

APPENDIX C

DETERMINATION OF BIOLOGICAL EQUIVALENT OR SUPERIOR PRESERVATION (LSA, JULY 2017)

This page intentionally left blank

**DETERMINATION OF BIOLOGICALLY
EQUIVALENT OR SUPERIOR PRESERVATION**

**CANYON ESTATES DRIVE AND CANYON VIEW DRIVE INTERSECTION
IMPROVEMENT PROJECT**

CITY OF LAKE ELSINORE, COUNTY OF RIVERSIDE, CALIFORNIA

LSA

July 2017

**DETERMINATION OF BIOLOGICALLY
EQUIVALENT OR SUPERIOR PRESERVATION**

**CANYON ESTATES DRIVE AND CANYON VIEW DRIVE INTERSECTION
IMPROVEMENT PROJECT**

CITY OF LAKE ELSINORE, COUNTY OF RIVERSIDE, CALIFORNIA

Submitted to:

City of Lake Elsinore
130 South Main Street
Lake Elsinore, California 92530

Prepared by:

LSA
20 Executive Park, Suite 200
Irvine, California 92614
(949) 553-0666

Project No. SAE1701



July 2017

TABLE OF CONTENTS

1.0 INTRODUCTION	1
1.1 Project Location.....	1
1.2 Project Description	4
2.0 METHODS	6
3.0 RIPARIAN/RIVERINE RESOURCES	7
3.1 Riparian/Riverine Habitat.....	7
3.1.1 Functions and Values.....	7
3.2 Riparian/Riverine and Vernal Pool Species	9
3.3 Additional Survey Species Requirements (Multiple Species Habitat Conservation Plan Section 6.3.2 Compliance)	9
3.3.1 Burrowing Owl.....	9
4.0 IMPACTS	10
4.1 RIPARIAN/RIVERINE HABITAT.....	10
4.2 RIPARIAN/RIVERINE COVERED SPECIES.....	10
4.3 Urban/Wildlands Interface Guidelines (Multiple Species Habitat Conservation Plan Section 6.1.4 Compliance)	10
5.0 RIPARIAN/RIVERINE AVOIDANCE AND MITIGATION	13
5.1 Avoidance	13
5.2 Mitigation	13
6.0 CONCLUSION	14
7.0 REFERENCES	15

APPENDICES

A: SITE PHOTOGRAPHS

B: PLANT AND ANIMAL SPECIES OBSERVED IN THE CANYON ESTATES DRIVE AND CANYON VIEW
DRIVE INTERSECTION IMPROVEMENT BIOLOGICAL STUDY AREA

FIGURES AND TABLES

FIGURES

Figure 1: Project Location.....	2
Figure 2: Project Footprint	3
Figure 3: Vegetation	8
Figure 4: MSHCP Riverine Impacts	11

TABLES

Table A: Impacts to Vegetation and Land Cover Types (acres)	7
Table B: Impacts to Riverine Areas (acres).....	10

1.0 INTRODUCTION

The purpose of this Determination of Biologically Equivalent or Superior Preservation (DBESP) is to summarize the analysis of the Canyon Estates Drive and Canyon View Drive Intersection Improvement Project (project) riparian/riverine impacts and potential impacts to Criteria Area species. This report summarizes how the project is consistent with Section 6.1.2 of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The project would affect MSHCP Riverine resources.

Section 6.1.2 of the MSHCP, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools states: “The purpose of this section is to describe the process through which protection of Riparian/Riverine areas and vernal pools would occur within the MSHCP Plan Area.” The purpose of the procedures described in this section is to ensure that the biological functions and values of these areas throughout the MSHCP Plan Area are maintained such that habitat values for species inside the MSHCP Conservation Area are maintained.

A DBESP assessment is required for projects that propose impacts to Riparian/Riverine resources to ensure replacement of any lost functions and values of habitat as it relates to Covered Species.

1.1 PROJECT LOCATION

The project is located in the City of Lake Elsinore (City) in Riverside County, California. Figure 1 shows the regional location, and Figure 2 shows the project limits. The project footprint is in Sections 4 and 9 of Township 6 South, Range 4 West, as shown on the *Lake Elsinore, California* 7.5-minute series United States Geological Survey topographic map.

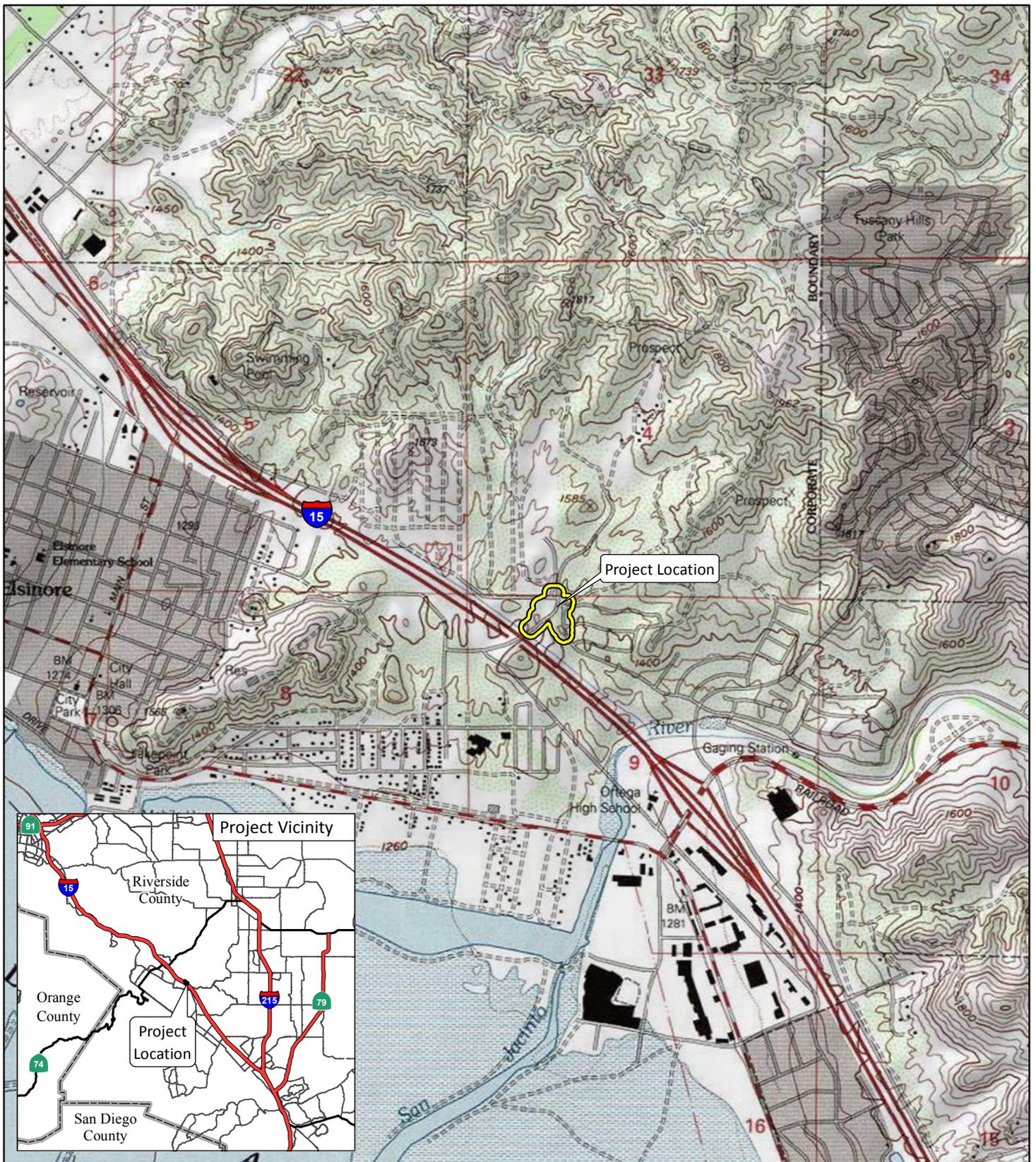
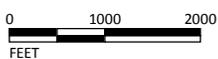


FIGURE 1

LSA

LEGEND

 Study Area



SOURCE: USGS 7.5' Quad - Lake Elsinore (1988)

I:\SAE1701\GIS\ProjectLocation_USGS.mxd (7/19/2017)

Canyon Estates Drive and Canyon View Drive
Intersection Improvement
Project Location



FIGURE 2

LSA

LEGEND

-  Project Footprint
-  Study Area



0 100 200
FEET

SOURCE: Bing Maps (2014); SCE Engineering (2017)
I:\SAE1701\GIS\ProjectLocation_Aerial.mxd (7/19/2017)

*Canyon Estates Drive and Canyon View Drive
Intersection Improvement
Project Footprint*

1.2 PROJECT DESCRIPTION

The City proposes to realign and reconstruct the intersection of Canyon Estates Drive and Canyon View Drive located in the City's Lake Elsinore Hills District. In the existing condition, the intersection of Canyon Estates Drive and Canyon View Drive meets adjacent to and east of the intersection of Canyon View Drive and Grunder Drive, creating an irregular intersection (Figure 2). Therefore, the purpose of the proposed project is to improve the functionality of this irregular intersection by realigning and reconstructing the entire intersection to shift the intersection southwesterly. The realignment will allow for a standard signalized four-way intersection that will connect the realigned Canyon Estates Drive with Franklin Street and the future Camino Del Norte extension (proposed under separate project). Canyon View Drive will connect to Franklin Street as a right-in/right-out intersection and will be stop controlled.

The major components of the project include the demolition of existing roadways and the removal of demolished materials (asphalt, concrete, soils, and vegetation); utility relocation (electrical power poles and water line blow-off valve); site preparation and grading; roadway, curb/gutter, and sidewalk construction; pavement striping; and storm drainage improvements, including a reconstruction of the existing drainage facilities and the installation of a new triple 54-inch reinforced concrete pipe and ancillary facilities. These major components are described in further detail below. Figure 2 depicts the limits of disturbance for the proposed activities.

Demolition: The removal of the existing intersection and roadway would require the removal of asphalt materials, the cutting and removal of the roadway foundation, and the excavation of soils. The demolition waste would be hauled to the nearest landfill that accepts this type of waste material. The existing segment of Canyon Estates Drive, between Sagecrest Drive and Canyon View Drive, will be abandoned and removed. The demolition phase is anticipated to last approximately 2 weeks.

Site Preparation and Grading: The site preparation and grading phase will involve the use of heavy construction equipment to cut/fill and compact soils to obtain the desired slopes for roadway construction and proper drainage. It is anticipated that the amount of cut-and-fill of soils will be balanced on site and will not require that a substantial amount of soils be hauled to the site. The site preparation and grading phase is anticipated to last approximately 4 weeks.

Construction: The construction phase would include the placement of the roadway foundation typically composed of aggregate materials and concrete overlaid by asphalt. Curb and gutter construction would involve the placement of concrete along the roadway edges and would be designed to channel storm water to existing storm drain facilities. Sidewalks would be constructed on both sides of the new alignments for Canyon Estates Drive and Canyon View Drive. The Grunder Drive pavement will be removed and will serve as an unpaved utility maintenance roadway. Upon the completion of roadway construction, the pavement will be painted and striped to provide for a two-lane roadway (one lane in each direction) for Canyon View Drive and Canyon Estates Drive. The new intersection will be a four-way traffic signal-controlled intersection. The construction phase is anticipated to last approximately 6 months.

Drainage Improvements: At the new Canyon Estates Drive and Camino Del Norte at Franklin Street intersection, storm water will be contained in new curb and gutter and conveyed to existing storm drain facilities. A new triple 54-inch reinforced concrete pipe, headwalls, wingwalls, and rock slope protection will be constructed below the realigned portion of Canyon Estates Drive and will be routed to Drainage D-3. D-3 channels storm water from upland areas north of the project limits to a concrete-lined open-air channel adjacent to and east of the Interstate 15 mainline and eventually drains into the San Jacinto River. Temporary disruptions to existing drainage culverts are anticipated in order to relocate and construct the intersection. Appropriate temporary facilities will be installed to duplicate the existing condition until construction is completed and permanent drainage facilities are installed.

Utility relocation: Two electrical power poles and one water blow-off valve will be relocated at the new intersection. Two electrical power poles will be relocated on the Camino Del Norte extension.

Several closures of varying durations are anticipated during project construction. The majority of the construction can be performed while maintaining traffic on existing roadways. Existing roadway tie-ins to the newly constructed roadways can be accomplished with short-term detours of fewer than 10 working days.

2.0 METHODS

On March 21, 2017, LSA biologists Lonnie Rodriguez and Laura Magee conducted a delineation of wetlands and other waters subject to the jurisdiction of the United States Army Corps of Engineers (Corps) and the California Department of Fish and Wildlife (CDFW) along with a Riparian/Riverine and Vernal Pool habitat assessment for the project. The delineation included an assessment for habitat with potential to support the riparian/riverine species per Section 6.1.2 of the MSHCP. Per Section 6.3.2 of the MSHCP, a portion of the study area also required a habitat assessment and focused burrow survey for the burrowing owl (*Athene cunicularia*). This DBESP incorporates the results of the jurisdictional delineation and burrowing owl habitat assessment.

The Riverine areas discussed in this report are based on the CDFW jurisdictional areas delineated in the Jurisdictional Delineation Report (LSA 2017), which has been prepared under separate cover. The habitat assessment and focused burrow survey were done in accordance with the Burrowing Owl Survey Instructions for the Western Riverside MSHCP Area.

The biological study area (BSA) used in this assessment was created to encompass the proposed project footprint and typical habitats that may be affected by the project in the immediate vicinity. The BSA is the study area used for this DBESP and is used interchangeably with “project” in this report.

3.0 RIPARIAN/RIVERINE RESOURCES

3.1 RIPARIAN/RIVERINE HABITAT

The BSA contains four vegetation communities or land cover types (Appendix A, Site Photographs): Disturbed Riversidean Sage Scrub, Developed, Disturbed, and Ornamental, as described below. Figure 3 shows a map of the vegetation communities and land cover types and Table A shows impacts.

Table A: Impacts to Vegetation and Land Cover Types (acres)

Community	Existing (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Total Impacts (acres)
Disturbed Riversidean Sage Scrub	3.68	1.03	–	1.03
Developed	4.34	1.51	–	1.51
Disturbed	1.30	0.49	–	0.49
Ornamental	0.13	0.08	–	0.08

Disturbed Riversidean Sage Scrub: The sage scrub in the BSA is suspected to be recovering sage scrub, including a native erosion control mix. The vegetation in these areas is mostly native, mixed with some nonnative species. This sage scrub vegetation is dominated by species of the genera *Artemisia*, *Encelia*, *Acmispon*, and *Eriogonum*.

Developed: These areas consist of the existing roadways and the housing development in the BSA.

Disturbed: This type consists of areas that are cleared or graded and either lack vegetation or are dominated by a sparse cover of ruderal vegetation. Ruderal vegetation is dominated by species of the genera *Erodium*, *Brassica*, *Bromus*, and *Salsola*.

Ornamental: Ornamental landscaping consists of introduced trees, shrubs, and flowers. Ornamental vegetation is located near the housing development in the southeast portion of the BSA.

3.1.1 Functions and Values

The project site supports unvegetated, ephemeral drainages. As required in MSHCP Section 6.1.2, the following is a discussion of the functions and values (hydrologic regime, flood storage and flood flow modification, sediment trapping and transport, nutrient retention and transformation, toxicant trapping, public use, wildlife habitat, and aquatic habitat) of the MSHCP Riverine areas in the BSA.

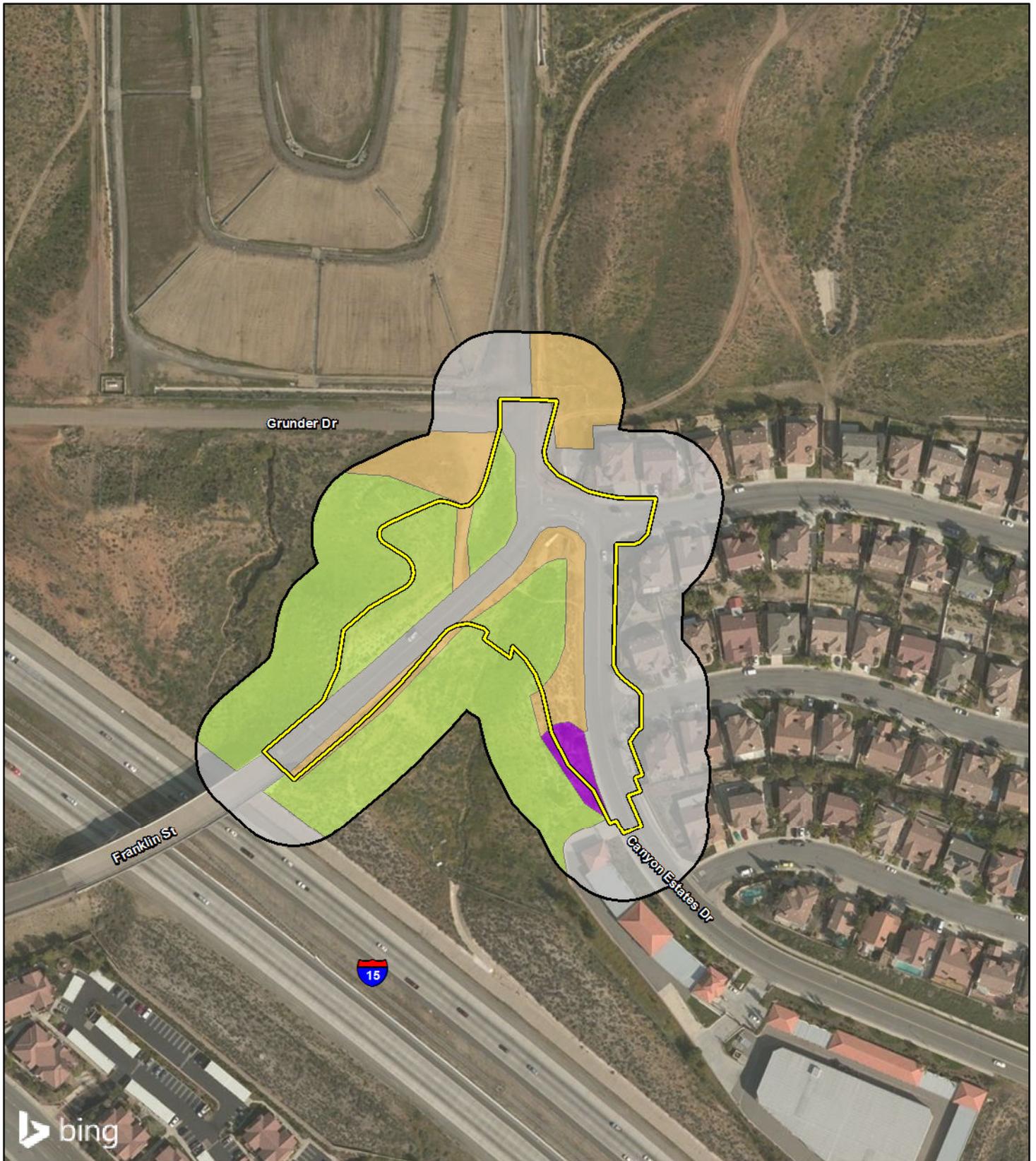


FIGURE 3

LSA

LEGEND

Study Area

Project Footprint

Vegetation

Developed

Disturbed

Disturbed Riverside Sage Scrub

Ornamental



SOURCE: Bing Maps (2014); SCE Engineering (2017)

I:\SAE1701\GIS\Vegetation.mxd (7/19/2017)

*Canyon Estates Drive and Canyon View Drive
Intersection Improvement
Vegetation*

Potential impacts to water quality could occur during the project's construction and operation due to increased erosion and storm water runoff. However, construction best management practices would be implemented during construction of the proposed project to reduce impacts to water quality and beneficial water resource values.

Two drainages are located in the study area. Neither drainage supports riparian vegetation; therefore, impacts to these features would not result in impacts to conservation of Covered Species and habitats. As discussed in the Jurisdictional Delineation Report prepared for the proposed project, MSHCP Riverine areas, potential Corps jurisdictional areas, CDFW jurisdictional areas, and Regional Water Quality Control Board (RWQCB) jurisdictional areas are present in the drainages.

The drainages are nonwetland waters and are considered riverine areas, as defined by the MSHCP. The drainages have low functions and values for flood storage and flood flow modification, sediment trapping and transport, nutrient retention and transformation, toxicant trapping, public use, and wildlife and aquatic habitat due to their small size, lack of riparian habitat, lack of public access, and lack of perennial or intermittent sources of water. Project implementation would not result in significant impacts to natural and beneficial floodplain values. Impacts to the drainages will be permanent; however, post-construction hydrology will be equal to preconstruction conditions, resulting in no net loss to the functions and values of the area.

3.2 RIPARIAN/RIVERINE AND VERNAL POOL SPECIES

The definition of riparian/riverine habitats is based on potential for the habitat to support riparian/riverine covered Species. The MSHCP species associated with Riparian/Riverine areas and Vernal Pools, as listed in Section 6.1.2, were assessed for the probability of occurring in and adjacent to the project site. The proposed project site does not contain riparian habitat, vernal pools, or wetland habitat; the riverine habitats do not have potential to support sensitive bird species or fairy shrimp.

3.3 ADDITIONAL SURVEY SPECIES REQUIREMENTS (MULTIPLE SPECIES HABITAT CONSERVATION PLAN SECTION 6.3.2 COMPLIANCE)

3.3.1 Burrowing Owl

A habitat assessment and focused burrow survey for burrowing owl were conducted and suitable habitat was present on site, but no burrows were observed. The surveys were done per the Burrowing Owl Survey Instructions for the Western Riverside MSHCP Area. No fossorial mammals except one Audubon's cottontail (*Sylvilagus audubonii*) were observed on site, and no burrows or burrow-like constructs, including natural and manmade structures, were identified. No owls or owl sign (e.g., feathers, scat, pellets, or tracks) were present.

The results of the focused owl survey determined that burrowing owl is absent from the project site at this time. The burrowing owl is a highly mobile species with the potential to move onto the project site prior to construction. Per the MSHCP burrowing owl survey requirements, a preconstruction survey for this species will be required within 30 days prior to ground disturbance to ensure that the burrowing owl has not subsequently occupied the site.

4.0 IMPACTS

4.1 RIPARIAN/RIVERINE HABITAT

Two drainages are located in the BSA, but only one is within the project boundary. The drainages in the BSA are ephemeral and are vegetated with upland plant species. The drainages are considered MSHCP Riverine based on the fact that they convey fresh water flow during all or a portion of the year (Figure 4). Impacts to riverine areas total 0.13 acre, as shown in Table B. The emphasis of the MSHCP's Riparian/Riverine policy is on the conservation of habitats capable of supporting MSHCP Covered Species. The goal of the DBESP process is to determine whether the project has provided for a project alternative that results in biologically equivalent or superior preservation. The first priority for riparian/riverine habitats that have the potential to contribute to the biological values of the MSHCP preserve is avoidance of direct impacts. The project site does not contribute to the MSHCP Reserve, but conservation lands are located downstream. The drainage facilities post construction will duplicate existing conditions, resulting in less than significant effects to suitable habitat for Covered Species.

The BSA contains 0.58 acre of riverine habitat, of which only 0.13 acre will be impacted.

Table B: Impacts to Riverine Areas (acres)

Jurisdiction	Existing (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Total Impacts (acres)
Corps	0.06	0.01	–	0.01
RWQCB	0.06	0.01	–	0.01
CDFW	0.58	0.13	–	0.13
MSHCP Riverine	0.58	0.13	–	0.13

CDFW = California Department of Fish and Wildlife
Corps = United States Army Corps of Engineers
MSHCP = Multiple Species Habitat Conservation Plan
RWQCB = Regional Water Quality Control Board

4.2 RIPARIAN/RIVERINE COVERED SPECIES

There is no suitable habitat for sensitive birds or Covered Species present on the project site; therefore, there will be no direct impacts to these species. Appendix B provides a list of the plant and animal species observed in the BSA.

4.3 URBAN/WILDLANDS INTERFACE GUIDELINES (MULTIPLE SPECIES HABITAT CONSERVATION PLAN SECTION 6.1.4 COMPLIANCE)

The project is not located in public/quasipublic lands or already conserved lands. Conservation lands are, at a minimum, 0.25 mile to the east. The guidelines set forth in Section 6.1.4 are intended to address indirect effects associated with locating development in proximity to the MSHCP

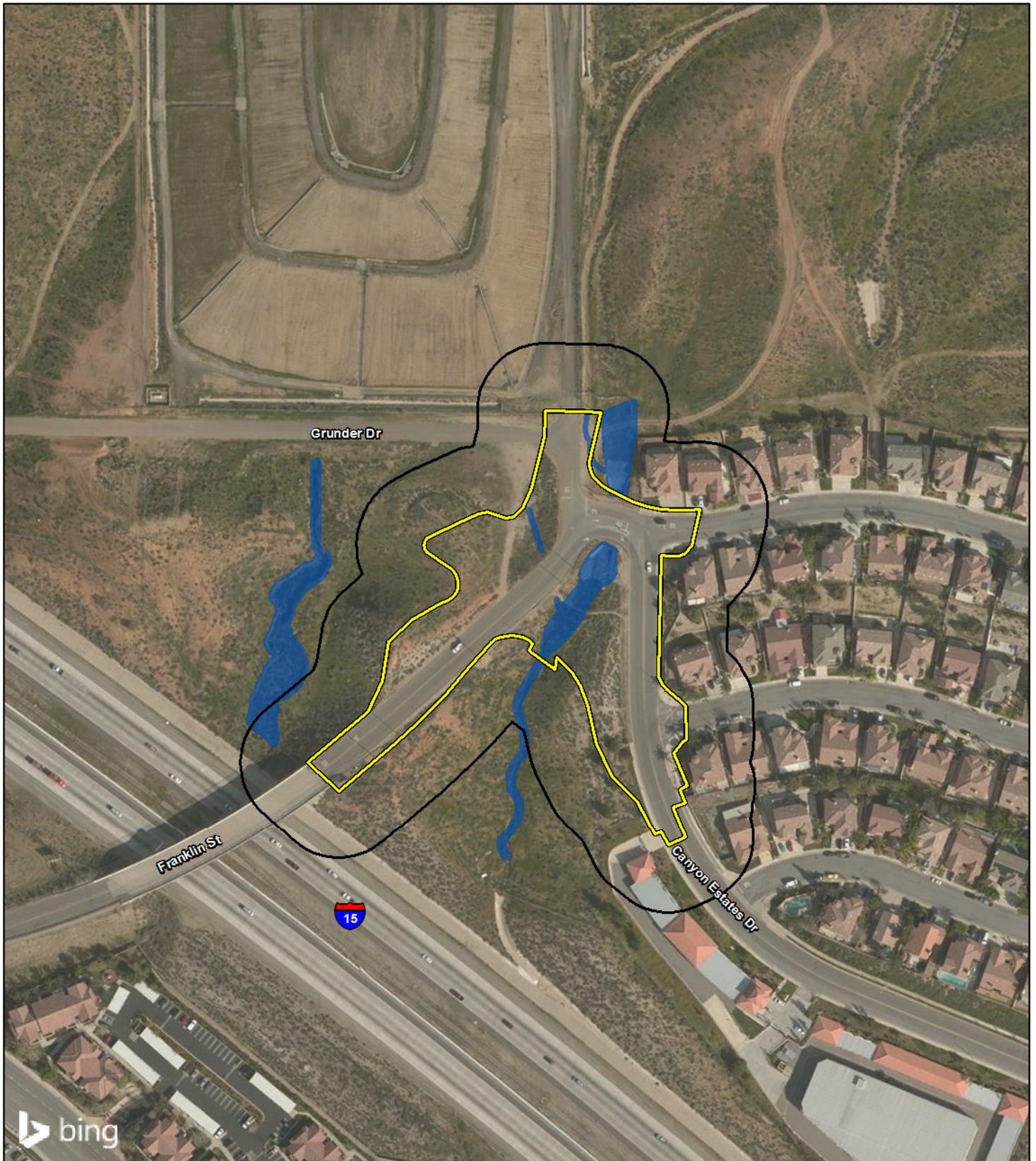


FIGURE 4

LSA

LEGEND

- Study Area
- Project Footprint
- MSHCP Riverine Impacts (0.13 ac)



SOURCE: Bing Maps (2014); SCE Engineering (2017)
 I:\SAE1701\GIS\JD_MSHCP_Impacts.mxd (7/19/2017)

*Canyon Estates Drive and Canyon View Drive
 Intersection Improvement
 MSHCP Riverine Impacts*

Conservation Area, where applicable. The project is not anticipated to have edge effects on MSHCP Conservation Areas, and existing local regulations are in place that address the issues presented in the guidelines; however, the drainages on site connect downstream to conserved lands in the San Jacinto River. Due to the eventual connection to riparian habitat suitable for Covered Species, some measures of the Urban/Wildlands Interface Guidelines are applicable as discussed in Section 6.1.4 of the MSHCP. The guidelines describe management measures to avoid or reduce project effects related to drainage and toxics.

- **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. Storm water improvements shall be designed to prevent or reduce the release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might degrade or harm biological resources or ecosystem processes within the MSHCP Conservation Area.
- **Toxics.** Land uses in proximity to the MSHCP Conservation Area that are potentially toxic or may adversely affect wildlife species, habitat, and water quality include the use of chemicals and fertilizers for agricultural, commercial, and residential uses, and petroleum product runoff from paved surfaces. These potential toxicants are not anticipated to be substantially increased by the proposed project. As discussed above, any storm water improvements will be designed to prevent or reduce toxic loads.

5.0 RIPARIAN/RIVERINE AVOIDANCE AND MITIGATION

5.1 AVOIDANCE

For sensitive Riparian/Riverine habitat, the first priority is to avoid direct impacts. The proposal to fix the irregular intersection cannot avoid all impacts to riverine areas; therefore, the project requires mitigation for any permanent impacts to the resource. Impacts to riverine areas equal 0.13 acre; 0.59 acre is being avoided. Compensation for riverine impacts will include off-site participation in an in-lieu fee program. Routine measures to minimize impacts and preserve natural and beneficial floodplain values would be included as part of project implementation, (e.g., by fencing the limits of temporary disturbance). The project design also minimizes construction within jurisdictional areas.

5.2 MITIGATION

Mitigation for impacts to jurisdictional waters and MSHCP Riverine is proposed as part of the project to reduce potential impacts to water resource beneficial floodplain values. MSHCP Riverine habitat would be mitigated at a mitigation-to-impact ratio of 2:1 for permanent impacts. Impacts to 0.13 acre of MSHCP Riverine habitat will be offset by participation in an in-lieu fee program with the Riverside-Corona Resource Conservation District.

This alternative is considered biologically superior because the existing drainages contain habitat with low functions and values, and lack sensitive resources. By participating in the in-lieu fee program, habitat will be enhanced to provide biological value to sensitive species. Therefore, implementation of the proposed project and mitigation for impacts to MSHCP Riverine resources is considered biologically equivalent or superior to an avoidance alternative.

6.0 CONCLUSION

Based on this DBESP assessment, the proposed project is consistent with Section 6.1.2 of the MSHCP for the following reasons:

- No MSHCP Riparian/Riverine or Vernal Pool species are known or expected to occur within the riverine habitats to be impacted.
- The MSHCP Conservation Area would not be subject to significant indirect effects from the project, due to the measures incorporated into the project design.
- Mitigation for impacts to the riverine habitats would occur through participation in an off-site in-lieu fee program at a 2:1 mitigation-to-impacts ratio.

7.0 REFERENCES

- Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area. 2006. March.
- California Department of Fish and Wildlife (CDFW) Natural Diversity Database. 2017. RareFind 5. Natural Heritage Division. Sacramento, California. Accessed March 8, 2017.
- California Native Plant Society (CNPS), Rare Plant Program. 2017. Inventory of Rare and Endangered Plants (online edition, v8-02). Sacramento, California. Website: <http://www.rareplants.cnps.org> (accessed March 8, 2017).
- Dudek & Associates. 2003. Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Final MSHCP Volumes 1 and 2 (approved June 17, 2003).
- Jones & Stokes Associates, Inc. 1993. Methods Used to Survey the Vegetation of Orange County Parks and Open Space Areas and The Irvine Company Property. Sacramento. February.
- LSA. 2017. Jurisdictional Delineation Report. Canyon View Drive and Canyon Estates Drive Intersection Improvement Project. April.
- Natural Resource Conservation Service. 2003. Soil Data Mart.

APPENDIX A

SITE PHOTOGRAPHS



Facing west (03/14/2017)



Intersection of Grunder Drive and Canyon Estates Drive



Facing southwest (03/14/2017)



Facing southwest (03/14/2017)

APPENDIX B

**PLANT AND ANIMAL SPECIES OBSERVED IN THE CANYON ESTATES
DRIVE AND CANYON VIEW DRIVE INTERSECTION IMPROVEMENT
BIOLOGICAL STUDY AREA**

Plant Species Observed in the Canyon Estates Drive and Canyon View Drive Intersection Improvement Biological Study Area

Scientific Name	Common Name
EUDICOTS	
Asteraceae	Sunflower Family
<i>Artemisia californica</i>	California sagebrush
<i>Centaurea solstitialis</i> ¹	Yellow star-thistle
<i>Encelia californica</i>	California encelia (brittlebush)
<i>Encelia farinosa</i>	Brittlebush
<i>Heterotheca grandiflora</i>	Telegraph weed
<i>Lasthenia californica</i>	Coastal goldfields
<i>Oncosiphon piluliferum</i> ¹	Stinknet
Boraginaceae	Borage Family
<i>Amsinckia menziesii</i>	Fiddleneck
<i>Nemophila menziesii</i>	Baby blue eyes
Brassicaceae	Mustard Family
<i>Brassica nigra</i> ¹	Black mustard
<i>Lepidium nitidum</i>	Shining pepper grass
<i>Hirschfeldia incana</i> ¹	Shortpod mustard
<i>Sisymbrium irio</i> ¹	London rocket
Cactaceae	Cactus Family
<i>Cylindropuntia prolifera</i>	Coastal cholla
<i>Opuntia littoralis</i>	Coastal prickly pear
Chenopodiaceae	Goosefoot Family
<i>Salsola tragus</i> ¹	Russian-thistle
Chenopodiaceae	Morning-glory Family
<i>Cuscuta californica</i>	California witch's hair
Crassulaceae	Stonecrop Family
<i>Crassula connata</i>	Sand pygmy-stonecrop
Euphorbiaceae	Spurge Family
<i>Ricinus communis</i> ¹	Castor bean
Fabaceae	Legume Family
<i>Acmispon glaber</i>	Coastal deerweed
<i>Lupinus bicolor</i>	Miniature lupine
<i>Melilotus officinalis</i>	Yellow sweetclover
<i>Parkinsonia aculeata</i> ¹	Mexican palo verde
Lamiaceae	Mint Family
<i>Marrubium vulgare</i> ¹	White horehound
<i>Salvia apiana</i>	White sage
<i>Salvia carduacea</i>	Thistle sage
Geranaceae	Geranium Family
<i>Erodium cicutarium</i> ¹	Redstem filaree
Nyctaginaceae	Four O'clock Family
<i>Mirabilis californica</i>	California four o'clock
Polygonaceae	Buckwheat Family
<i>Eriogonum fasciculatum</i>	California buckwheat
MONOCOTS	
Poaceae	Grass Family
<i>Bromus madritensis</i> ssp. <i>rubens</i> ¹	Red brome
<i>Bromus tectorum</i> ¹	Cheatgrass
Themidaceae	Brodiaea Family
<i>Dichelostemma capitatum</i> ssp. <i>capitatum</i>	Blue dicks

¹ not native to California

Animal Species Observed in the Canyon Estates Drive and Canyon View Drive Intersection Improvement Biological Study Area

Scientific Name	Common Name
REPTILIA	REPTILES
Phrynosomatidae	Phrynosomatid Lizards
<i>Sceloporus occidentalis</i>	Western fence lizard
AVES	BIRDS
Columbidae	Pigeons and Doves
<i>Columba livia</i> ¹	Rock pigeon
<i>Zenaida macroura</i>	Mourning dove
Apodidae	Swifts
<i>Aeronautes saxatilis</i>	White-throated swift
Trochilidae	Hummingbirds
<i>Calypte anna</i>	Anna's hummingbird
Accipitridae	Hawks, Kites, Eagles, and Allies
<i>Buteo jamaicensis</i>	Red-tailed hawk
Tyrannidae	Tyrant Flycatchers
<i>Sayornia nigricans</i>	Black phoebe
Hirundinidae	Swallows
<i>Stelgidopteryx serripennis</i>	Northern rough-winged swallow
Poliopitilidae	Gnatcatchers and Gnatwrens
<i>Poliopitila californica californica</i>	Coastal California gnatcatcher
Mimidae	Mockingbirds and Thrashers
<i>Mimus polyglottos</i>	Northern mockingbird
Fringillidae	Finches
<i>Haemorhous mexicanus</i>	House finch
<i>Spinus psaltria</i>	Lesser goldfinch
Emberizidae	Emberizids
<i>Pipilo maculatus</i>	Spotted towhee
<i>Melospiza crissalis</i>	California towhee
Icteridae	Blackbirds
<i>Sturnella neglecta</i>	Western meadowlark
MAMMALIA	MAMMALS
Leporidae	Rabbits and Hares
<i>Sylvilagus audubonii</i>	Audubon's cottontail

¹ not native to California