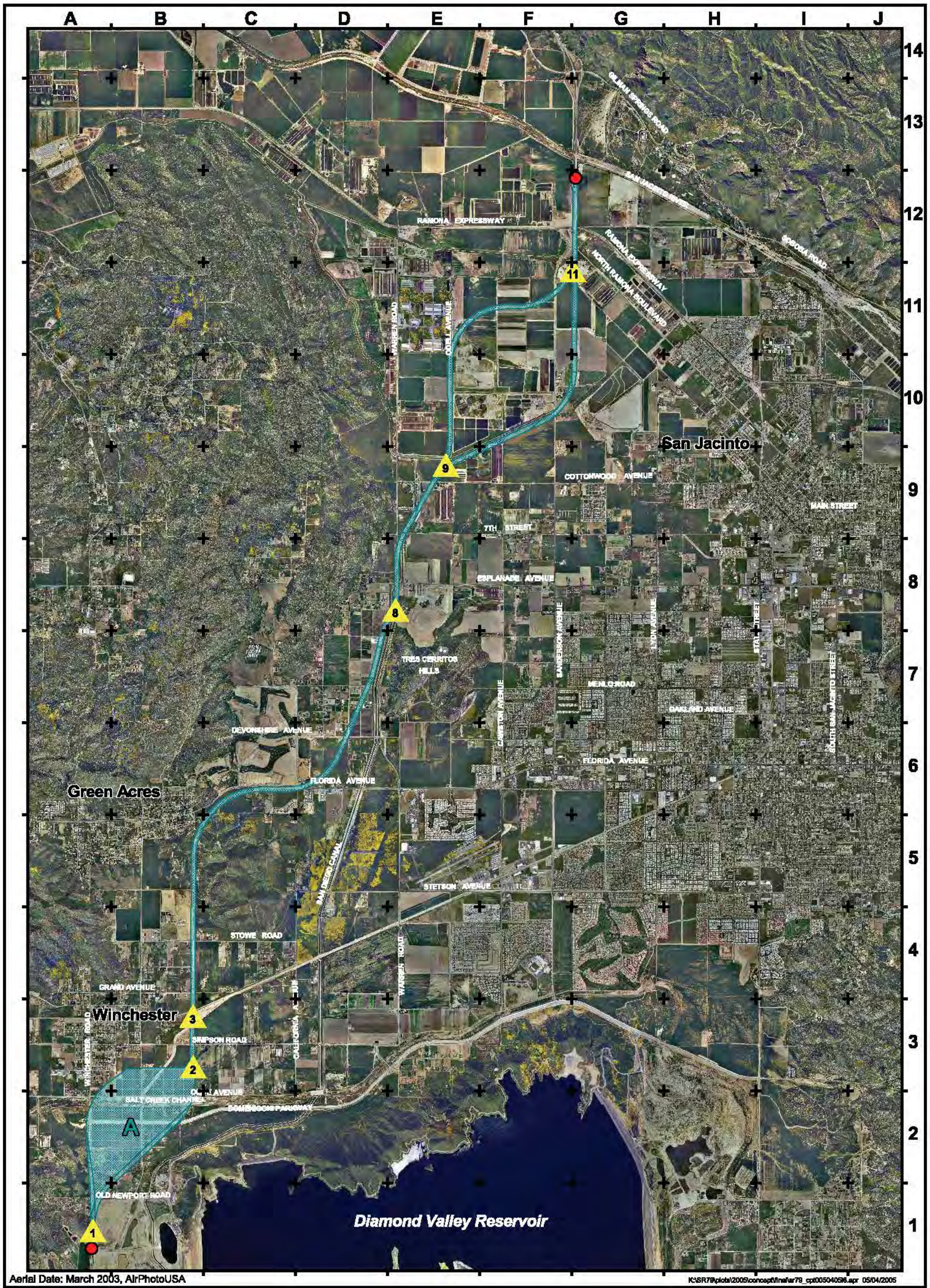
0 1 Miles

0 1 Km

1: 57,000

Figure L5
Alignment Review Areas and Renumbered Decision Points
State Route 79 Realignment Project

Source: 1 - CH2MHILL



Aerial Date: March 2003, AirPhotoUSA

K:\SR79\plots\2005\concept\final\sr79_cpt00504056.apr 05/04/2005

LEGEND:

- Decision Point[1]
- Project Limit[1]
- Alignment Review Area and Roadway Cross Section (230 Feet)[1]

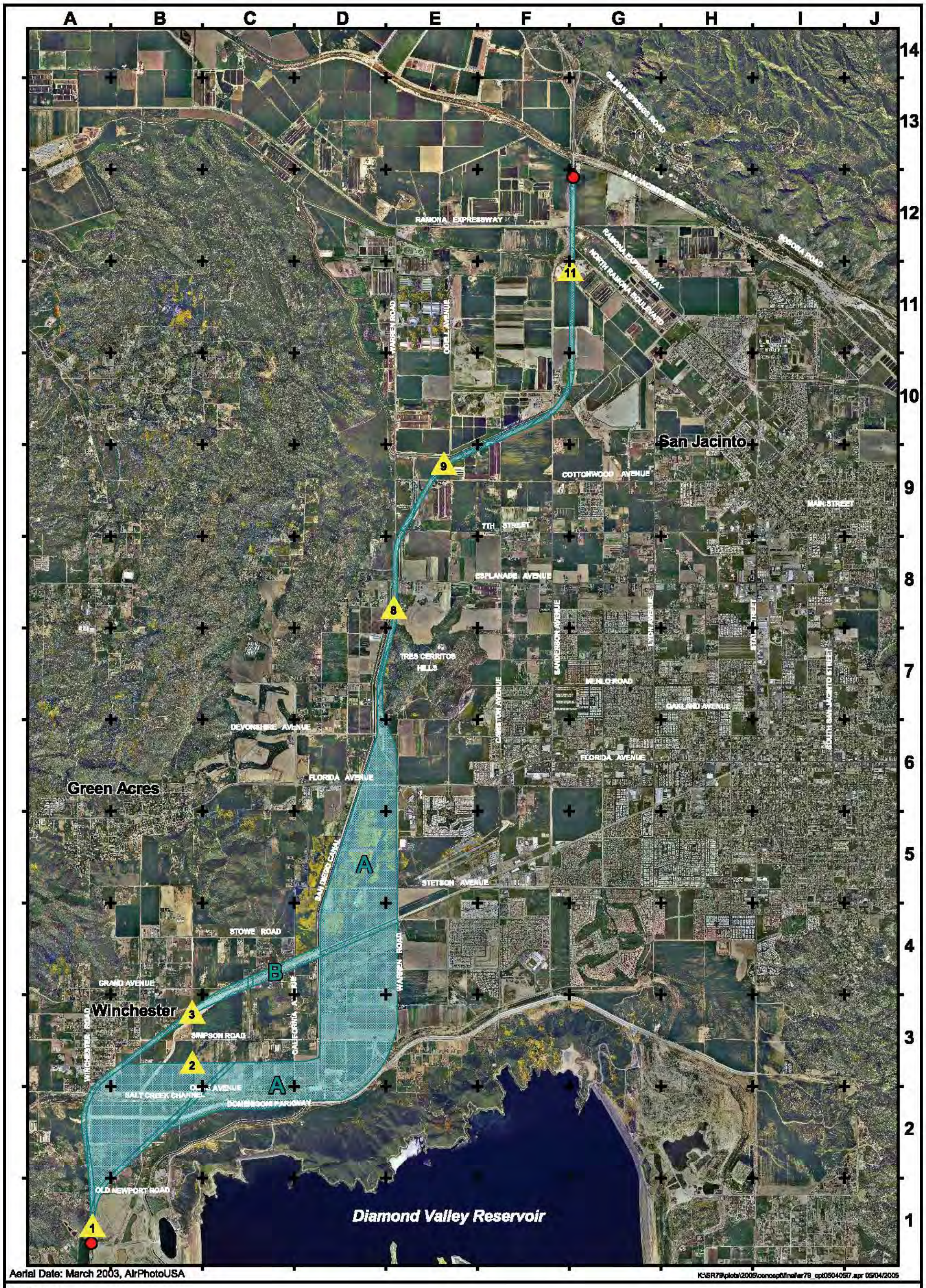
0 1 Miles

0 1 Km

1: 57,000

Figure L6
Alternative Corridor 1
State Route 79 Realignment Project

Source: 1 - CH2MHILL



Aerial Date: March 2003, AirPhotoUSA

K:\SR79\plots\2005\concept\finalsr79_cpt0504057.apr 05/04/2005

LEGEND:

- Decision Point[1]
- Project Limit[1]
- Alignment Review Area and Roadway Cross Section (230 Feet)[1]

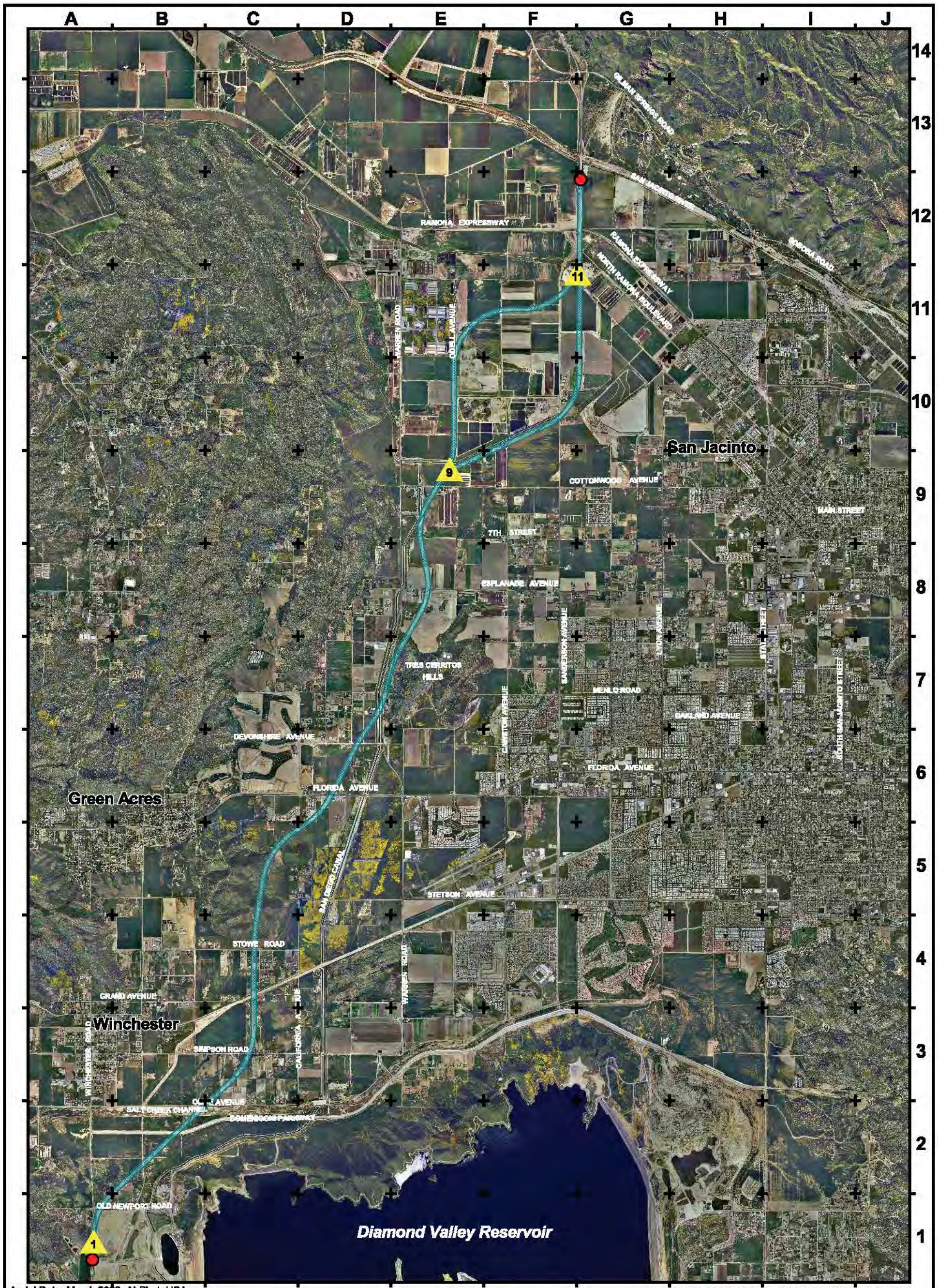
0 1 Miles

0 1 Km

1: 57,000

Figure L7
Alternative Corridor 2
State Route 79 Realignment Project

Source: 1 - CH2MHILL



Aerial Date: March 2003, AirPhotoUSA

K:\SR79\plots\2005\concept\finalsr79_cpt0504056.apr 05/04/2005

LEGEND:

- Decision Point[1]
- Project Limit[1]
- Alignment Review Area and Roadway Cross Section (230 Feet)[1]

0 1 Miles

0 1 Km

1: 57,000

Figure L8
New Alternative Corridor 3
State Route 79 Realignment Project

Source: 1 - CH2MHILL

List of Technical Studies

Early Development Reports

Route Concept Report, 1992

Final State Route 79 Realignment Study Report, January 1998

Route Concept Report, November 1999

Final Purpose and Need, December 2003

Final Project Criteria and Alternatives Selection for Preliminary Agreement, June 2004

Supplemental Information for Project Criteria and Alternatives Selection for Updated Preliminary Agreement, May 2005

Request for Updated Preliminary Agreement for Project Criteria and Alternatives Selection and Responses, August 2005

Final Project Description, November 21, 2007

Scoping Reports

Final Scoping Summary Report, September 2005

Final Meeting Summary, Winchester Homeowners Association Meeting, October 6, 2005

Final Hemet Public Information Meeting Summary Report, October 2005

Engineering Reports

Value Analysis Study Report, March 2006

Project Study Report (Project Development Support), January 2002

Construction Staging Analysis Report, January 9, 2009

Draft Project Report, January 2013

Human Environment:

Community Impacts

Draft Relocation Impact Report, July 2010

Community Impact Assessment, August 2010

Technical Report Addendum Memorandum, Community Impact Assessment, August 2010

Traffic

Traffic Analysis for State Route 79 Realignment, July 2005, revised January 2006 and November 2009

Technical Report Addendum Memorandum, Traffic Analysis, July 2010

Traffic Study for SR 79 Realignment Project Memorandum, October 2012

Visual/Aesthetics

Final Visual Impact Assessment, June 2009

Technical Report Addendum Memorandum, Visual Impact Assessment, June 2010

Cultural Resources

Extended Phase I Proposal, September 2007

Final Archaeological Survey Report, March 2008

Extended Phase I Report, February 2009

Final Historical Resources Evaluation Report, March 2010

Historic Property Survey Report, June 2010

Physical Environment:

Hydrology and Floodplain

Final Location Hydraulic Study – San Jacinto River Report, March 21, 2008

Final Location Hydraulic Study – Sanderson Avenue Floodplain Report, March 21, 2008

Final Location Hydraulic Study – Hemet Channel Report, March 24, 2008

Final Location Hydraulic Study – Salt Creek Channel Report, March 24, 2008

Preliminary Hydraulic Report – Hemet Channel, September 24, 2008

Final Floodplain Evaluation Report, May 7, 2008

Technical Report Addendum Memorandum, Final Floodplain Evaluation Report, June 2010

Preliminary Drainage Report, March 25, 2008

Technical Report Addendum Memorandum, Preliminary Drainage Report, June 2010

Water Quality and Stormwater Runoff

Final Water Quality Assessment Report, May 2008

Technical Report Addendum Memorandum, Final Water Quality Assessment Report, June 2010

Impervious Surface Area Summary Memorandum, August 2012

Conceptual Storm Water Data Report, March 25, 2008

Technical Report Addendum Memorandum, Conceptual Storm Water Data Report, June 2010

Paleontology

Final Paleontological Identification and Paleontological Evaluation Report, January 2008

Technical Report Addendum Memorandum, Paleontological Identification and Paleontological Evaluation Report, June 2010

Hazardous Waste/Materials

Final Initial Site Assessment Report, June 2008

Technical Report Addendum Memorandum, Final Initial Site Assessment, June 2010

Air Quality

Final Air Quality Technical Report, September 2009

Technical Report Addendum Memorandum, Final Air Quality Technical Report, June 2010

Noise and Vibration

Noise Study Report, July 2010

Technical Report Addendum Memorandum, Noise Study Report, August 2010

Noise Abatement Decision Report, July 2010

Biological Environment:

Natural Environment Study, April 2010

Technical Report Addendum Memorandum, Natural Environment Study, August 2010

Biological Field Survey Reports

Final Sensitive Wildlife Survey Report, December 4, 2007

Final Burrowing Owl Survey Report, December 4, 2007

Final Sensitive Small Mammal Focused Survey Report, December 4, 2007

Final Riparian Bird Survey Report, December 4, 2007

Final Rare Plant Survey Report, December 4, 2007

Final Vernal Pool Branchiopod Survey Report, December 4, 2007

Final Jurisdictional Wetland and Other Waters Delineation Report, September 2008

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