HELIX Environmental Planning

Sky Canyon Retail Center Project

General Biological Resources Assessment

October 12, 2020 | AVA-01

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ACRONYMS AND ABBREVIATIONS

AMSL	Above Mean Sea Level
Blower	Air-Blast Dryer Systems
BUOW	Burrowing Owl
CESA	California Endangered Species Act
CASSA	Criteria Area Species Survey Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFG Code	California Fish and Game Code
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of Riverside
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dBA	A-Weighted Decibel
DBESP	Determination of Biological Equivalent or Superior Preservation
Dudek	Dudek & Associates
EPA	Environmental Protection Agency
FESA	Federal Endangered Species Act
G	Global
HANS	Habitat Acquisition and Negotiation Strategy
HCP	Habitat Conservation Plan
HELIX	HELIX Environmental Planning, Inc.
LBVI	Least Bell's Vireo
LDMF	Local Development Mitigation Fee
MBTA	Migratory Bird Treaty Act
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
NEPSSA	Narrow Endemic Plant Species Survey Area
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
OHWM	Ordinary High Water Mark
Project	Sky Canyon Retail Center Project

ACRONYMS AND ABBREVIATIONS (cont.)

RCA	Western Riverside County Regional Conservation Authority
ROW	Right-of-Way
RPW	Relatively Permanent Water Body
RWQCB	Regional Water Quality Control Board
S	State
SSC	Species of Special Concern
SF	Square Foot
TNW	Traditional Navigable Waters
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geologic Survey
WUS	Waters of the U.S.

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SUMMARY

The 7.31-acre Sky Canyon Retail Center project site and adjacent 2.53-acre off-site area (collectively, the study area) are located in unincorporated Riverside County, California. The study area is located within the Southwest Area Plan of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The study area is not located within or adjacent to an MSHCP Criteria Area or an MSHCP Conservation Area. The study area is located within the Burrowing Owl (*Athene cunicularia*; BUOW) Survey Area and supports a small area of suitable least Bell's vireo (*Vireo bellii pusillus*; LBVI) habitat. HELIX Environmental Planning, Inc. conducted a general biological survey, including vegetation mapping and a general habitat assessment; an MSHCP Riparian/Riverine and Vernal Pool habitat assessment; a habitat assessment and focused survey for BUOW; a focused survey for LBVI; and a jurisdictional delineation, including mapping of MSHCP Riparian/Riverine and Vernal Pool Areas.

The study area contains five vegetation communities, including disturbed, non-native vegetation, non-native vegetation/buckwheat scrub, ornamental (on-site only), and southern willow scrub (off-site only). Focused BUOW surveys conducted on the study area were negative. No LBVIs were detected on the study area, although two pairs were observed to the south of the study area within southern riparian forest habitat associated with Tucalota Creek. The study area also supports suitable habitat for nesting migratory bird species. One sensitive plant community (southern willow scrub) was mapped on the study area, which totaled 0.02 acre in the southeast corner of the off-site area. The southern willow scrub is associated with a manmade basin, which mostly occurs outside of the study area boundary. The 0.02-acre southern willow scrub within the off-site area is also considered California Department of Fish and Wildlife (CDFW) jurisdiction and an MSHCP Riparian/Riverine Area. No streambed field indicators, such as an ordinary high water mark or defined bed and bank, were present within the off-site area. Therefore, the off-site area does not support U.S. Army Corps of Engineers/Regional Water Quality Control Board jurisdiction. No wetlands or other special aquatic sites were observed on the study area.

Potential significant impacts were identified for BUOW (if present during the 30-day pre-construction survey), LBVI, sensitive community/CDFW jurisdiction/MSHCP Riparian/Riverine Area, and nesting bird species. The project is required to comply with regulations of the MSHCP and Habitat Conservation Plan for Stephens' kangaroo rat (*Dipodomys stephensi*). The project proposes to permanently impact 9.84 acres, including 2.94 acres of disturbed habitat, 5.84 acres of non-native vegetation, 0.88 acre of non-native vegetation/buckwheat scrub, 0.16 acre of ornamental vegetation, and 0.02 acre of southern willow scrub (CDFW sensitive plant community). Project impacts to the 0.02 acre of southern willow scrub associated with the manmade basin would also be considered impacts to non-wetland CDFW jurisdiction/MSHCP Riparian/Riverine Area.

Measures related to the following topics are proposed herein to fully mitigate potential impacts of the project: BUOW, LBVI, sensitive community, CDFW jurisdiction, MSHCP Riparian/Riverine Area, migratory nesting bird species, compliance with MSHCP landscaping restrictions, and payment of MSHCP and Stephens' kangaroo rat fees. Successful implementation of these measures would mitigate potential impacts to below a level of significance.

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1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This report provides the County of Riverside (County; California Environmental Quality Act [CEQA] lead agency), resource agencies, and the public with current biological data to satisfy review of the proposed Sky Canyon Retail Center Project (project) located in unincorporated Riverside County, California adjacent to the City of Temecula limits. The purpose of this report is to document the existing biological conditions on and in the immediate vicinity of the project site and provide an analysis of potential impacts to sensitive biological resources with respect to local, state, and federal policy. This report provides the biological resources technical documentation necessary for project review under CEQA by the County and demonstrates project consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP; Dudek and Associates [Dudek] 2003).

1.2 STUDY AREA LOCATION

The approximately 7.31-acre project site comprises two parcels with Assessor Parcel Numbers 920-120-034 and -035 located in unincorporated Riverside County, California. The project site is generally located to the north of the City of Temecula limits and east of the Interstate (I-) 215 and I-15 junction (Figure 1, *Regional Location*). The project site is located in the U.S. Geological Survey (USGS) 7.5-minute Murrieta quadrangle map within Township 7 South, Range 3 West, Section 24 (Figure 2, *USGS Topography*). Specifically, the project site is located directly northeast of the intersection of Winchester Road (State Route 79) and Willows Avenue (Figure 3, *Aerial Photograph*).

The project also includes an approximately 2.53-acre off-site area located within the proposed Sky Canyon Drive right-of-way (ROW). The off-site area (Sky Canyon Drive Extension) is located along the eastern project boundary (Figure 3). For the purpose of this report, the project site and off-site area are collectively referred to as the study area.

1.3 PROJECT DESCRIPTION

The project consists of a commercial and retail center made up of a 31,900-square foot (sf) grocery store, 10,000-sf retail store, 7,500-sf tire shop, 3,000-sf tire shop, 3,000-sf drive-through restaurant, and 4,300-sf car wash on approximately 7.31 acres (Figure 4, *Site Plan*). The site would connect to existing utilities for electricity, water, and sewer within adjacent roadways and would also require installation of two water quality basins.

In addition, the project would build an extension southward of Sky Canyon Drive from its current southern terminus to connect the roadway with Willows Avenue. The extension of Sky Canyon Drive is considered a Planned Road under the policies of Section 7.3 of the MSHCP (Dudek 2003). To avoid impacts to adjacent Tucalota Creek, the Sky Canyon Drive extension will be constructed using sheet pilings. The sheet pilings will be installed using high frequency vibrators that work above the natural frequency of the existing soil so that only minor negative resonances are generated and therefore reduces disturbance to the surrounding area. High frequency vibrators produce rotating eccentric weight segments in opposite directions, which create vertical vibrations. The vertical vibrations are transferred to the pile element and the neighboring soil swings to achieve a pseudo-liquid condition. Friction is also reduced so that the pile element can penetrate more easily into the soil. Since the high

frequency vibrators work at frequencies that are higher than the natural frequencies of the soil, potential damaging resonances to surrounding structures are greatly reduced.

2.0 METHODS

Project evaluation included a review of project plans; a literature review of biological resources occurring on the study area and surrounding vicinity; a general biological survey, including vegetation mapping and a general habitat assessment; a habitat assessment and focused survey for burrowing owl (*Athene cunicularia*; BUOW); focused survey for least Bell's vireo (*Vireo bellii pusillus*; LBVI); a jurisdictional delineation, including mapping of MSHCP Riparian/Riverine and Vernal Pool Areas; and an MSHCP Riparian/Riverine and Vernal Pool Resources assessment. The methods used to evaluate the biological resources present on the study area are discussed in this section.

2.1 NOMENCLATURE

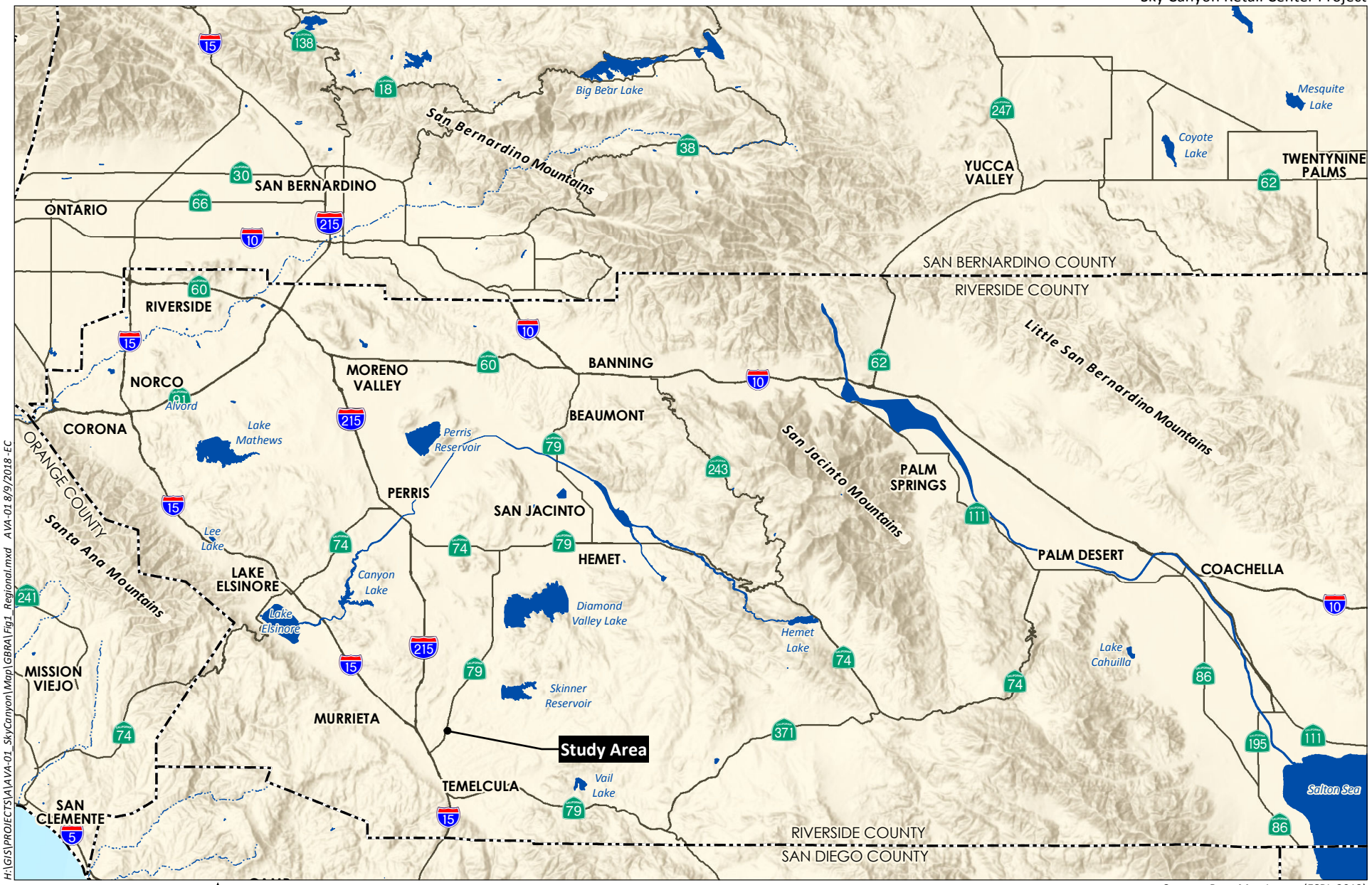
Nomenclature for this report follows Baldwin et al. (2012) for plants and the MSHCP (Dudek 2003) for vegetation community classifications, with additional vegetation community information taken from Oberbauer (2008) and Holland (1986). Animal nomenclature follows Emmel and Emmel (1973) for butterflies, Center for North American Herpetology (Taggart 2014) for reptiles and amphibians, American Ornithologists' Union (2018) for birds, and Baker et al. (2003) for mammals. Rare plant and sensitive animal statuses are from the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California (2018) and the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB; California Department of Fish and Wildlife [CDFW] 2018). Rare plant species' habitats and flowering periods are from the Jepson Manual (Baldwin et al. 2012), MSHCP (Dudek 2003), CNPS (2018), and CNDDB (CDFW 2018). Soil classifications were obtained from the Natural Resources Conservation Service's (NRCS) Web Soil Survey (2018).

2.2 LITERATURE REVIEW

Prior to conducting the site visit, HELIX Environmental Planning, Inc. (HELIX) reviewed regional planning documents, Google Earth aerials (2018a), Web Soil Survey (Natural Resources Conservation Service [NRCS] 2018), and sensitive species database records, including the Inventory of Rare and Endangered Plants of California (California Native Plant Society [CNPS] 2018), CNDDB (CDFW 2018), U.S. Fish and Wildlife Service's (USFWS) critical habitat maps (2018a). A nine-quadrangle database search was conducted on CNDDB and CNPS, which included the following quadrangles: Bachelor Mountain, Fallbrook, Lake Elsinore, Murrieta, Pechanga, Romoland, Temecula, Wildomar, and Winchester. In addition, the MSHCP (Dudek 2003) and the Regional Conservation Authority's MSHCP Information Tool (Western Riverside County Regional Conservation Authority 2018) were consulted to determine project compliance with the MSHCP.

2.3 FIELD SURVEYS

Field surveys were conducted to document the existing condition of the study area and surrounding lands. The general biological survey included vegetation mapping, during which dominant plant species were noted. Focused surveys for BUOW and LBVI were also conducted. A habitat assessment was also conducted on the study area to determine habitat suitability for rare plant and animal species in addition to MSHCP Riparian/Riverine Species. A jurisdictional delineation was also conducted to



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0 10 Miles

Source: Base Map Layers (ESRI, 2013)

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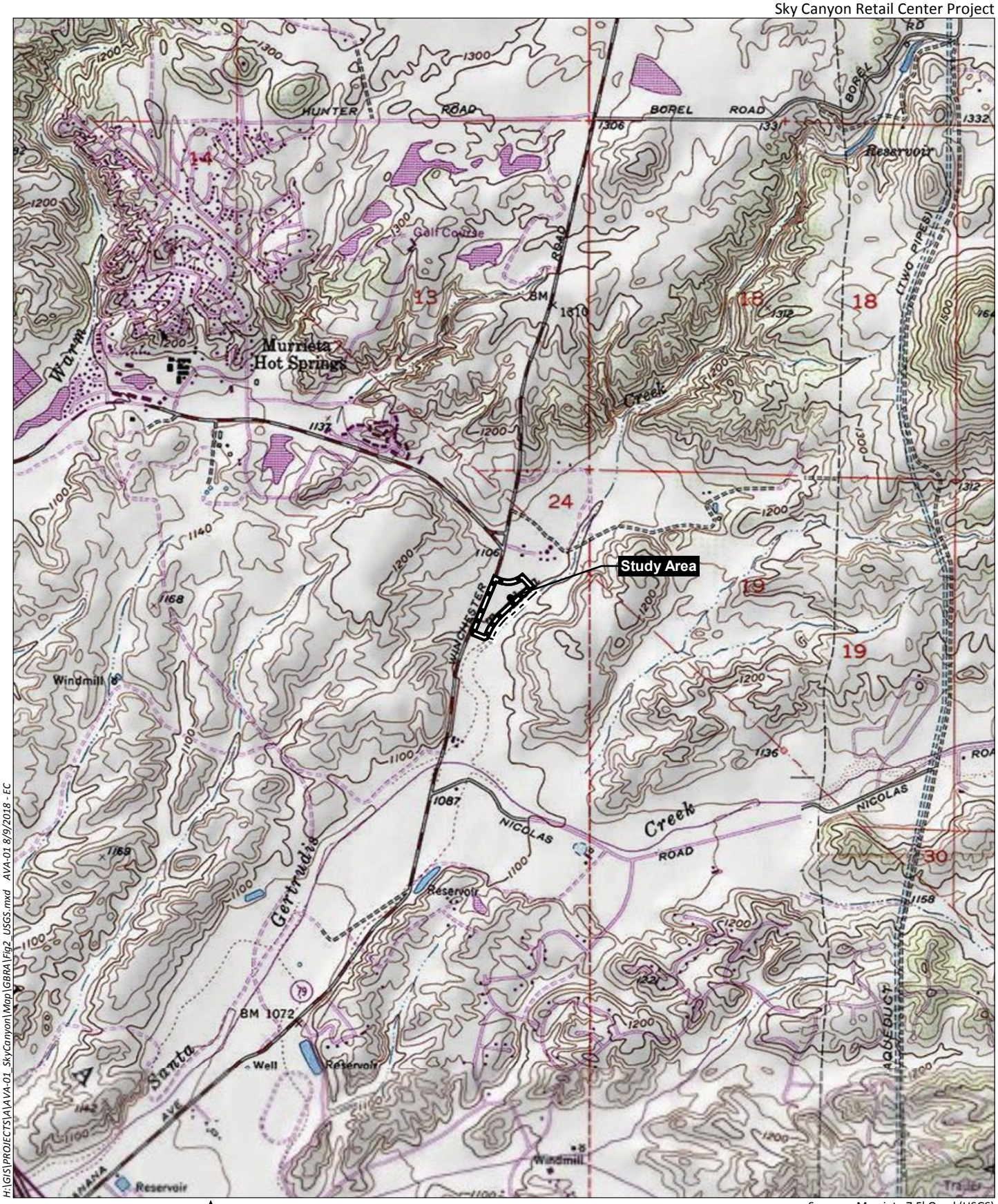
Regional Location

Figure 1



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0 2,000 Feet

Source: Murrieta 7.5' Quad (USGS)

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USGS Topography

Figure 2

Source: Base Map Layers (NAIP, 2016)

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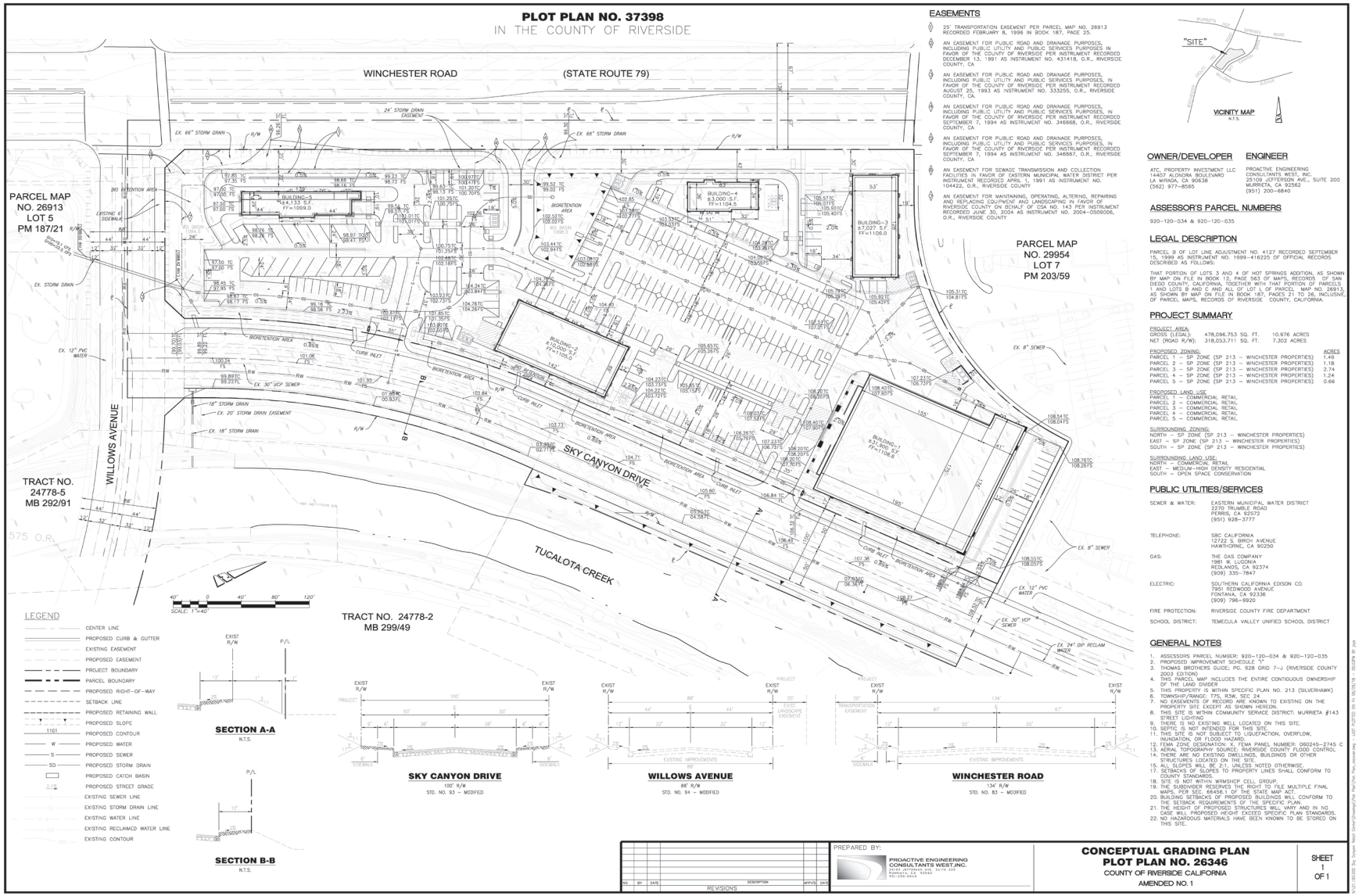
Aerial Photograph

Figure 3



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Source: Proactive Engineering, 2018

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Site Plan

Figure 4

determine the existing jurisdictional limits regulated by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW in addition to MSHCP Riparian/Riverine Areas. A list of plant and animal species observed and/or detected during the field surveys are provided as Appendix A, *Plant Species Observed* and Appendix B, *Animal Species Observed and/or Detected*. Noted animal species were identified by direct observation, vocalizations, or the observance of scat, tracks, or other signs. However, the list of animal species identified is not necessarily a comprehensive account of all species that use the study area, as species that are nocturnal, secretive, or seasonally restricted may not have been observed.

2.3.1 General Biological Survey

A general biological survey of the study area was conducted by HELIX Biologist and Regulatory Specialist Ezekiel Cooley on February 2, 2018, in accordance with vegetation community classification described in Section 2.1.3 of the MSHCP (Dudek 2003) and with additional information from Holland (1986) and Oberbauer (2008). Vegetation was mapped on a 100-foot (1 inch = 100 feet) aerial photograph of the site. Vegetation communities and land uses were mapped by HELIX to one-hundredth of an acre (0.10 acre). The entire site was surveyed on foot with the aid of binoculars. Representative photographs of the site were taken, with select photographs included in this report as Appendix C, *Site Photographs*. Plant and animal species observed or otherwise detected were recorded in field notebooks. Animal identifications were made in the field by direct, visual observation or indirectly by detection of calls, burrows, tracks, or scat. Plant identifications were made in the field or in the lab through comparison with voucher specimens or photographs.

2.3.2 Focused Species Surveys

2.3.2.1 Burrowing Owl

The study area is located within an MSHCP BUOW Survey Area. In accordance with the County's survey protocol, a Step I-Habitat Assessment for BUOW was conducted on the study area and within a 150-meter (approximately 500-foot) buffer zone around the periphery of the study area (survey area; County of Riverside [County] 2006). Mr. Cooley completed the habitat assessment on February 2, 2018, during which potential suitable habitat for BUOW was observed.

After completing the habitat assessment, Step II surveys were conducted within the survey area. Step II surveys, which consist of a focused burrow survey (Part A) and four focused BUOW surveys (Part B), were conducted to determine whether the survey area supports suitable burrows and/or BUOWs. The focused burrow survey was conducted concurrently with the first focused BUOW survey. Since suitable burrows were observed within the survey area, three additional focused BUOW surveys were conducted. The biologist walked transects spaced no greater than 30 meters apart (approximately 100-feet) to allow for 100 percent visual coverage of all suitable habitat within the survey area. The biologist walked slowly and methodically, closely checking suitable habitat for suitable burrows, BUOW diagnostic sign (e.g., molted feathers, pellets/castings, or whitewash at or near a burrow entrance), and individual BUOWs. Inaccessible areas of the survey area were visually assessed using binoculars. The focused burrow survey and four BUOW surveys were conducted by HELIX Biologists Lauren Singleton and Daniel Torres between May 10 and August 9, 2018.

2.3.2.2 Least Bell's Vireo

A focused survey for LBVI was conducted in accordance with current USFWS survey protocol (USFWS 2001). The survey consisted of eight site visits conducted by Ms. Singleton between April 24 and July 12, 2018. The surveys were conducted by walking along the edges of, as well as within, potential LBVI habitat on the study area while listening for individuals and viewing birds with the aid of binoculars. The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by LBVI. The survey area consisted of approximately 0.02 acre of suitable LBVI within the off-site area. In addition, approximately 5.0 acres of adjacent habitat within Tucalota Creek was also surveyed, which consisted of mule fat scrub to the east and southern riparian forest to the south of Willows Avenue.

2.3.3 Jurisdictional Delineation

Prior to beginning fieldwork, aerial photographs (1 inch = 100 feet), topographic maps (1 inch = 100 feet), USGS quadrangle maps, and National Wetlands Inventory maps (USFWS 2018b) were reviewed to assist in determining the location of potential jurisdictional waters on the study area. HELIX Principal Regulatory Specialist Amir Morales conducted the jurisdictional delineation field work on March 23, 2018. The assessment was conducted to identify jurisdictional waters potentially subject to USACE jurisdiction pursuant to Section 404 of the Clean Water Act (CWA), RWQCB jurisdiction pursuant to Section 401 of the CWA, and streambed habitats potentially subject to CDFW jurisdiction pursuant to Sections 1600 *et seq.* of the California Fish and Game Code (CFG Code). Data collection was targeted in areas that were deemed to have the potential to support jurisdictional resources, such as the presence of an ordinary high water mark (OHWM), the presence of a bed/bank and streambed associated vegetation and/or other surface indications of streambed hydrology. Representative photographs were taken of jurisdictional features and are included as Appendix D, *Jurisdictional Feature Photographs*. A summary of the regulatory framework is provided below.

2.3.3.1 U.S. Army Corps of Engineers and Regional Water Quality Control Board Jurisdiction

The USACE waters of the U.S. (WUS) were determined using current USACE guidelines (Environmental Laboratory 1987, USACE 2008a). Areas were determined to be WUS if there was evidence of regular surface flow (e.g., bed and bank). Jurisdictional limits for these areas were measured according to the presence of a discernible OHWM, which is defined in 33 Code of Federal Regulations (CFR) Section 329.11 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." The USACE has issued further guidance on the OHWM (Riley 2005; USACE 2008b), which also was considered in this jurisdictional delineation.

The jurisdictional delineation was conducted in accordance with court decisions (i.e., Rapanos v. United States, Carabell v. United States, and Solid Waste Agency of Northern Cook County v. USACE), as outlined and applied by the USACE (USACE 2007; Grumbles and Woodley 2007); and USACE and U.S. Environmental Protection Agency (EPA; 2007). These publications explain that the EPA and USACE will assert jurisdiction over traditional navigable waters (TNW) and tributaries to TNWs that are a relatively permanent water body (RPW), which has year-round or continuous seasonal flow. For water bodies that are not RPWs, a significant nexus evaluation is used to determine if the non-RPW is jurisdictional. As an

alternative to the significant nexus evaluation process, a preliminary jurisdictional delineation may be submitted to the USACE. The preliminary jurisdictional delineation treats all waters and wetlands on a site as if they are jurisdictional WUS (USACE 2008a). A significant nexus evaluation or preliminary jurisdictional delineation are typically only required for projects that propose impacts to potentially jurisdictional features and, therefore, require a Section 404 permit from the USACE.

The RWQCB asserts regulatory jurisdiction over activities affecting wetland and non-wetland waters of the State pursuant to Section 401 of the CWA and the State Porter-Cologne Water Quality Control Act. Potential RWQCB jurisdiction found within the study area follows the boundaries of potential USACE jurisdiction for WUS. There are no areas supporting isolated waters of the State subject to exclusive RWQCB jurisdiction pursuant to the State Porter-Cologne Water Quality Control Act.

2.3.3.2 California Department of Fish and Wildlife Jurisdiction

The CDFW jurisdictional boundaries were determined based on the presence of riparian vegetation or regular surface flow, if present. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses with surface or subsurface flow that supports riparian vegetation" (Title 14, Section 1.72). This definition for CDFW jurisdictional habitat allows for a wide variety of habitat types to be jurisdictional, including some that do not include wetland species (e.g., oak woodland and alluvial fan sage scrub). Jurisdictional limits for CDFW streambeds were defined by the top of bank. Vegetated CDFW habitats were mapped at the limits of streambed-associated vegetation, if present.

2.3.4 Riparian/Riverine and Vernal Pool Habitat Assessment

In accordance with the MSHCP, a Riparian/Riverine and Vernal Pool habitat assessment was conducted by Mr. Morales on March 23, 2018. This habitat assessment was conducted concurrently with the jurisdictional delineation. The identification of Riparian/Riverine habitats is based on potential for the habitat to support, or be tributary to habitat that support, Riparian/Riverine Covered Species identified in MSHCP Section 6.1.2.

3.0 RESULTS

3.1 ENVIRONMENTAL SETTING

The study area consists of undeveloped land dominated by non-native herbaceous species with some interspersed buckwheat scrub species in the southeastern portion of the study area. Ornamental trees and shrubs were observed in the southwestern corner of the study area. The periphery of the site is highly disturbed and sparsely vegetated. One jurisdictional feature was mapped in the off-site area, which included a small section of a manmade basin located in the southeastern corner. Although the majority of the basin is located outside of the study area, a small portion of the southern willow scrub canopy associated with the basin extends into the off-site area. The project site does not support any jurisdictional features. The topography of the study area is mostly flat, with elevations ranging from approximately 1,099 feet (335 meters) above mean sea level (AMSL) at the southern boundary of the study area to a high of approximately 1,114 feet (340 meters) AMSL along the northern boundary. The study area is bounded by commercial development to the north, Tucalota Creek to the east, Willows

Avenue to the south, and Winchester Road to the west. Undeveloped land is located to the south of Willows Avenue.

Soils on the study area are mapped primarily as Hanford fine sandy loam (0 to 2 percent slopes). The northern portion of the study area is mapped as Hanford coarse sandy loam (2 to 8 percent slopes), Greenfield sandy loam (0 to 2 percent slopes), and Riverwash. The Hanford soil series consists of well-drained soils and is associated with stream bottoms, floodplains, and alluvial fans. The Greenfield series also consists of well-drained soils but is associated with terraces and alluvial fans (NRCS 2017). Riverwash consists of excessively drained soils associated with river and stream bottoms. Although the soils mapped on the study area are typically associated with alluvial features, the majority of the study area has not supported natural habitat since at least the 1930s (Historic Aerials 1938).

3.2 VEGETATION COMMUNITIES

A total of five vegetation communities were mapped on the study area, including southern willow scrub, non-native vegetation, non-native vegetation/buckwheat scrub, ornamental, and disturbed. Table 1, *Vegetation Communities*; Figure 5, *Vegetation*). A brief description of each vegetation community and land uses mapped on the study area is provided below.

Table 1
VEGETATION COMMUNITIES

Vegetation Community	On-Site (acres)[1]	Off-Site (acres)[1]
Disturbed	2.38	0.56
Non-native Vegetation	4.58	1.26
Non-native Vegetation/Buckwheat Scrub	0.19	0.69
Ornamental	0.16	0.00
Southern Willow Scrub[2]	0.00	0.02
TOTAL	**7.31**	**2.53**

[1] Acreage is rounded to the nearest hundredth.

[2] Sensitive habitats pursuant to CDFW's Natural Communities List (2010).

3.2.1 Disturbed

Disturbed habitat includes land cleared of vegetation (e.g., dirt roads) or actively maintained or heavily disturbed areas that are mostly unvegetated, but may support scattered non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance. Disturbed habitat is similar to the non-native vegetation community described above, although disturbed areas generally supports little to no vegetative cover.

Disturbed areas dominated the periphery of the study area, totaling 2.94 acres (2.38 acres on site, 0.56 acre off site). The disturbed areas included disked slopes and dirt roads, which were mostly unvegetated.

3.2.2 Non-native Vegetation

Non-native vegetation is typically associated with land that has been heavily influenced by human activities, including areas adjacent to roads, manufactured slopes, and abandoned lots. Non-native

Study Area
- Proposed Project
- Sky Canyon Drive Extension

Vegetation
- Disturbed Habitat
- Non-native Vegetation
- Non-native Vegetation/Buckwheat Scrub
- Ornamental
- Southern Willow Scrub

Sky Canyon Drive
Winchester Road
Tucalota Creek
Guenther Willows Park
Willows Avenue

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0 100 Feet

Source: Base Map Layers NearMap, 2017)

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Vegetation

Figure 5

vegetation areas are dominated by ornamental and exotic species that take advantage of previously cleared or abandoned landscaping or land showing signs of past or present animal usage that removes any capability of providing viable habitat.

Non-native vegetation dominated the study area, totaling 5.84 acres (4.58 acres on site, 1.26 acres off site). This community mostly comprised non-native Mediterranean grass (*Schismus barbatus*) and short-pod mustard (*Hirschfeldia incana*). Other non-native species observed in this community included London rocket (*Sisymbrium irio*), red brome (*Bromus madritensis* ssp. *rubens*), redstem filaree (*Erodium cicutarium*), Russian thistle (*Salsola tragus*), and tocalote (*Centaurea melitensis*). A few scattered native species were also observed in this, including dove weed (*Croton setigerus*), jimson weed (*Datura wrightii*), miniature lupine (*Lupinus bicolor*), and western sunflower (*Helianthus annuus*).

3.2.3 Non-native Vegetation/Buckwheat Scrub

Non-native vegetation/buckwheat scrub is a community that is mostly disturbed, but also includes a low density of species associated with buckwheat scrub. Buckwheat scrub occupies xeric sites such as steep slopes, severely drained soils, or clays that slowly release stored soil moisture. It is dominated by subshrubs with leaves that are deciduous during drought, an adaptation that allows the habitat to withstand the prolonged drought period in the summer and fall. Composition varies substantially depending on physical circumstances and the successional status of the vegetation community; however, characteristic species include buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), brittlebush (*Encelia farinosa*), and several species of sage (*Salvia* spp.).

A linear swath of non-native vegetation/buckwheat scrub community was observed along the boundary dividing the project site and off-site area, totaling 0.88 acre (0.19 acre on site, 0.69 acre off site). This community was dominated by Mediterranean grass and short-pod mustard, although native species commonly associated with buckwheat scrub were also observed scattered throughout. These species included buckwheat, California sagebrush, and deerweed (*Acmispon glaber*).

3.2.4 Ornamental

Ornamental vegetation is characterized as stands of naturalized trees and shrubs (e.g., acacias [*Acacia* spp.], peppertrees [*Schinus* spp.]), many of which are also used in landscaping. A disturbed/ornamental habitat is mostly unvegetated due to human disturbance, but supports some scattered ornamental vegetation.

Ornamental vegetation was observed in the southwestern portion of the project site near the intersection of Winchester Road and Willows Avenue. Ornamental vegetation totaled 0.16 acre on the project site; no ornamental vegetation was observed within the off-site area. Landscape species observed included Aleppo pine (*Pinus halepensis*), iris (*Iris* sp.), lavender (*Lavandula spica*), ornamental rose (*Rosa* sp.), and white pampas grass (*Cortaderia selloana*).

3.2.5 Southern Willow Scrub

Southern willow scrub consists of dense, broad-leaved, winter-deciduous stands of trees dominated by shrubby willows (*Salix* spp.) in association with mule fat (*Baccharis salicifolia*) and scattered Fremont cottonwoods (*Populus fremontii*) and western sycamores (*Platanus racemosa*). This vegetation community occurs on loose, sandy or fine gravelly alluvium deposited near stream channels during flood

flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest.

A small patch of southern willow scrub was observed in the southeast corner of the off-site area, which totaled 0.02 acre. The southern willow scrub is associated with a small manmade basin located between the study area and Tucalota Creek. The majority of the basin is located outside of the study area, although a small portion of the southern willow scrub canopy extends into the off-site area. The southern willow scrub is dominated by Goodding's black willow (*Salix gooddingii*). Other species included coyote brush (*Baccharis pilularis*), Fremont cottonwood, mule fat, and tamarisk (*Tamarix* sp.). No southern willow scrub was observed on the project site.

3.3 PLANTS

HELIX identified a total of 31 plant species on the study area during surveys to date, of which 17 (55 percent) are non-native species (Appendix A). The predominance of non-native species is indicative of the high degree of disturbance as a result of historical and current use of the site.

3.4 ANIMALS

A total of 41 animal species were detected on the study area during surveys to date, including 3 insect species, 3 reptile species, 33 bird species and 2 mammal species (Appendix B).

3.5 SENSITIVE BIOLOGICAL RESOURCES

3.5.1 Rare Plant Species

Rare plant species are uncommon or limited in that they: (1) are only found in the western Riverside County region; (2) are a local representative of a species or association of species not otherwise found in the region; or (3) are severely depleted within their ranges or within the region. Rare plant species include those species listed by CNPS with a California Rare Plant Rank (CRPR) of 1, 2, or 3 (2018), federally and state listed endangered and threatened species, or those species that require additional surveys by the MSHCP (Dudek 2003). Since the study area does not occur within any MSHCP rare plant survey overlays, no focused surveys were warranted. The MSHCP survey requirements for rare plant species is discussed in Section 3.6, below.

A total of 23 rare plant species were recorded within the Murrieta quadrangle based on a database search conducted on CNDDB and CNPS (CDFW 2018, CNPS 2018). These species are included in Appendix E, *Rare Plant Species Potential to Occur.* Of the 23 rare plant species recorded within the vicinity of the study area, 22 species were considered to have no potential to occur based on geographic range, elevation range, and/or lack of suitable habitat on the study area. One species (San Diego ambrosia [*Ambrosia pumila*]) was determined to have a low potential to occur on the study area based on mapped sandy soils and this species affinity for disturbance. This species is conditionally covered under the MSHCP and is a federally endangered species.

3.5.2 Sensitive Animal Species

Sensitive animal species include federally and state listed endangered and threatened, candidate species for listing by USFWS or CDFW, and/or are species of special concern (SSC) pursuant to CDFW. Additional MSHCP survey requirements for BUOW are discussed in Section 3.6.4, below.

A total of 25 sensitive animal species were recorded within the Murrieta quadrangle based on a database search conducted on CNDDB (CDFW 2018). These species are included in Appendix F, *Sensitive Animal Species Potential to Occur.* Of the 24 sensitive animal species recorded within the vicinity of the study area, 10 species were considered to have no potential to occur on the study area due to lack of suitable habitat and two species (golden eagle [*Aquila chrysaetos*] and Swainson's hawk [*Buteo swainsoni*]) are not expected to occur due to lack of suitable habitat for residence and/or breeding, but may disperse through or across the study area.

Seven species were determined to have a low potential to occur on the study area based on the presence of low quality habitat, limited acreage of habitat, and lack of recent observations within the immediate vicinity of the study area. These species include California glossy snake (*Arizona elegans occidentalis*), coast horned lizard (*Phrynosoma blainvillii*), Dulzura pocket mouse (*Chaetodipus californicus femoralis*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), red diamond rattlesnake (*Crotalus ruber*), western mastiff bat (*Eumops perotis californicus;* foraging only), and white-tailed kite (*Elanus leucurus*). Two species were determined to have a moderate potential to occur on the study area based on the presence of some habitat (although disturbed) and/or small extent of habitat. These species include Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) and Stephens' kangaroo rat. Two species (coastal California gnatcatcher [*Polioptila californica californica*] and San Diego black-tailed jackrabbit [*Lepus californicus bennettii*]) were determined to have a high potential to occur on the study area. One adult and two juvenile coastal California gnatcatchers were observed approximately 50 feet to the southeast of the off-site area on the slopes of Tucalota Creek. Two species (BUOW and LBVI) are currently presumed absent from the study area based on negative focused survey results, although LBVI was detected within the vicinity of the study area. The current status of BUOW and LBVI on the study area is discussed in further detail below. An evaluation of each sensitive animal species' potential to occur on the study area is provided in Appendix F.

A focused survey for BUOW was conducted in accordance with the County's survey protocol, as previously described in Section 2.3.2.1 above (2006). No BUOWs or BUOW sign were observed within the survey area. Therefore, the study area does not currently support BUOWs. The survey methods and results are discussed in detail in a separate letter report, which is provided as Appendix G, *Burrowing Owl Focused Survey Report*.

A focused survey for LBVI was conducted in accordance with USFWS's survey protocol, as previously described in Section 2.3.2.2 above (USFWS 2001). The study area supports a very small area of suitable habitat (0.02 acre), which lacks a dense understory usually preferred by nesting LBVI. No LBVIs were observed within suitable habitat on the study area and, therefore, this species is currently presumed absent from the study area. Habitat observed directly adjacent to the study area within Tucalota Creek comprises a sandy wash with monotypic mule fat scrub along the banks of creek. Higher quality southern riparian forest was observed within Tucalota Creek to the south of the study area and Willows Avenue, which comprises dense canopies of Fremont cottonwood and willows and a dense understory of mule fat, smaller willows, and herbaceous species. Two LBVI pairs were observed off-site during the focused survey within the southern riparian forest associated with Tucalota Creek, approximately

175 feet and 400 feet to the south of the study area. The survey methods and results are discussed in detail in a separate letter report, which is provided as Appendix H, *Least Bell's Vireo Focused Survey Report*.

3.5.3 Sensitive Vegetation Communities/Habitats

Sensitive vegetation communities/habitats are considered either rare within the region or sensitive by CDFW (CDFW 2010, Holland 1986). Communities are given a Global (G) and State (S) ranking on a scale of 1 to 5. Communities afforded a rank of 5 are most common while communities with a rank of 1 are considered highly periled. CDFW considers sensitive communities as those with a rank between S1 and S3.

The off-site area supports one sensitive plant community. Southern willow scrub is considered a sensitive habitat pursuant to CDFW. A total of 0.02 acre of southern willow scrub was mapped in the off-site area.

3.5.4 Habitat and Wildlife Corridor Evaluation

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Corridors can be local or regional in scale; their functions may vary temporally and spatially based on conditions and species presence. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of their daily routine. Animals use these corridors, which are often hillsides or tributary drainages, to move between different habitats. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations.

The study area is not located within any MSHCP Linkages, which are areas within the Plan Area that are identified as having the potential to facilitate wildlife movement. The nearest linkage to the study area is Constrained Linkage A, which is approximately 1.15 miles to the northeast of the study area and consists of lands within the Skunk Hollow conservation easement (Dudek 2003). The study area is not located within any linkages recognized by the South Coast Missing Linkages report. The nearest linkage described by the South Coast Missing Linkages report is the Palomar–San Jacinto–Santa Rosa Connection located approximately 8.25 miles to the southeast of the study area (South Coast Wildlands 2008).

The study area does not directly connect to large blocks of habitat. The study area is bounded by Winchester Road to the west, a shopping center to the north, and Willows Avenue to the south. The study area does not support any communities dominated by native vegetation, although a small area of non-native vegetation/buckwheat scrub was observed along the boundary of the project site and off-site area. The study area supports only a few ornamental trees near the corner of Winchester Road and Willows Avenue and canopy of a few native riparian trees associated with the created basin in the southeast corner of the off-site area. Since the study area does not connect two or more large habitat areas, the study area is not considered a wildlife corridor.

Wildlife movement likely occurs within Tucalota Creek to the eastern study area boundary. Tucalota Creek crosses through Proposed Core 2, approximately adjacent 0.15 mile to the northeast of the study area. Proposed Core 2 comprises Antelope Valley and key habitat for Quino checkerspot butterfly. Tucalota Creek connects to Santa Gertrudis Creek approximately 0.35 mile to the southwest of the study area. Santa Gertrudis Creek ultimately connects to Murrieta Creek approximately 2.70 miles to the

southwest of the study area, which provides habitat for a number of Planning Species and identified by the MSHCP as Proposed Constrained Linkage 13. Tucalota Creek likely provides habitat for wildlife moving from proposed Core 2 in the north to Santa Gertrudis Creek and Murrieta Creek in the south. However, wildlife movement maybe be hindered by low quality habitat within the downstream portion of Santa Gertrudis Creek, near its connection with Murrieta Creek. This portion of Santa Gertrudis Creek is confined by existing development, is concrete-lined, and lacks vegetation that would provide cover for wildlife moving through the area.

As previously described, the study area is disturbed from historical and surrounding human activities and supports minimal vegetative cover dominated by non-native species. Therefore, the study area provides minimal resources for wildlife moving through area. Although the study area does not function as a wildlife corridor, it does support some shrubs, herbaceous ground cover, and trees that may provide limited opportunities for local wildlife movement or wildlife moving through Tucalota Creek. Smaller mammals and reptiles that are adapted to human disturbance (e.g., California ground squirrel [*Otospermophilus beecheyi*], cottontail rabbits [*Sylvilagus* sp.], western fence lizard [*Sceloporus occidentalis*]) may use the study area for foraging and/or cover, while bird species may fly over existing development to access the study area for foraging and/or nesting. Some wildlife may use the study area for cover and/or foraging while moving through Tucalota Creek. Therefore, the study area may support some low-quality habitat for wildlife, but the study area does not function as wildlife corridor since it does not connect two or more large blocks of habitat.

3.5.5 Jurisdictional Waters

Based on the results of the jurisdictional delineation, one jurisdictional feature was observed within the study area. A manmade basin was observed adjacent to the eastern boundary of the off-site area. The majority of the basin is located outside of the study area boundary. However, a small portion of the southern willow scrub canopy associated with the basin extends into the southeastern corner of the off-site area (Figure 6, *Jurisdictional Features*). Therefore, the off-site area supports approximately 0.02 acre of non-wetland CDFW jurisdiction. Streambed field indicators, such as an OHWM or defined bed and bank, were not present within the off-site area. Therefore, the off-site area does not support USACE/RWQCB jurisdiction. Representative photographs of the basin are included as Appendix D.

The basin is not associated with any historic natural drainages and is located outside of the banks of Tucalota Creek. However, the basin is hydrologically connected to Tucalota Creek to the east only by way of an existing riser pipe that discharges to Tucalota Creek just upstream of the Willows Avenue bridge crossing. The basin appears to have been created between 1999 and 2002 when the study area and open land to the north were originally graded (Google Earth 2018b). Although never completed, a rough grade of the alignment for the Sky Canyon Drive ROW was also created. The basin was placed between the Sky Canyon Drive ROW and Tucalota Creek. The basin is dominated by southern willow scrub and a small portion of the tree canopies extend into the off-site area, including Goodding's black willow, mule fat, tamarisk, and Fremont cottonwood.

As discussed above, the off-site area supports a total of 0.02 acre of CDFW jurisdiction. No USACE/RWQCB jurisdictional WUS were observed within the study area.

3.6 WESTERN RIVERSIDE COUNTY MSHCP CONSISTENCY ANALYSIS

3.6.1 Project Location within the MSHCP

The MSHCP Plan Area is divided into 16 Area Plans, within which 153,000 acres were identified as potential areas for conservation that would contribute to the overall existing MSHCP Conservation Area. The areas identified for conservation within the MSHCP Plan Area are called Criteria Areas and include Core Areas that support habitat for covered species and Linkages that provide a connection between Core Areas. The Criteria Areas are divided into 160-acre cells, which each have their own conservation goal. All projects within a cell or cell group are required to be accessed through the Habitat Acquisition and Negotiation Strategy (HANS) process to determine the amount of MSHCP conservation required. The HANS process aides in the acquisition of lands that will contribute to the assembly of the MSHCP Reserve.

As described in Section 2.1.2 of the MSHCP, the study area is located in the Riverside Lowlands bioregion, an area lying generally below 2,000 AMSL and characterized by Riversidean sage scrub and annual grasslands. The relatively arid climate is partly the result of rain shadow cast by the Santa Ana Mountains. A high level of disturbance and urbanization are noted within this bioregion (Dudek 2003).

The study area is located within the Southwest Area Plan and is not located within or adjacent to an MSHCP Criteria Area; therefore, the study area is not subject to special conservation requirements that apply to cells and is not required to undergo the HANS process. The nearest criteria cells to the study area are Cell 6180, which located approximately 0.75 mile to the northeast, and Cell 6182, which is located approximately 0.79 mile to the northwest (Figure 7, *MSHCP Criteria Cell*). The study area is not located within or directly adjacent to any MSHCP Conservation Areas. The study area is located approximately 0.15 mile to the southwest of Proposed Core 2 and 1.15 miles to the southwest of Constrained Linkage A. Existing development separates the majority of the study area from MSHCP Conservation Areas, with the exception of Tucalota Creek. The eastern boundary of the off-site area is bounded by Tucalota Creek, which connects to Proposed Core 2 approximately 0.15 mile upstream.

3.6.2 Riparian/Riverine and Vernal Pool Habitat Assessment (MSHCP Section 1.2)

The identification of MSHCP Riparian/Riverine resources is based on the potential for the habitat to support, or be a tributary to habitat that supports, Riparian/Riverine Covered Species. Riparian/Riverine Covered Species are identified in MSHCP Section 6.1.2. The MSHCP defines Riparian/Riverine habitat as "lands which contain Habitat dominated by trees, shrubs, or emergent mosses and 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" (Dudek 2003). The MSHCP 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" (Dudek 2003). Artificially created features, except for those created intentionally to provide wetland habitat or resulting from the creation of open waters or alteration of natural stream courses, are not considered MSHCP Riparian/Riverine Areas or Vernal Pools.

In accordance with the MSHCP, a Riparian/Riverine habitat assessment was conducted by Mr. Morales on March 23, 2018. The Riparian/Riverine and Vernal Pool habitat assessment was conducted

Study Area
- Proposed Project
- Sky Canyon Drive Extension
- CDFW Jurisdiction and MSHCP Riparian/Riverine

Sky Canyon Drive
Winchester Road
Tucalota Creek
Guenther Willows Park
Willows Avenue

H:\GIS\PROJECTS\A\AVA-01_SkyCanyon\Map\GBRA\Fig6_JD.mxd AVA-01 8/15/2018 -EC

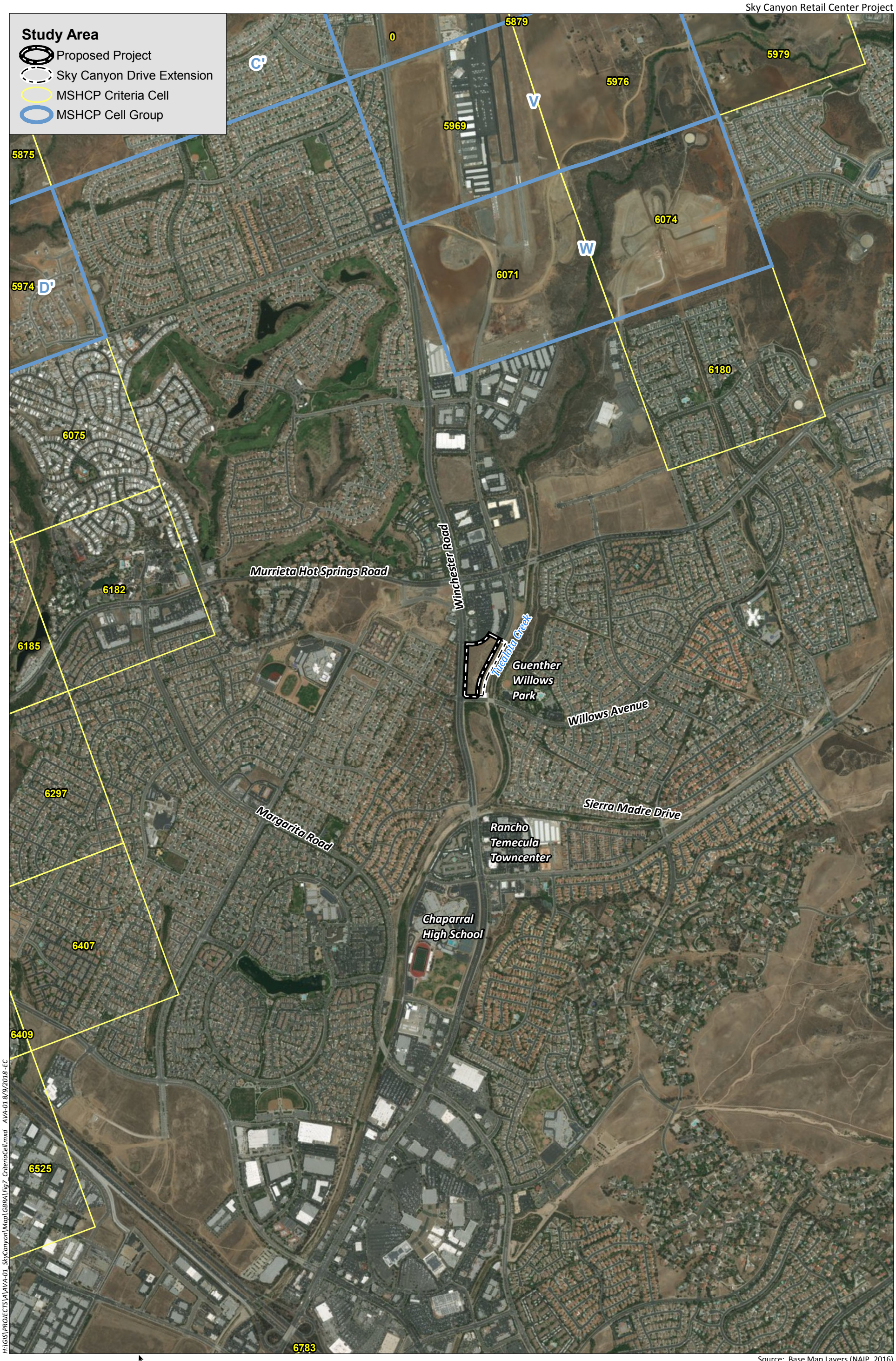
0 100 Feet

Source: Base Map Layers (NearMap, 2017)

HELIX Environmental Planning

Jurisdictional Features

Figure 6



H:\GIS\PROJECTS\A\AVA-01 SkyCanyon\Map\GBRA\Fig7_CriteriaCell.mxd AVA-01 8/9/2018 -EC

0 1,500 Feet

Source: Base Map Layers (NAIP, 2016)

HELIX Environmental Planning

MSHCP Criteria Cells

Figure 7

concurrently with the jurisdictional delineation. An MSHCP Riparian/Riverine Area was identified within the study area, which is consistent with limits of CDFW jurisdictional vegetation. The study area supports a total of 0.02 acre of Riparian/Riverine Area, which is associated with a manmade basin. The majority of the manmade basin is located outside of the study area, with the exception of southern willow scrub canopy that extends into the off-site area. The MSHCP Riparian Habitat is shown on Figure 6. The study area does not support any areas considered MSHCP Vernal Pool Habitat.

It should be noted that a small depressional area was observed in the northeastern portion of the County ROW. The depressional area was artificially created when the rough grade of Sky Canyon Drive was completed. Shallow mud cracks were observed within the depressional area, indicating that some water ponds during the rainy season. However, the cracks were not well-defined suggesting that the area holds water only for a short duration. Soils within the depression are sandy loam consistent with the rest of the study area. No clay dominated soils were observed on the study area. On March 10 and 15, 2018, the Murrieta/Temecula area received 0.37 inch and 0.20 inch of rainfall, respectively (The Weather Company 2018). No water was observed within the depressional area during the jurisdictional delineation conducted by Mr. Morales on March 23, 2018, or during the site visit conducted by Mr. Cooley on February 2, 2018. Based on the definition of Riparian/Riverine and Vernal Pools, the MSHCP excludes features that are artificially created. Therefore, this area is not considered an MSHCP Riparian/Riverine Area.

3.6.2.1 Riparian/Riverine and Vernal Pool Species

Through the protection of Riparian/Riverine and Vernal Pool habitats, the MSHCP aims to conserve several plant and animal species within the Plan Area. During the Riparian/Riverine habitat assessment discussed above, each plant and animal species listed in Section 6.1.2 of the MSHCP was evaluated to determine the potential to occur on the study area. Riparian/Riverine and Vernal Pool species are discussed in detail below.

Plant Species

The MSHCP lists 23 rare plant species that have a potential to occur in Riparian/Riverine and/or Vernal Pool habitats within the MSHCP Plan Area, which are listed below in Table 2, *MSHCP Riparian/Riverine and Vernal Pool Plant Species*.

No MSHCP Riparian/Riverine or Vernal Pool plant species are expected to occur on the study area based on the absence of drainage features and vernal pools. Although a small portion of a manmade basin was observed in the southeast corner of the off-site area, the majority of the basin occurs outside of the study area and only a small portion of southern willow scrub canopy extends into the study area. Therefore, the study area does not support suitable soil or hydrology for MSHCP Riparian/Riverine or Vernal Pool Plant Species. These species are not expected to occur on the study area based on geographic range, elevation range, and/or lack of suitable habitat. No Riparian/Riverine or Vernal Pool plant species were incidentally observed during any of the field surveys. A list of plant species observed during the field surveys are provided as Appendix A.

Table 2
MULTIPLE SPECIES HABITAT CONSERVATION PLAN (MSHCP)
RIPARIAN/RIVERINE AND VERNAL POOL PLANT SPECIES

Common Name	Scientific Name	Habitat
Brand's phacelia	*Phacelia stellaris*	Sandy washes and/or benches in alluvial flood plains.
California black walnut	*Juglans californica* var. *californica*	Open savannahs, creek beds, alluvial terraces, and north-facing slopes.
California Orcutt grass	*Orcuttia californica*	Vernal pools.
Coulter's matilija poppy	*Romneya coulteri*	Dry washes and canyons in chaparral and coastal sage scrub communities and disturbed areas.
Engelmann oak	*Quercus engelmannii*	Woodlands, mixed chaparral, and savannah grasslands.
Fish's milkwort	*Polygala cornuta* var. *fishiae*	Shaded, rocky places in canyons associated with woodlands and chaparral.
graceful tarplant	*Holocarpha virgata* ssp. *elongata*	Coastal mesas and foothills with grassland habitats.
lemon lily	*Lilium parryi*	Moist montane meadows.
Mojave tarplant	*Deinandra mohavensis*	Drainages within arid montane chaparral.
mud nama	*Nama stenocarpum*	Marshes, swamps, lake margins, and riverbanks along muddy embankments.
ocellated Humboldt lily	*Lilium humboldtii* ssp. *ocellatum*	Shaded montane canyons.
Orcutt's brodiaea	*Brodiaea orcuttii*	Vernally moist grasslands and vernal pools; occasionally occurs along stream embankments within clay soils.
Parish's meadowfoam	*Limnanthes gracilis* var. *parishii*	Montane meadows with abundant annual and herbaceous perennials and lack of shrubs.
prostrate navarretia	*Navarretia prostrata*	Coastal sage scrub, valley and foothill grassland, and vernal pools.
San Diego button-celery	*Eryngium aristulatum* var. *parishii*	Vernal pools.
San Jacinto Valley crownscale	*Atriplex coronata* var. *notatior*	Highly alkaline and silty-clay soils associated with alkali sink scrub, alkali playa, vernal pool, and annual alkali grassland habitats.
San Miguel savory	*Clinopodium chandleri*	Coastal sage scrub, chaparral, cismontane woodland, riparian woodland, and valley and foothill grasslands.
Santa Ana River woolly-star	*Eriastrum densifolium* spp. *sanctorum*	Sandy soils on flood plains and terraces within coastal scrub and chaparral communities.

Table 2 (cont.)
MULTIPLE SPECIES HABITAT CONSERVATION PLAN (MSHCP)
RIPARIAN/RIVERINE AND VERNAL POOL PLANT SPECIES

Common Name	Scientific Name	Habitat
slender-horned spineflower	*Dodecahema leptoceras*	Sandy soil associated with alluvial scrub; is often found on stream terraces and banks.
smooth tarplant	*Centromadia pungens* ssp. *laevis*	Alkali scrubs, playas, and grasslands; riparian woodland and streams.
spreading navarretia	*Navarretia fossalis*	Vernal pools, depressions, and ditches.
thread-leaved brodiaea	*Brodiaea filifolia*	Clay soils in vernally moist grasslands and vernal pool periphery are typical locales.
vernal barley	*Hordeum intercedens*	Saline flats and depressions in grasslands or vernal pools.

Source: Dudek (2003).

Animal Species

The MSHCP lists 12 sensitive animal species that have a potential to occur in Riparian/Riverine and/or Vernal Pool habitats within the MSHCP Plan Area, which are provided in Table 3, *MSHCP Riparian/Riverine and Vernal Pool Animal Species*. The MSHCP requires focused surveys to be conducted for projects that propose impacts to three invertebrate and three bird species, as described in detail below. The study area supports suitable habitat for one of the sensitive bird species (LBVI) listed in Table 3, below.

Invertebrates

There are three sensitive fairy shrimp species that occur in the MSHCP Plan Area, including Riverside fairy shrimp (*Streptocephalus woottoni*), Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*), and vernal pool fairy shrimp (*Branchinecta lynchi*). Vernal pool fairy shrimp occurs throughout the Central Valley and in several disjunct populations in Riverside County. This species exists in vernal pools and other ephemeral basins often located in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral. Riverside fairy shrimp occurs in Riverside, Orange, and San Diego Counties as well as in northern Baja California, Mexico. This species is typically found in deeper vernal pools and other ephemeral basins that hold water for long periods of time (30 or more days). Santa Rosa Plateau fairy shrimp is limited to the Santa Rosa Plateau in Riverside County.

The MSHCP requires focused surveys to be conducted for projects that propose impacts to suitable habitat for the three sensitive fairy shrimp species discussed above. Vernal pools are defined 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" (Dudek 2003). Although fairy shrimp generally occur in vernal pools, they can also occur in artificial depressions that have a similar wet-dry regime as vernal pools. These depressions must have a non-permeable layer that prevents water from percolating down into the subsoils. The non-permeable soil

layer generally comprises fine silt and/or clay soil particles that poorly drain water. Rather than percolating through the subsoils, water leaves the depressions through evaporation. Due to prolonged submersion, vernal pools and similar artificial depressional areas will develop anaerobic conditions due to lack of oxygen.

No vernal pool indicators or other wetland features that could support fairy shrimp species were observed during the Riparian/Riverine and Vernal Pool habitat assessment. As described in Section 3.6.2 above, a small artificially created depressional area was observed in the northeastern portion of the County ROW. This area is not expected to provide suitable habitat fairy shrimp species since the area is shallow and does not pond long enough to support suitable habitat for fairy shrimp. No evidence of hydric soils, vernal pool/wetland vegetation, or vernal pool/wetland hydrology were observed during the habitat assessment. The soils do not consist of clay or silt and are dominated by sandy loam, which is consistent with the rest of the study area. Shallow mud cracks were observed within the depressional area, indicating some water may pond during the rainy season. However, the cracks were not well-defined suggesting that the area holds water only for a short duration due to the sandy loam soils, which percolate relatively quickly. On March 10 and 15, 2018, the Murrieta/Temecula area received 0.37 inch and 0.20 inch of rainfall, respectively (The Weather Company 2018). No water was observed within the depressional area during the jurisdictional delineation conducted by Mr. Morales on March 23, 2018, or during the site visit conducted by Mr. Cooley on February 2, 2018. Since no signs of hydric soils, vernal pool/wetland vegetation, or vernal pool/wetland hydrology were observed during habitat assessment, suitable fairy shrimp habitat is presumed absent from the study area and no focused surveys were required.

Birds

Riparian/Riverine Areas within the MSHCP Plan Area provide suitable habitat for sensitive bird species, such as LBVI, southwestern willow flycatcher (*Empidonax traillii extimus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), bald eagle (*Haliaeetus leucocephalus*), and peregrine falcon (*Falco peregrinus*). Typical habitat for LBVI consists of well-developed riparian scrub, woodland, or forest dominated by willows, mule fat, and Fremont cottonwood. LBVI will also use small patches of trees adjacent to dense, riparian habitat. Southwestern willow flycatcher and western yellow-billed cuckoo require mature riparian forest with a stratified canopy and nearby water. Both the bald eagle and peregrine falcon occur primarily in and adjacent to open water habitats, with peregrine falcon occurring in riparian areas.

The MSHCP requires focused surveys to be conducted for projects that propose impacts to suitable habitat for LBVI, southwestern willow flycatcher, and western yellow-billed cuckoo. The study area supports a very small area of suitable habitat (0.02 acre) for LBVI; therefore, a focused survey was required. A focused survey for LBVI was conducted in accordance with USFWS's survey protocol, as described in Section 2.3.2.2 of this report. No LBVIs were observed within suitable habitat on the study area. However, LBVI pairs were observed outside of the study area within Tucalota Creek, approximately 175 feet and 400 feet to the south of the study area. The survey methods and results are discussed in detail in a separate letter report, which is provided as Appendix H.

Table 3
MSHCP RIPARIAN/RIVERINE AND VERNAL POOL ANIMAL SPECIES

Common Name	Scientific Name	Habitat
Riverside fairy shrimp	*Streptocephalus woottoni*	Deep vernal pools and other ephemeral basins that hold water for typically 30 or more days.
Santa Rosa Plateau fairy shrimp	*Linderiella santarosae*	Limited to vernal pools within the Santa Rosa Plateau.
vernal pool fairy shrimp	*Branchinecta lynchi*	Vernal pools and other ephemeral basins within patches of grassland and agriculture interspersed in coastal sage scrub and chaparral.
arroyo toad	*Anaxyrus californicus*	Washes and intermittent streams with open-canopy riparian forest.
California red-legged frog	*Rana aurora draytonii*	Perennial streams with dense, shrubby riparian vegetation.
mountain yellow-legged frog	*Rana muscosa*	Perennial waterways, often within open riparian vegetation.
Santa Ana sucker	*Catostomus santaanae*	Clear, cool perennial streams with loose sand, gravel, cobble, and boulders with algae, aquatic emergent vegetation, macroinvertebrates, and riparian vegetation.
bald eagle	*Haliaeetus leucocephalus*	Within close proximity to lakes or other water bodies.
least Bell's vireo	*Vireo bellii pusillus*	Well-developed riparian scrub, woodland, or forest.
peregrine falcon	*Falco peregrinus*	Generally, areas with cliffs or tall buildings near water where prey (shorebirds and ducks) is concentrated.
southwestern willow flycatcher	*Empidonax traillii extimus*	Breeds within thickets of willows or other riparian understory usually along streams, ponds, lakes, or canyons.
western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	Extensive stands of mature riparian woodland.

Source: Dudek (2003).

3.6.3 Narrow Endemic Plant Species Survey Area (MSHCP Section 6.1.3)

The MSHCP requires focused plant surveys to be conducted for projects located within a Narrow Endemic Plant Species Survey Area (NEPSSA). There are 14 narrow endemic plant species that are associated with 10 different NEPSSAs located throughout the MSHCP Plan Area (see Table 6-1 in the MSHCP). Prior to conducting focused surveys, a habitat assessment should be conducted to determine whether the study area supports suitable habitat for plant species listed for the NEPSSA species. Focused surveys for species listed for the NEPSSA should be conducted if suitable habitat is present. If focused surveys are positive, 90 percent of the property that supports habitat suitable for long-term conservation of the species must be avoided until conservation goals for the species are satisfied.

Although San Diego ambrosia is a NEPSSA species and has a low potential to occur on the study area, the study area is not within a NEPSSA. Therefore, focused NEPSSA surveys were not required.

3.6.4 Additional Survey Needs and Procedures (MSHCP Section 6.3.2)

The MSHCP requires additional surveys for projects that support suitable habitat for certain conditionally-covered species. The survey results provide species-specific information in order for the MSHCP to satisfy the Federal Endangered Species Act (FESA) issuance criteria. If focused surveys are positive for conditionally-covered species, 90 percent of the property that supports habitat suitable for long-term conservation of the species must be avoided until conservation goals for the species are satisfied. Additional survey requirements are discussed in detail below.

3.6.4.1 Criteria Area Species

Focused surveys for rare plant species must be conducted for projects located within a Criteria Area Species Survey Area (CASSA). There is a total of 13 criteria area species, which are associated with eight CASSAs located throughout the MSHCP Plan Area (see Table 6-1 in the MSHCP). Prior to conducting focused surveys, a habitat assessment should be conducted to determine whether the study area supports suitable habitat for plant species listed for the CASSA. If suitable habitat is present, focused surveys for species listed for the CASSA should be conducted.

The study area is not within a CASSA; therefore, focused CASSA surveys were not required.

3.6.4.2 Amphibian Species

Focused surveys for arroyo toad (*Bufo californicus*), California red-legged frog (*Rana draytonii*), and mountain yellow-legged frog (*Rana muscosa*) must be conducted for projects located within an Amphibian Species Survey Area.

The study area is not within the Amphibian Species Survey Area; therefore, focused surveys were not required.

3.6.4.3 Bird Species

A focused survey for BUOW must be conducted for projects located within a BUOW Survey Area.

The study area is located within the BUOW Survey Area. Therefore, a BUOW focused survey was conducted in accordance with the County's protocol, as described above in Section 2.3.2.1 of this report. No BUOWs or BUOW sign were observed during the focused survey. Therefore, the study area does not currently support BUOW. The results of the focused BUOW survey are described in detail in a separate letter report, which is included as Appendix G.

3.6.4.4 Mammal Species

Focused surveys for Aguanga kangaroo rat (*Dipodomys merriami collinus*), San Bernardino kangaroo rat (*Dipodomys merriami parvus*), and Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) must be conducted for projects located within a Mammal Species Survey Area.

The study area is not within the Mammal Species Survey Area; therefore, focused surveys were not required.

4.0 REGIONAL AND REGULATORY CONTEXT

Biological resources located within the study area are subject to regulatory review by federal, state, and local agencies. Biological resources-related laws and regulations that apply to the project include the FESA, Migratory Bird Treaty Act (MBTA), CWA, California Endangered Species Act (CESA), and CFG Code.

4.1 FEDERAL REGULATIONS

4.1.1 Federal Endangered Species Act

Administered by the USFWS, the FESA provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a "take" under the ESA. Section 9(a) of the ESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

Sections 4(d), 7, and 10(a) of the FESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. A biological assessment is required for any major construction activity if it may affect listed species. In this case, take can be authorized via a letter of biological opinion issued by the USFWS for non-marine related listed species issues. A Section 7 consultation is required when there is a nexus between federally listed species' use of the site and impacts to USACE jurisdictional areas. Section 10(a) allows issuance of permits for "incidental" take of endangered or threatened species. The term "incidental" applies if the taking of a listed species is incidental to and not the purpose of an otherwise lawful activity. The MSHCP is the Section 10(a) permit for western Riverside County, including the study area.

4.1.2 Federal Clean Water Act, Section 404

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the CWA. The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all WUS. Permitting for projects filling WUS, including wetlands and vernal pools, is overseen by USACE under Section 404 of the CWA. Projects may be permitted on an individual basis or may be covered under one of several approved Nationwide Permits. Individual Permits are assessed individually based on the type of action, amount of fill, etc. Individual Permits typically require substantial time (often longer than six months) to review and approve, while Nationwide Permits are pre-approved if a project meets the appropriate conditions. A CWA Section 401 Water Quality Certification, which is administered by the State Water Resources Control Board, must be issued prior to any 404 Permit.

4.1.3 Migratory Bird Treaty Act

All migratory bird species that are native to the United States or its territories are protected under the Federal MBTA, as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is used to place restrictions on disturbance of active bird nests during the nesting season, which is generally defined as January 15 to August 31. In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

4.1.4 Critical Habitat

As described by the FESA, critical habitat is the geographic area occupied by a threatened or endangered species essential to species conservation that may require special management considerations or protection. Critical habitat also may include specific areas not occupied by the species but that have been determined to be essential for species conservation.

Critical habitat does not occur on the study area. The nearest critical habitats to the study area include San Diego ambrosia (*Ambrosia pumila*) critical habitat, which is approximately 1.15 miles to the east of the study area (USFWS 2018a).

4.2 STATE REGULATIONS

4.2.1 California Environmental Quality Act

Primary environmental legislation in California is found in CEQA and its implementing guidelines (State CEQA Guidelines), which require that projects with potential adverse effects (i.e., impacts) on the environment undergo environmental review. Adverse environmental impacts are typically mitigated as a result of the environmental review process in accordance with existing laws and regulations.

4.2.2 California Endangered Species Act

The CESA is similar to the FESA in that it contains a process for listing of species and regulating potential impacts to listed species. Section 2081 of the California ESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes. The MSHCP is the regional 2081 for this portion of the County, which includes the study area. The golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*) are considered state fully protected species. Fully protected species may not be taken or possessed at any time, and no state licenses or permits may be issued for their take except for collecting the species necessary for scientific research and relocation of the bird species for the protection of livestock (Fish and Game Code Sections 3511, 4700, 5050, and 5515).

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates the collection, transport, and commerce of plants that are listed. The California ESA followed the NPPA and covers both plants and animals that are determined to be endangered or threatened with extinction. Plants listed as rare under NPPA were designated threatened under the California ESA.

4.2.3 Protection of Raptor Species

Raptors (birds of prey) and owls and their active nests are protected by California Fish and Game Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW.

4.2.4 California Fish and Game Code, Section 1602

The California Fish and Game Code (Section 1600 et seq.) requires an agreement with the CDFW for projects affecting riparian and wetland habitats through the issuance of a Streambed Alteration Agreement.

4.3 LOCAL REGULATIONS

4.3.1 Multiple Species Habitat Conservation Plan Consistency

The MSHCP is a comprehensive multi-jurisdictional effort that includes Riverside County and multiple cities in western Riverside County. Rather than addressing sensitive species on an individual basis, the MSHCP focuses on the conservation of 146 species, proposing a reserve system of approximately 500,000 acres and a mechanism to fund and implement the reserve system (Dudek 2003). Most importantly, the MSHCP allows participating entities to issue take permits for listed species so that individual applicants need not seek their own permits from the USFWS and/or CDFW. The MSHCP was adopted on June 17, 2003, by the Riverside County Board of Supervisors. The Incidental Take Permit was issued by both the USFWS and CDFW on June 22, 2004. Section 3.6 above and Section 5.6 below demonstrate the project's consistency with the MSHCP.

4.3.2 Stephens' Kangaroo Rat Habitat Conservation Plan

The Habitat Conservation Plan (HCP) for Stephens' kangaroo rat describes the conservation, mitigation, and monitoring measures that are implemented within core reserves. Within the HCP, there are seven core reserves totaling 41,221 acres for conservation of Stephens' kangaroo rat and associated habitat. The HCP provides a 30-year incidental take authorization for Stephens' kangaroo rat on lands within its boundaries, which includes 533,954 acres within County of Riverside and Cities of Corona, Hemet, Lake Elsinore, Moreno Valley, Murrieta, Perris, Riverside, and Temecula.

The study area is within the Stephens' kangaroo rat HCP, but is not located within any of the core reserves. Therefore, the project is required to pay a Stephens' kangaroo rat mitigation fee for incidental take authorization under the Stephens' kangaroo rat HCP.

5.0 PROJECT EFFECTS

This section describes potential direct and indirect impacts associated with the proposed project. Direct impacts immediately alter the affected biological resources such that those resources are eliminated temporarily or permanently. Indirect impacts consist of secondary effects of a project, including noise, decreased water quality (e.g., through sedimentation, urban contaminants, or fuel release), fugitive dust, colonization of non-native plant species, animal behavioral changes, and night lighting. The

magnitude of an indirect impact can be the same as a direct impact; however, the effect usually takes a longer time to become apparent.

The significance of impacts to biological resources present or those with potential to occur was determined based upon the sensitivity of the resource and the extent of the anticipated impacts. For certain highly sensitive resources (e.g., a federally listed species), any impact would be significant. Conversely, other resources that are of low sensitivity (e.g., species with a large, locally stable population in the County but declining elsewhere) could sustain some impact with a less than significant effect.

According to Appendix G of the CEQA Guidelines, project impacts to biological resources would be considered significant if they would:

(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 CDFW or USFWS.

(b) Have a substantial adverse effect on any riparian habitat or sensitive natural community identified by local or regional plans, policies, regulations or by CDFW or USFWS.

(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (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 local policies or ordinances protecting biological resources, such a tree preservation policy or ordinance.

(f) Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.1 SENSITIVE SPECIES

5.1.1 Rare Plant Species

No Impacts

A total of 22 of the 23 rare plant species recorded within the vicinity of the study area were not considered to have a potential to occur based on geographic range, elevation range, and/or lack of suitable habitat (see Appendix E). One species (San Diego ambrosia) was considered to have a low potential to occur on the study area, primarily based on the presence of mapped sandy soils and affinity for disturbance. Since this species is conditionally covered under the MSHCP and the study area is not

located within a NEPSSA, focused surveys were not warranted. Therefore, no significant impacts to rare plant species are anticipated by the project.

5.1.2 Sensitive Animal Species

Less than Significant Impacts with Mitigation Incorporated

Of the 25 sensitive animal species recorded within the vicinity of the study area, 10 species were considered to have no potential to occur on the study area due to lack of suitable habitat and two species (golden eagle and Swainson's hawk) are not expected to occur due to lack of suitable habitat for residence and/or breeding, but may disperse through or across the study area (see Appendix F). Therefore, no significant impacts to these sensitive wildlife species are anticipated by the project.

A total of 11 of the remaining 25 species were determined to have a potential to occur on the study area, which range from a low potential to high potential to occur. Of these 11 species, seven species have a low potential to occur (California glossy snake, coast horned lizard, Dulzura pocket mouse, northwestern San Diego pocket mouse, red diamond rattlesnake, western mastiff bat [foraging only], and white-tailed kite), two species have a moderate potential to occur (Los Angeles pocket mouse and Stephens' kangaroo rat), and two species have a high potential to occur (coastal California gnatcatcher and San Diego black-tailed jackrabbit). BUOW and LBVI are currently presumed absent from the study area based on negative focused survey results, although LBVI was detected within the vicinity of the study area. BUOW is currently presumed absent from the study area based on negative survey results. Potential project impacts to these species are discussed in detail below.

Coast horned lizard, coastal California gnatcatcher, Los Angeles pocket mouse, northwestern San Diego pocket mouse, red diamond rattlesnake, San Diego black-tailed jackrabbit, Stephens' kangaroo rat, and white-tailed kite are fully covered species under the MSHCP. With payment of the MSHCP Local Development Mitigation Fee (LDMF), no additional mitigation is required for potential impacts to these species. In addition, the study area is located within the Stephens' kangaroo rat HCP and is required to pay a Stephens' kangaroo rat mitigation fee for incidental take authorization under the Stephens' kangaroo rat HCP. See Section 5.6.6 below for a more detailed discussion.

Although California glossy snake, Dulzura pocket mouse, and western mastiff bat are not MSHCP covered species, these species are listed as SSC by CDFW and do not carry a federal or state listing as threatened or endangered. California glossy snake has a potential to occur on the study area based on the presence of a small area of non-native vegetation/buckwheat scrub and sandy soils, although the habitat is considered low quality based on the high-level of existing disturbance and limited size of habitat. This species was only recorded once within the Murrieta quadrangle on CNDDB, which was in 1946 approximately 4.25 miles to the west of the study area (CDFW 2018). Dulzura pocket mouse has a potential to occur on the study area based on the presence of non-native/buckwheat scrub, although the habitat is considered low quality based on the high-level of existing disturbance and limited size of habitat. Additionally, the study area does not support its preferred habitat type (mature chaparral). This species was only recorded once within the Murrieta quadrangle on CNDDB, which was in 2005 approximately 2.2 miles to the west of the study area (CDFW 2018). The study area does not support suitable roosting habitat for western mastiff bat. There is some potential for foraging habitat on the study area, although the habitat is considered low quality based on the high-level of existing disturbance. This species was only recorded once within the Murrieta quadrangle on CNDDB, which was in 1991 approximately 2.9 miles to the southwest of the study area (CDFW 2018). Based on the presence

of low quality habitat, lack of recent observations, and absence of suitable roosting habitat for western mastiff bat, no significant impacts to these sensitive wildlife species are anticipated by the project.

Burrowing Owl

BUOW is considered an SSC and MSHCP conditionally covered species. Since the study area supports suitable habitat for BUOW, focused surveys were conducted in accordance with the County's survey protocol (2006). No BUOWs or BUOW sign were observed on the study area during the focused survey; therefore, BUOW is currently presumed absent from the study area. A mitigation measure requiring a pre-construction survey and avoidance of active nests and/or relocation of BUOW (if BUOWs are observed) is included as BIO-1 below.

Least Bell's Vireo

The LBVI is a federally endangered species and MSHCP conditionally covered species. Since the study area supports a small area of suitable habitat (0.02 acre of southern willow scrub), focused surveys were conducted in accordance with USFWS' survey protocol (2001). No LBVIs were detected on the study area and are presumed currently absent from the study area. Habitat on the study area is not expected to be suitable for nesting due to small acreage, lack of dense understory, and higher quality habitat within Tucalota Creek to the south of Willows Avenue. However, individuals moving through the area may use the habitat on the study area for foraging. Two LBVI pairs were observed to the south of the study area within higher quality southern riparian forest habitat associated with Tucalota Creek.

Since LBVIs were observed within the vicinity of the study area, project construction could have indirect impacts to LBVI that occupy habitat to the south of the Willows Avenue. Therefore, a mitigation measure is provided as BIO-2 in Section 6.0 below to avoid potential indirect impacts to LBVI during construction. The measure requires construction activities to be conducted outside of the LBVI nesting season (September 1 through March 14). If construction activities are proposed within the nesting season (March 15 through August 31), construction activities would not be allow within 300 feet of suitable LBVI habitat. If construction must occur within the 300-foot buffer, a biological monitor would be required at all time and would have the authority to stop work. Additionally, daily noise monitoring would be required. Noise levels at the edge of occupied LBVI habitat may not exceed 60 A-weighted decibels (dBA), or an hourly average increase of 3 dBA if existing ambient noise levels already exceed 60 dBA. Since the pile driving activities required for the Sky Canyon Drive extension will create high frequency vibrations and noise, these activities will be conducted outside of the LBVI nesting season (September 1 through March 14). Please see measure BIO-2 for more details.

Post-project noise associated with the proposed commercial development is not anticipated to indirectly impact LBVI for the following reasons:

1. The proposed commercial development and off-site occupied habitat would be separated by Willows Avenue, which is a four-lane road approximately 60 feet wide. Based on a noise analysis conducted for the project, existing noise within the occupied habitat is currently above an hourly average of 60 A-weighted decibels (dBA; Appendix I, *Noise Analysis Report*). Noise from the proposed carwash, which would be located in the southwest corner of the study area, would generate noise levels below an hourly average of 45 dBA. When the car wash noise is combined with existing noise levels, noise levels within the occupied habitat would not increase by more than an hourly average of 0.1 dBA.

2. The loudest single-source of noise generated by the proposed carwash would be the air-blast dryer systems (blower; Attachment I). The proposed carwash would be oriented in a fashion that directs blower noise away from occupied habitat. Cars would enter the carwash bay from the south end and exit at the north end.

3. Existing ornamental trees planted on the north side and south side of Willows Avenue would provide a visual barrier between the proposed commercial development and off-site occupied habitat.

5.2 SENSITIVE VEGETATION COMMUNITIES

5.2.1 California Department of Fish and Wildlife Sensitive Vegetation Communities/Habitats

Less than Significant with Mitigation Incorporated

The off-site area supports 0.02 acre of southern willow scrub canopy, which is a sensitive community pursuant to CDFW (2010). The southern willow scrub canopy is associated with the manmade basin, which is mostly located outside of the study area. The project would require permanent impacts to 0.02 acre of southern willow scrub in order to complete the extension of Sky Canyon Drive, which is considered a Planned Road under the policies of Section 7.3 of the MSHCP and is, therefore, an MSHCP Covered Activity (Dudek 2003). The remaining four communities (disturbed, non-native vegetation, non-native vegetation/buckwheat scrub, and ornamental) are not considered sensitive communities pursuant to CDFW. Proposed impacts to vegetation are shown in Table 4, *Vegetation Community* Impacts and on Figure 8, *Vegetation Impacts*.

Permanent impacts to southern willow scrub would be considered significant and require compensatory mitigation as part of the Section 1602 permitting requirements. As required by mitigation measure BIO-3, permanent impacts to southern willow scrub would be mitigated through the purchase of off-site in-lieu fee credits from Skunk Hollow Mitigation Bank at a ratio of 3:1 (0.06 acre).

Table 4
VEGETATION COMMUNITY IMPACTS

Vegetation Community	Existing (acres)[1]		Permanent Impacts (acres)[1]	
	On-Site	Off-Site	On-Site	Off-Site
Disturbed	2.38	0.56	2.38	0.56
Non-native Vegetation	4.58	1.26	4.58	1.26
Non-native Vegetation/Buckwheat Scrub	0.19	0.69	0.19	0.69
Ornamental	0.16	0.00	0.16	0.00
Southern Willow Scrub[2]	0.00	0.02	0.00	0.02
TOTAL	**7.31**	**2.53**	**7.31**	**2.53**

[1] Acreage is rounded to the nearest hundredths.
[2] Sensitive habitats pursuant to CDFW's Natural Communities List (2010).

5.2.2 California Department of Fish and Wildlife Riparian Habitat and Streambed

Less than Significant with Mitigation Incorporated

The project would result in permanent impacts to approximately 0.02 acre of CDFW jurisdiction within the manmade basin. Proposed impacts to CDFW jurisdiction are shown on Figure 9, *Impacts to Jurisdictional Features*.

Impacts to CDFW jurisdiction will require a Section 1602 Stream Alteration Agreement from the CDFW, as described in BIO-3 included in Section 6.0 below. Compensatory mitigation for permanent impacts to CDFW jurisdiction would be required as part of subsequent Section 1602 permitting requirements. In addition, sheet pilings will be installed as part of the Sky Canyon Drive extension to avoid impacts to adjacent Tucalota Creek. Standard construction and post-construction BMPs will be required to avoid impacts. Silt fencing will be installed adjacent to Tucalota Creek along the eastern perimeter of the study area to avoid discharge of sediment.

5.3 U.S. ARMY CORPS OF ENGINEERS/REGIONAL WATER QUALITY CONTROL BOARD JURISDICTION

No Impacts

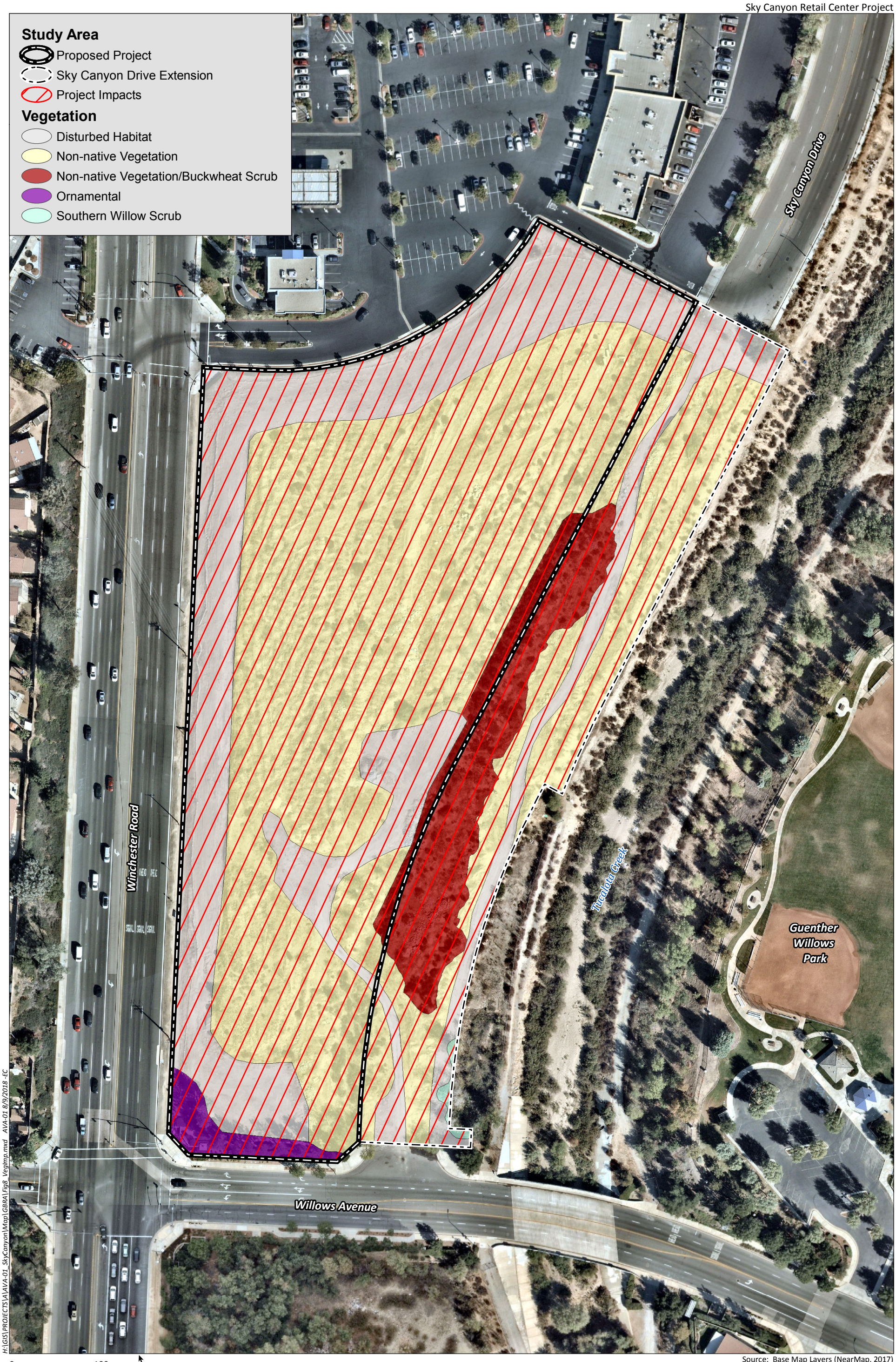
The study area does not support any drainage features, wetlands, or other special aquatic sites under the jurisdiction of USACE/RWQCB. Therefore, no impacts to WUS are anticipated by the project.

5.4 WILDLIFE MOVEMENT AND MIGRATORY SPECIES

5.4.1 Wildlife Movement

Less than Significant

The study area is not part of a regional corridor and does not serve as a nursery site. The study area is not identified by the MSHCP (Dudek 2003) or South Coast Missing Linkages (South Coast Wildlands 2008) as being part of a local or regional corridor or linkage. The study area currently does not directly connect two or more large blocks of habitat and is constrained by existing development to the north, south, and west. Tucalota Creek is located to the east of the study area, which likely facilitates wildlife movement through the area. The study area supports limited vegetation that may be used by birds and smaller mammals and reptiles that are adapted to human disturbance. Some wildlife moving through Tucalota Creek may use the study area for foraging and/or nesting, but use of the study area would be restricted due to limited vegetative cover and adjacent disturbance from existing human development. The project does not propose direct impacts to Tucalota Creek and potential indirect effects would be minimized through implementing urban/wildlands interface guidelines, as discussed in Section 5.6.3 below.



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0 100 Feet

Source: Base Map Layers (NearMap, 2017)

HELIX Environmental Planning

Vegetation Impacts

Figure 8

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0 100 Feet

Source: Base Map Layers (NearMap, 2017)

HELIX Environmental Planning

Impacts to Jurisdictional Features

Figure 9

5.4.2 Migratory Species

Less than Significant Impacts with Mitigation Incorporated

Development of the proposed project could disturb or destroy active migratory bird nests, including eggs and young. Disturbance to or destruction of migratory bird eggs, young, or adults is in violation of the MBTA and is considered a potentially significant impact. Although suitable habitat for nesting birds on the study area is limited, herbaceous ground cover, shrubs, and trees located throughout the study area could provide habitat for protected nesting bird species. A mitigation measure is provided as BIO-4 in Section 6.0 below, which would ensure the project is in compliance with MBTA regulations.

5.5 LOCAL POLICIES AND ORDINANCES

No Impacts

The project does not conflict with any local policies or ordinances protecting biological resources, such as tree preservations or ordinances.

5.6 ADOPTED HABITAT CONSERVATION PLANS

Less than Significant Impacts with Mitigation Incorporated

As discussed in Section 3.6.1 above, the study area is within the Southwest Area Plan of the MSHCP. The study area is not located within or adjacent to an MSHCP Criteria Area; therefore, the study area is not subject to special conservation requirements that apply to cells and is not required to undergo the HANS process. The following sections demonstrate the project's compliance with MSHCP requirements.

5.6.1 Riparian/Riverine Areas and Vernal Pools (MSHCP Section 6.1.2)

The identification of MSHCP Riparian/Riverine resources is based on the potential for the habitat to support, or be a tributary to habitat that supports, Riparian/Riverine Covered Species. Riparian/Riverine Covered Species are identified in MSHCP Section 6.1.2. The MSHCP defines Riparian/Riverine habitat as "lands which contain Habitat dominated by trees, shrubs, or emergent mosses and 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" (Dudek 2003). The MSHCP 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" (Dudek 2003). Artificially created wetlands, except for those created intentionally to provide habitat or resulting from the creation of open waters or alteration of natural stream courses, are not considered MSHCP Vernal Pools.

Riparian/Riverine Habitat

The MSHCP Riparian/Riverine Area mapped on the study area is equivalent to CDFW jurisdiction. Implementation of the proposed project would result in permanent impacts to approximately 0.02 acre of MSHCP Riparian Habitat. Permanent impacts would occur to southern willow scrub canopy associated

with a manmade basin in the off-site area. Proposed impacts to the Riparian/Riverine Area are shown on Figure 9.

Since the project proposes impacts to an MSHCP Riparian/Riverine Area, the project is required to prepare a Determination of Biologically Equivalent or Superior Preservation (DBESP), which provides a detailed account of impacts and proposed mitigation to compensate for impacts. A DBESP was prepared for the project in compliance with MSHCP Section 6.1.2 (Appendix J, *Determination of Biologically Equivalent or Superior Preservation*). Minor permanent impacts to 0.02 acre of southern willow scrub canopy are required to complete the extension of Sky Canyon Drive. In accordance with MSHCP Section 7.3, the project is a Planned Road within the plan area. Under the MSHCP, such public development is considered a Covered Activity (Dudek 2003). Permanent impacts to the MSHCP Riparian/Riverine Area would be mitigated through the purchase of off-site in-lieu fee credits from Skunk Hollow Mitigation Bank at a ratio of 3:1 (0.06 acre), as required by BIO-3 included in Section 6.0 below.

Riparian/Riverine Species

The study area does not support suitable habitat for Riparian/Riverine or Vernal Pool plant species and, therefore, no impacts are anticipated by the project. The study area does not support suitable habitat for 11 of the 12 Riparian/Riverine or Vernal Pool animal species. LBVI was not observed on the study area during focused surveys, although two pairs were observed within Tucalota Creek to the south of the study area. Indirect impacts to this species during the nesting season (March 1 through August 31) would be a significant impact. To avoid potential indirect impacts to LBVI, a mitigation measure is provided as BIO-2 in Section 6.0 below.

As discussed above, the proposed project is consistent with MSHCP Section 6.1.2.

5.6.2 Narrow Endemic Plant Species (MSHCP Section 6.1.3)

The study area is not located within a NEPSSA; therefore, no focused surveys were required and the proposed project is consistent with Section 6.1.3 of the MSHCP.

5.6.3 Urban/Wildland Interface Guidelines (MSHCP Section 6.1.4)

Proposed developments adjacent to MSHCP Conservation Areas may create edge effects that can impact conserved biological resources. The MSHCP provides several guidelines that address potential indirect effects from proposed developments that are in proximity to MSHCP Conservation Areas. These guidelines include measures addressing quantity and quality of runoff generated by the development (i.e., drainage and toxics), night lighting, noise, non-native invasive plant species, barriers to humans and animal predators, and grading/land development encroachment.

The study area does not occur adjacent to land targeted for conservation or existing MSHCP Conservation Areas. The nearest MSHCP Conservation Area is Proposed Core 2, which is approximately 0.15 mile to the northeast of the study area. Existing development separates much of the study area from Proposed Core 2. However, Tucalota Creek is adjacent to the eastern study area boundary. Tucalota Creek runs through Proposed Core 2 to the northeast of the study area. Therefore, the project is required to comply with the following Urban/Wildland Interface Guidelines. As discussed below, the project will comply with each applicable guideline to ensure consistency with MSHCP Section 6.1.4.

5.6.3.1 Drainage

The study area does not support any drainages. However, the project will incorporate measures to avoid discharge of untreated surface runoff into downstream waters. Measures will include those required for construction pursuant to the State Water Resources Control Board General Construction Stormwater Permit and those required post-construction pursuant to the National Pollutant Discharge Elimination System and Municipal Storm Drain requirements. The project 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 downstream from the study area.

5.6.3.2 Toxics

Land uses that use chemicals or generate bio-products 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 into downstream waters. Measures such as those employed to address drainage issues would be implemented by the proposed project to avoid the potential impacts of toxics.

5.6.3.3 Lighting

Although the study area is not located within or directly adjacent to an MSHCP Conservation Area, a proposed Conservation Area is located 0.15 mile to the northeast of the study area. Temporary construction lighting and ambient lighting from the proposed development is required to be selectively placed, directed, and shielded away from the MSHCP Conservation Area. In addition, large spotlight-type lighting directed into conserved habitat will be prohibited.

5.6.3.4 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.

Temporary construction-related noise impacts will be reduced by the implementation of a number of measures including the following:

- During all excavation and grading, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards to reduce construction equipment noise to the maximum extent possible. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the study area.

- The construction contractor shall stage equipment in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the study area during all project construction.

- All construction work shall occur during the daylight hours. The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours to be determined by the County.

- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass through sensitive land uses or residential dwellings.

Permanent noise associated with the proposed carwash is not anticipated to significantly increase ambient noise within off-site occupied LBVI habitat, as discussed in Section 5.1.2 above (see Attachment I).

5.6.3.5 Invasives

The project shall not use invasive plants for erosion control, landscaping, wind rows, or other purposes. A mitigation measure (BIO-5) is provided in Section 6.0 below, which requires the project to comply with the MSHCP and avoid the use of invasive, non-native plants in accordance with MSHCP Table 6.2.

5.6.3.6 Barriers

Since the study area is not directly adjacent to the MSHCP Conservation Area, barriers or signage are not necessary.

5.6.3.7 Grading/Land Development

The project is not adjacent to an existing or proposed MSHCP Conservation Areas. Therefore, manufactured slopes associated with proposed site development will not extend into an MSHCP Conservation Area.

5.6.4 Additional Surveys (MSHCP Section 6.3.2)

The study area is not within a CASSA or an amphibian or mammal survey area. No impacts to CASSA species or sensitive amphibian or mammal species are proposed.

The study area is within the MSHCP BUOW Survey Area and supports suitable habitat. A focused survey was conducted in accordance with the County's survey protocol (2006). No BUOWs or BUOW sign were observed during the focused survey. Due to the presence of suitable habitat, a pre-construction survey is required within 30 days of ground disturbance pursuant to the MSHCP. A mitigation measure requiring a pre-construction survey and avoidance of active nests and/or relocation of BUOW (if BUOWs are observed) is included as BIO-1 in Section 6.0 below.

As discussed above, the proposed project is consistent with MSHCP Section 6.3.2.

5.6.5 Fuels Management (MSHCP Section 6.4)

The property is not adjacent to an MSHCP Conservation Area. Therefore, fuel modification impacts would not extend into a conservation area. The project is consistent with MSHCP Section 6.4.

5.6.6 Multiple Species Habitat Conservation Plan and Stephens' Kangaroo Rat Fees

In order for the project to participate in the MSHCP, the project proponent is required to pay a LDMF in order to finance the acquisitions of conservation areas to provide habitat for MSHCP covered species (County 2003). The LDMF must be paid prior to issuance of a building permit. The applicant shall pay the LDMF as determined by the County. Final fee credits shall be determined through coordination with the County.

The study area is also within the Stephens' kangaroo rat HCP, but is not located within any of the core reserves (County 1996). Therefore, the project is required to pay a Stephens' kangaroo rat mitigation fee for incidental take authorization under the Stephens' kangaroo rat HCP.

A mitigation measure (BIO-6) is provided in Section 6.0, which requires the project proponent to pay the MSHCP LDMF and Stephens' kangaroo rat HCP fees.

6.0 MITIGATION MEASURES

The following provides recommended measures intended to minimize or avoid impacts to biological resources:

BIO-1 **Burrowing Owl**: In compliance with the MSHCP, a pre-construction survey shall be conducted on the study area within 30 days prior to ground disturbance to determine presence of BUOW. If the pre-construction survey is negative and BUOW is confirmed absent, then ground-disturbing activities shall be allowed to commence and no further mitigation would be required.

If BUOW is observed during the pre-construction survey, active burrows shall be avoided by the project in accordance with the California Department of Fish and Wildlife's (CDFW) *Staff Report on Burrowing Owl Mitigation* (2012) or CDFW's most recent guidelines. The project proponent shall immediately inform the Western Riverside County Regional Conservation Authority (RCA) of BUOW observations. A BUOW Protection and Relocation Plan (plan) shall be prepared by a qualified biologist, which must be sent for approval by RCA prior to initiating ground disturbance. The RCA will coordinate directly with CDFW as needed to ensure that the plan is consistent with the MSHCP and CDFW guidelines. The plan shall detail avoidance measures that shall be implemented during construction and passive or active relocation methodology. Relocation shall only occur outside of the nesting season (September 1 through January 31). The RCA may require translocation sites to be created within the MSHCP Conservation Area for the establishment of new colonies. If required, the translocation sites must take into consideration unoccupied habitat areas, presence of burrowing mammals, existing colonies, and effects to other MSHCP Covered Species in order to successfully create suitable habitat for BUOW. The translocation sites must be developed in consultation with RCA. If required, translocation sites would also be described in the agency-approved plan.

BIO-2 **Least Bell's Vireo:** Due to presence of LBVI in the vicinity of the study area, the following avoidance and minimization measures shall be implemented to avoid potential impacts:

1. To the extent feasible, construction activities (i.e., earthwork, clearing, and grubbing) shall occur outside of the nesting season for LBVI (September 1 through March 14). All pile driving activities required for the Sky Canyon Drive extension shall be conducted outside of the LBVI nesting season.

2. If construction activities are proposed within the LBVI nesting season (March 15 through August 31), the following measures (a. through g.) shall be implemented to avoid potential indirect impacts. Pile driving activities shall not be conducted in the LBVI nesting season.

    a. Prior to initiation of construction activities, a qualified biological monitor shall clearly delineate a 300-foot avoidance buffer around suitable habitat. The 300-foot avoidance buffer shall be clearly marked with flags and/or fencing prior to commencement of construction. No construction activities shall occur within the 300-foot buffer during the nesting season without the presence of a biological monitor.

    b. If construction activities (e.g., ground disturbance and canopy trimming) are planned within 300 feet of suitable habitat, the following measures shall be implemented:

        i. A biological monitor shall be present to perform daily surveys for LBVI and monitor construction activities. The biological monitor shall have the authority to stop work and notify the construction supervisor if the construction activities appear to be altering the birds' normal behavior. The activities shall cease until additional minimization measures have been determined through coordination with CDFW and/or USFWS.

        ii. A qualified acoustician shall also be retained to determine ambient noise levels and construction-related noise levels at the edge of suitable habitat. Noise levels at the edge of the suitable habitat shall not exceed an hourly average of 60 dBA, or an hourly average increase of 3 dBA if existing ambient noise levels exceed 60 dBA. If project-related noise levels exceed the threshold described above, construction activities shall cease until additional minimization measures are taken to reduce project-related noise levels to below an hourly average of 60 dBA, or below an hourly average increase of 3 dBA if existing ambient noise levels exceed 60 dBA. If additional measures do not decrease project-related noise levels below the thresholds described above, construction activities shall cease until CDFW and/or USFWS are contacted to discuss alternative methods.

    c. All project personnel shall attend a Workers Environmental Awareness Program training presented by a qualified biologist prior to construction activities. The training program will inform project personnel about the life history of LBVI and all avoidance and minimization measures.

d. The construction contractor shall only allow construction activities to occur during daylight hours.

e. The construction contractor shall require functional mufflers on all construction equipment (stationery or mobile) used within or immediately adjacent to any 300-foot avoidance buffers to reduce construction equipment noise. Stationary equipment shall be situated so that noise generated from the equipment is not directed towards any suitable habitat for the LBVI.

f. The construction contractor shall place staging areas as far as possible from any suitable habitat for the LBVI.

g. The biological monitor shall prepare written documentation of all monitoring activities at the completion of construction activities, which shall be submitted to CDFW and/or USFWS.

BIO-3 **CDFW Jurisdiction:** Prior to issuance of a grading permit for impacts to the manmade basin, the Project Applicant shall obtain a Section 1602 Stream Alteration Agreement from the CDFW. Compensatory mitigation for permanent impacts to CDFW jurisdiction shall be required as part of subsequent Section 1602 permitting requirements. Permanent impacts to CDFW jurisdiction shall be mitigated the purchase of off-site in-lieu fee credits from Skunk Hollow Mitigation Bank at a ratio of 3:1 (0.06 acre). The following minimization measures will be implemented during construction:

1. Use of standard BMPs to minimize the impacts during construction.

2. Prior to construction, silt fencing shall be installed adjacent to Tucalota Creek along the eastern perimeter of the study area to avoid discharge of sediment.

3. Construction-related equipment shall be stored in upland areas, outside of drainages except as required by project design (restoration, trash removal, etc.).

4. Source control and treatment control BMPs shall be implemented to minimize the potential contaminants that are generated during and after construction. Source control BMPs include landscape planning, roof runoff controls, trash storage areas, use of alternative building materials, and education of future tenants and residents. Treatment control BMPs include detention basins, vegetated swales (bio-swales), drain inlets, and vegetated buffers. Water quality BMPs shall be implemented throughout the project to capture and treat contaminants.

5. To avoid attracting predators during construction, the project shall be kept clean of debris to the extent possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from site.

6. Employees shall strictly limit their activities, vehicles, equipment, and construction material to the proposed project footprint, staging areas, and designated routes of travel.

7. Construction limits shall be fenced with orange snow screen and exclusion fencing should be maintained until the completion of construction activities.

BIO-4 **Nesting Birds:** No grubbing, clearing, or grading shall occur during the general songbird and raptor nesting season, which is generally January 15 to August 31. All grading permits, improvement plans, and the final map shall state the same.

If grubbing, clearing, or grading is proposed to occur during the general bird nesting season, a pre-construction survey within all suitable habitat shall be conducted by a qualified biologist to determine if active bird nests are present within the disturbance area. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within the disturbance area, clearing, grubbing, and grading shall be allowed to proceed. If active nests or nesting birds are observed within the disturbance area, the biologist shall delineate a buffer of 300 feet (500 feet for raptors) around each nest. Construction activities within the buffer shall not be permitted until nesting behavior has ceased, nests have failed, or young have fledged. The biological monitor may modify the buffer or propose other recommendations in order to minimize disturbance to nesting birds.

BIO-5 **MSHCP Landscaping Restrictions**: In accordance with MSHCP Section 6.1.4, no species listed in Table 6-2, *Plants that Should Be Avoided Adjacent to the MSHCP Conservation Area*, shall be used in the project landscape plans (including hydroseed mix used for interim erosion control).

BIO-6 **Habitat Conservation Plan Fees**: The project applicant is subject to the MSHCP Local Development Mitigation Fee and the Stephens' Kangaroo Rat Habitat Conservation Plan Fee, which shall be paid prior to issuance of any grading permit.

7.0 CERTIFICATION/QUALIFICATION

The following individuals contributed to the fieldwork and/or preparation of this report:

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Appendix A

Plant Species Observed

Appendix A
PLANT SPECIES OBSERVED

Family	Scientific Name	Common Name
GYMNOSPERMS		
Pinaceae	*Pinus halepensis**	Aleppo pine
Podocarpaceae	*Podocarpus gracilior**	fern pine
ANGIOSPERMS – EUDICOTS		
Anacardiaceae	*Schinus molle**	Peruvian pepper tree
Asteraceae	*Artemisia californica*	California sagebrush
	Baccharis pilularis	coyote brush
	Baccharis salicifolia	mule fat
	*Centaurea melitensis**	tocalote
	Helianthus annuus	western sunflower
	Heterotheca grandiflora	telegraph weed
	Isocoma menziesii	goldenbush
Boraginaceae	*Heliotropium curassavicum* var. *oculatum*	salt heliotrope
Brassicaceae	*Hirschfeldia incana**	short-pod mustard
	*Sisymbrium irio**	London rocket
Chenopodiaceae	*Salsola tragus**	Russian thistle
Euphorbiaceae	*Croton setigerus*	dove weed
Fabaceae	*Acmispon glaber*	deerweed
	Lupinus bicolor	miniature lupine
Geraniaceae	*Erodium cicutarium**	redstem filaree
Lamiaceae	*Lavandula spica**	lavender
Polygonaceae	*Eriogonum fasciculatum*	California buckwheat
Rosaceae	*Rosa* sp.*	rose
Salicaceae	*Populus fremontii* ssp. *fremontii*	Fremont cottonwood
	Salix gooddingii	Goodding's black willow
Solanaceae	*Nicotiana glauca**	tree tobacco
	Datura wrightii	jimson weed
Tamaricaceae	*Tamarix* sp.*	tamarisk
ANGIOSPERMS – MONOCOTS		
Iridaceae	*Iris* sp.*	iris
Poaceae	*Avena* sp.*	oats
	Bromus madritensis ssp. *rubens**	red brome
	*Cortaderia selloana**	white pampasgrass
	*Schismus barbatus**	Mediterranean grass

*Non-native species

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Appendix B

Animal Species Observed or Detected

Appendix B
ANIMAL SPECIES OBSERVED OR DETECTED

Order	Family	Scientific Name	Common Name
Invertebrates			
Lepidoptera	Nymphalidae	*Nymphalis antiopa*	mourning cloak
	Papilionidae	*Papilio rutulus*	western tiger swallowtail
	Pieridae	*Pieris rapae*	cabbage white
Reptiles			
Squamata	Phrynosomatidae	*Sceloporus occidentalis*	western fence lizard
		Uta stansburiana	common side-blotched lizard
	Teiidae	*Aspidoscelis hyperythra*	orange-throated whiptail
Birds			
Accipitriformes	Accipitridae	*Buteo jamaicensis*	red-tailed hawk
Apodiformes	Trochilidae	*Calypte anna*	Anna's hummingbird
		Selasphorus sasin	Allen's hummingbird
Charadriiformes	Charadriidae	*Charadrius vociferus*	killdeer
Columbiformes	Columbidae	*Columba livia*	rock pigeon
		Streptopelia decaocto	Eurasian collared-dove
		Zenaida macroura	mourning dove
Falconiformes	Falconidae	*Falco sparverius*	American kestrel
Galliformes	Odontophoridae	*Callipepla californica*	California quail
Passeriformes	Aegithalidae	*Psaltriparus minimus*	bushtit
	Alaudidae	*Eremophila alpestris*	horned lark
	Corvidae	*Aphelocoma californica*	California scrub-jay
		Corvus brachyrhynchos	American crow
		Corvus corax	common raven
	Fringillidae	*Haemorhous mexicanus*	house finch
		Spinus psaltria	lesser goldfinch
		Spinus tristis	American goldfinch
	Hirundinidae	*Hirundo rustica*	barn swallow
		Stelgidopteryx serripennis	northern rough-winged swallow
	Mimidae	*Mimus polyglottos*	northern mockingbird
	Passerellidae	*Aimophila ruficeps*	rufous-crowned sparrow
		Melospiza melodia	song sparrow
		Melozone crissalis	California towhee
	Passeridae	*Passer domesticus*	house sparrow
	Polioptilidae	*Polioptila caerulea*	blue-gray gnatcatcher
	Sturnidae	*Sturnus vulgaris*	European starling
	Sylviidae	*Chamaea fasciata*	wrentit
	Troglodytidae	*Thryomanes bewickii*	Bewick's wren
		Troglodytes aedon	house wren
	Tyrannidae	*Sayornis nigricans*	black phoebe
		Sayornis saya	Say's phoebe
		Tyrannus vociferans	Cassin's kingbird
Piciformes	Picidae	*Picoides nuttallii*	Nuttall's woodpecker
Mammals			
Lagomorpha	Leporidae	*Sylvilagus audubonii*	desert cottontail
Rodentia	Sciuridae	*Otospermophilus beecheyi*	California ground squirrel

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Appendix C

Site Photographs

Photograph 1: View of the non-native vegetation (left) and non-native vegetation/buckwheat scrub (right) in the southern portion of the project site, facing north.

Photograph 2: View of the of the non-native vegetation/buckwheat scrub (left) and the non-native vegetation (right) in the northern portion of the project site, facing southwest.

Photograph 3: View of the disturbed habitat along the western boundary of the project site, facing south. California State Route 79 can be seen on the right.

Photograph 4: View of the disturbed habitat along the eastern boundary of the off-site area, facing south.

Source: HELIX 2018

Appendix D

Jurisdictional Feature Photographs

Photograph 1: View of the manmade basin and southern willow scrub canopy that extends into the off-site area, facing southeast.

Photograph 2: View of the manmade basin, facing east.

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Source: HELIX 2018

Appendix E

Rare Plant Species Potential to Occur

Appendix E
Rare Plant Species Potential to Occur[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Abronia villosa var. *aurita*	chaparral sand-verbena	CRPR 1B.1	Small annual herb. Occurs on sandy floodplains or flats in generally inland, arid areas of sage scrub and open chaparral. Elevation range 0-1600 m. Flowering period Mar-Aug.	**None.** Although the study area supports sandy soils, there are no chaparral or sage scrub dominated communities. A small area of non-native vegetation/ buckwheat scrub was observed on the study area, but was not considered suitable for this species due to the high level of disturbance.
Almutaster pauciflorus	alkali marsh aster	CRPR 2B.2	Perennial herb. Occurs in meadows and seeps on alkaline soil. Elevation range 200-700 m. Flowering period Jun-Oct.	**None.** The study area does not support meadows or seeps.
Ambrosia pumila	San Diego ambrosia	FE CRPR 1B.1 MSHCP Covered Species (b)	Small perennial herb. Occurs on clay, sandy loam, and sometimes alkaline soils. Found in grasslands, valley bottoms, and dry drainages. Can occur on slopes, disturbed places, in coastal sage scrub and chaparral. Elevation range 50-600 m. Flowering period Apr-Jul.	**Low.** The study area supports low-quality habitat based on the presence of some mapped sandy loam soils and this species affinity for disturbance.
Arctostaphylos rainbowensis	rainbow manzanita	CRPR 1B.1 MSHCP Covered Species (e)	Large conspicuous shrub. Southern mixed chaparral is preferred habitat with a relatively dense canopy from 6 to 8 feet. Elevation range 150-800 m. Flowering period Jan-Feb.	**None.** The study area does not support dense mixed chaparral habitat.

Attachment E (cont.)
Rare Plant Species Potential to Occur[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Brodiaea orcuttii	Orcutt's brodiaea	CRPR 1B.1 MSHCP Covered Species	Perennial herb. Occurs in vernally moist grasslands, mima mound topography, and vernal pool periphery are preferred habitat. Occasionally will grow on streamside embankments in clay soils. Elevation range 0-1600 m. Flowering period Apr-Jul.	**None.** The study area does not support vernally moist grasslands, mima mounds, or vernal pools.
Brodiaea santarosae	Santa Rosa basalt brodiaea	CRPR 1B.2	Small perennial herb. Occurs in soils derived from Santa Rosa Basalt within grassland habitat. Elevation range 580-1045 m. Flowering period May-Jun.	**None.** The study area does not support Santa Rosa Basalt. The study area is below the elevation range of this species.
Calochortus weedii var. *intermedius*	intermediate mariposa lily	CRPR 1B.2 MSHCP Covered Species	Medium perennial herb. Occurs on dry, rocky slopes within openings in chaparral, coastal scrub, and grassland habitats. Elevation range 0-680 m. Flowering period Jun-Jul.	**None.** The study area does not support rocky slopes.
Centromadia pungens ssp. *laevis*	smooth tarplant	CRPR 1B.1 MSHCP Covered Species (d)	Medium annual herb. Occurs within valley and foothill grasslands, particularly near alkaline locales. Elevation range 90-500 m. Flowering period Apr-Sep.	**None.** The study area does not have support grassland habitats or mapped alkaline soils.

Attachment E (cont.)
Rare Plant Species Potential to Occur[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Chorizanthe parryi var. *parryi*	Parry's spineflower	CRPR 1B.1 MSHCP Covered Species (e)	Small annual herb. Occurs in sandy soil on flats and foothills in mixed grassland, coastal sage scrub, and chaparral communities. Elevation range 90-800 m. Flowering period May-Jun.	**None.** Although the study area supports sandy soils, there are no chaparral or sage scrub dominated communities. A small area of non-native vegetation/ buckwheat scrub was observed on the study area, but was not considered suitable for this species due to the high level of disturbance.
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	CRPR 1B.2 MSHCP Covered Species	Small annual herb. Occurs within clay lenses largely devoid of shrubs. Can be occasionally seen on vernal pool and even montane meadows peripheries near vernal seeps. Elevation range 30-1500 m. Flowering period Apr-Jun.	**None.** The study area does not support clay lenses, vernal pools, montane meadows, or seeps.
Clinopodium chandleri	San Miguel savory	CRPR 1B.2 MSHCP Covered Species (b)	Medium perennial herb. Occurs on Gabbro and metavolcanic soils in interior foothills, chaparral, and oak woodland. Elevation range 0-1100 m. Flowering period Mar-Jul.	**None.** The study area does not support suitable gabbro/metavolcanic soils or chaparral/oak woodland habitats.
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/SE CRPR 1B.1 MSHCP Covered Species	Small annual or perennial herb. Occurs in vernal pools or mima mound areas with vernally moist conditions are preferred habitat. Elevation range 0-705 m. Flowering period May-Jun.	**None.** The study area does not support vernal pools or mima mounds.
Hordeum intercedens	vernal barley	CRPR 3.2 MSHCP Covered Species	Small annual grass. Saline flats and depressions in grasslands or in vernal pool basins. Elevation range 5-1000 m. Flowering period Mar.-Jun.	**None**. The study area does not support saline flats, depressional areas, or vernal pool basins.

Attachment E (cont.)
Rare Plant Species Potential to Occur[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Horkelia cuneata var. *puberula*	mesa horkelia	CRPR 1B.1	Medium perennial herb. Occurs in sandy or gravelly areas within chaparral, coastal sage scrub, and coastal mesas. Elevation range 70-870. Flowering period Mar-Jul.	**None.** Although the study area supports sandy soils, there are no chaparral or sage scrub dominated communities. A small area of non-native vegetation/ buckwheat scrub was observed on the study area, but was not considered suitable for this species due to the high level of disturbance.
Juncus luciensis	Santa Lucia dwarf rush	CRPR 1B.2	Small annual grass-like herb. Occurs in mesic sandy soils within seeps, meadows, vernal pools, streams, and roadsides. Elevation 300-1900 m. Flowering period Apr-Jul.	**None.** The study area does not support suitable mesic habitat.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	CRPR 1B.1 MSHCP Covered Species (d)	Medium annual herb. Occurs in coastal salt marsh, upper end of tidal inundation areas, and vernal pools. Elevation range 0-1000 m. Flowering period Apr-May.	**None.** The study area does not support coastal habitat or vernal pools.
Myosurus minimus ssp. *apus*	little mousetail	CRPR 3.1 MSHCP Covered Species (d)	Small annual herb. Vernal pools and alkaline marshes. This cryptic species typically grows in the deeper portions of vernal pool basins, sprouting immediately after the surface water has evaporated. Elevation range 20-640 m. Flowering period Mar-Jun.	**None.** The study area does not support vernal pool or marsh habitat.

Attachment E (cont.)
Rare Plant Species Potential to Occur[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Navarretia fossalis	spreading navarretia	FT CRPR 1B.1 MSHCP Covered Species (b)	Small annual herb. Occurs in vernal pools, vernal swales, or roadside depressions. Population size is strongly correlated with rainfall. Depth of pool appears to be a significant factor as this species is rarely found in shallow pools. Elevation range 30-1300 m. Flowering period Apr-Jun.	**None.** The study area does not support vernal pools, swales, or roadside depressions.
Navarretia prostrata	prostrate vernal pool navarretia	CRPR 1B.1 MSHCP Covered Species (d)	Small annual herb. Occurs in alkaline floodplain, meadows, seeps, and vernal pools within coastal scrub and valley and foothill grassland. Elevation range below 700 m. Flowering period Apr-Jul.	**None.** The study area does not support vernal pool or meadow habitat.
Orcuttia californica	California Orcutt grass	FE/SE CRPR 1B.1 MSHCP Covered Species (b)	Small annual herb. Occurs in or near vernal pools. This species tends to grow in wetter portions of the vernal pool basin but does not show much growth until the basins become somewhat desiccated. Elevation range 0-700 m. Flowering period Apr-Aug.	**None.** The study area does not support vernal pools.
Pseudognaphalium leucocephalum	white rabbit-tobacco	CRPR 2B.2	Medium biennial or short-lived perennial herb. Occurs in sandy and gravelly benches, dry stream and canyon bottoms within woodland, coastal scrub, and chaparral. Elevation range below 500 m. Flowering period Jul-Oct.	**None.** The study area does not support dry, gravelly benches, stream, or canyon bottom.

Attachment E (cont.)
Rare Plant Species Potential to Occur[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Scutellaria bolanderi ssp. *austromontana*	southern mountain skullcap	CRPR 1B.2	Medium perennial herb. Occurs within gravelly soils along streambanks in oak and pine woodlands. Elevation 425-2000 m. Flowering period Jun-Aug.	**None.** The study area does not support oak or pine woodland habitats.
Symphyotrichum defoliatum	San Bernardino aster	CRPR 1B.2	Large perennial herb. Occurs in vernally mesic soils within cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, grasslands, streams, springs, and disturbed ditches. Elevation range 0-2050 m. Flowering period Jul-Nov.	**None.** The study area does not support vernally mesic soils.

Source: HELIX (2018)

[1] Sensitive species reported within the Murrieta quadrangle based on a database search conducted on CNDDB and CNPS.

[2] Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened.
CRPR = California Rare Plant Rank: 1A – presumed extinct; 1B – rare, threatened, or endangered in California and elsewhere; 2A – rare, threatened, or endangered in California and elsewhere; 2B – rare, threatened, or endangered in California but more common elsewhere. Extension codes: .1 – seriously endangered; .2 – moderately endangered; .3 – not very endangered. MSHCP Conditionally Covered Species (a) through (f): (a) surveys may be required for species as part of wetland mapping (MSHCP Section 6.1.2); (b) surveys may be required for species within Narrow Endemic Plant Species Survey Area (MSHCP Section 6.1.3); (c) surveys may be required for species within locations shown on survey maps (MSHCP Section 6.3.2); (d) surveys may be required for species within Criteria Area Species Survey Area (MSHCP Section 6.3.2); (e) covered species will be considered to be covered species adequately conserved when conservation requirements identified in species-specific conservation objectives have been met (MSHCP Table 9-3); and (f) covered species will be conserved covered species adequately conserved when a Memorandum of Understanding is executed with the Forest Service that addresses management for these species on Forest Service Land (MSHCP Table 9-3).

[3] Potential to Occur is assessed as follows: **None**: Habitat suitable for species survival does not occur on the study area, the study area is not within geographic range of the species, and/or the study area is not within the elevation range of the species; **Low**: Suitable habitat is present on the study area but of low quality and/or small extent. The species has not been recorded recently on or near the study area. Although the species was not observed during surveys for the current project, the species cannot be excluded with certainty; **Moderate**: Suitable habitat is present on the study area and the species was recorded recently near the study area; however, the habitat is of moderate quality and/or small extent. Although the species was not observed during surveys for the current project, the species cannot be excluded with certainty; **High**: Suitable habitat of sufficient extent is present on the study area and the species has been recorded recently on or near the study area, but was not observed during surveys for the current project. However, focused/protocol surveys are not required or have not been completed; Presumed **Present**: The species was observed during focused surveys for the current project and is assumed to occupy the study area; **Presumed Absent**: Suitable habitat is present on the study area but focused surveys for the species were negative.

Appendix F

Sensitive Animal Species Potential to Occur

Appendix F
Sensitive Animal Species Potential to Occur[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Amphibians				
Anaxyrus californicus	arroyo toad	FE/SSC MSHCP Covered Species (c)	Found on banks with open-canopy riparian forest characterized by willows, cottonwoods, or sycamores; breeds in areas with shallow, slowly moving streams, but burrows in adjacent uplands during dry months.	**None**. The study area does not support perennial streams.
Spea hammondii	western spadefoot	SSC MSHCP Covered Species	Occurs in open coastal sage scrub, chaparral, and grassland, along sandy or gravelly washes, floodplains, alluvial fans, or playas; require temporary pools for breeding and friable soils for burrowing; generally excluded from areas with bullfrogs (*Rana catesbiana*) or crayfish (*Procambarus* spp.)	**None.** The study area does not support washes, floodplains, alluvial fans, or temporary pools.
Taricha torosa	Coast Range newt	SSC MSHCP Covered Species	Breeds in ponds, reservoirs, and slow-moving stream pools; often found in riparian forest, woodlands, chaparral, or grassland within one kilometer of breeding habitat.	**None.** The study area does not support suitable breeding or terrestrial habitat.
Birds				
Aquila chrysaetos	golden eagle	SFP MSHCP Covered Species	Typical foraging habitat includes grassy and open, shrubby habitats. Generally nests on remote cliffs; requires areas of solitude at a distance from human habitation.	**Not Expected.** The study area does not support suitable cliff habitat for nesting. Fossorial mammals living in the study area may provide limited feeding opportunities for individuals passing through the area.
Athene cunicularia	burrowing owl	SSC MSHCP Covered Species (c)	Typical habitat is grasslands, open scrublands, agricultural fields, and other areas where there are ground squirrel burrows or other areas in which to burrow.	**Presumed Absent.** Although suitable habitat is present on the study area, burrowing owl was not observed during the focused surveys performed between May and August 2018.

Appendix F (cont.)
Sensitive Animal Species Potential to Occur[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Birds (cont.)				
Buteo swainsoni	Swainson's hawk	ST MSHCP Covered Species	Breeds in open grassland with scattered trees or groves within agricultural/ranch lands. Forages for small mammals, reptiles, birds, and insects in adjacent grassland and agricultural fields.	**Not Expected.** This species does not generally nest in southern California, except for populations in the Antelope Valley and Mojave Desert. Fossorial mammals living in the study area may provide limited feeding opportunities for individuals passing through the area.
Elanus leucurus	white-tailed kite	SFP MSHCP Covered Species	Nests in trees with dense canopies within open grasslands, woodlands, and marshes. Forages for small mammals within lightly grazed/ungrazed pastures and grasslands.	**Low.** The study area supports a few ornamental trees at the corner of Willows Avenue and Winchester Road, which could provide low-quality nesting habitat. Fossorial mammals living on the study area may provide feeding opportunities for individuals passing through the area. This species was last recorded about 0.9 mile to the northeast of the study area in 1999.
Polioptila californica californica	coastal California gnatcatcher	FT/SSC MSHCP Covered Species	Occurs in coastal sage scrub and very open chaparral.	**High.** The study area supports a small area of non-native vegetation/ buckwheat scrub and suitable habitat is located adjacent to the eastern study area boundary. One adult and two juveniles were observed approximately 50 feet to the southeast of the off-site area on the slopes of Tucalota Creek.

Appendix F (cont.)
Sensitive Animal Species Potential to Occur[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Birds (cont.)				
Vireo bellii pusillus	least Bell's vireo	FE/SE MSHCP Covered Species (a)	Inhabits riparian woodland and is most frequent in areas that combine an understory of dense, young willows or mule fat with a canopy of tall willows.	**Presumed Absent.** The study area supports a very small area of suitable habitat. However, no individuals were observed on the study area during focused surveys performed between April and July 2018. Two pairs were observed within Tucalota Creek to the south of the study area and Willows Avenue.
Fish				
Gila orcuttii	arroyo chub	SSC MSHCP Covered Species	Prefers slow moving streams or backwaters with sand or mud bottoms. Streams are typically deeper than 40 centimeters (16 inches). Primary food source is aquatic vegetation and invertebrates.	**None.** The study area does not support perennial streams.
Invertebrates				
Branchinecta lynchi	vernal pool fairy shrimp	FT MSHCP Covered Species (a)	Most commonly found in swale, earth slump, or basal-flow depression pools in unplowed grasslands. Requires cool-water pools.	**None.** The study area does not support vernal pools.

Appendix F (cont.)
Sensitive Animal Species Potential to Occur[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Invertebrates (cont.)				
Euphydryas editha quino	Quino checkerspot butterfly	FE MSHCP Covered Species	Primary larval host plants in San Diego are dwarf plantain (*Plantago erecta*) at lower elevations, woolly plantain (*P. patagonica*) and white snapdragon (*Antirrhinum coulterianum*) at higher elevations. Owl's clover (*Castilleja exserta*) is considered a secondary host plant if primary host plants have senesced. Potential habitat includes vegetation communities with areas of low-growing and sparse vegetation. These habitats include open stands of sage scrub and chaparral, adjacent open meadows, old foot trails and dirt roads.	**None.** The study area does not support this species' host plant.
Streptocephalus woottoni	Riverside fairy shrimp	FE MSHCP Covered Species (a)	Typically deep vernal pools and seasonal wetlands at least 30 centimeters deep.	**None.** The study area does not support vernal pools.
Reptiles				
Arizona elegans occidentalis	California glossy snake	SSC	Most common in desert habitats, but also occurs in chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grassland. Associated with sandy open areas with sparse shrub cover, but can also occur in rocky habitats.	**Low.** The study area does not support chaparral, forest, grassland, or rocky habitats habitats. The study area supports sandy soils and there is a small area of non-native vegetation/ buckwheat scrub that could provide low-quality habitat. However, this species was only recorded once within the Murrieta quadrangle on CNDDB, which was in 1946 approximately 4.25 miles to the west of the study area.

Appendix F (cont.)
Sensitive Animal Species Potential to Occur[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Reptiles (cont.)				
Crotalus ruber	red diamond rattlesnake	SSC MSHCP Covered Species	Occurs in chaparral, coastal sage scrub, along creek banks, particularly among rock outcrops or piles of debris with a supply of burrowing rodents for prey.	**Low.** The study area does not support chaparral habitat or rock outcrops, although a small area of non-native vegetation/buckwheat scrub was observed. The study area is adjacent to Tucalota Creek and debris piles were present throughout the study area. A number of small mammal burrows were also observed on the study area, which could provide a food source.
Emys marmorata	western pond turtle	SSC MSHCP Covered Species	Almost entirely aquatic; occurs in freshwater marshes, creeks, ponds, rivers and streams, particularly where basking sites, deep water retreats, and egg laying areas are readily available.	**None.** The study area does not support any aquatic features.
Phrynosoma blainvillii	coast horned lizard	SSC MSHCP Covered Species	Coastal sage scrub and open areas in chaparral, oak woodlands, and coniferous forests with sufficient basking sites, adequate scrub cover, and areas of loose soil; require native ants, especially harvester ants (*Pogonomyrmex* spp.), and are generally excluded from areas invaded by Argentine ants (*Linepithema humile*).	**Low.** The study area does not support chaparral, oak woodlands, or coniferous forest, although a small area of non-native vegetation/buckwheat scrub was observed. No harvester ants were observed on the study area.
Thamnophis hammondii	two-striped gartersnake	SSC	Occurs along perennial and intermittent streams bordered by dense riparian vegetation. Occasionally occurs in artificially created aquatic habitats, such as manmade lakes or stock ponds.	**None.** The study area does not support any perennial or intermittent streams, and there are no artificial aquatic habitats.

Appendix F (cont.)
Sensitive Animal Species Potential to Occur[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Mammals				
Chaetodipus californicus femoralis	Dulzura pocket mouse	SSC	Primarily associated with mature chaparral. It has, however, been trapped in mule fat scrub and is known to occur in coastal sage scrub.	**Low.** The study area does not support mature chaparral or mule fat scrub, although a small area of non-native vegetation/buckwheat scrub was observed. Small mammal burrows were observed throughout the study area. This species was only recorded once within the Murrieta quadrangle on CNDDB, which was in 2005 approximately 2.2 miles to the west of the study area.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	SSC MSHCP Covered Species	Herbaceous openings within coastal sage scrub, chaparral, grasslands, and desert scrub. Often associated with sandy, rocky, or gravelly substrates.	**Low.** The study area does not support chaparral, grasslands, or desert scrub, although a small area of non-native vegetation/buckwheat scrub was observed. Small mammal burrows were observed throughout the study area.
Dipodomys merriami parvus	San Bernardino kangaroo rat	FE/SSC MSHCP Covered Species (c)	Generally associated with alluvial fan sage scrub, but also occurs in sage scrub, chaparral, and grassland in proximity to alluvial fan sage scrub habitats.	**None.** The study area and adjacent areas do not support alluvial fan sage scrub habitat.
Dipodomys stephensi	Stephens' kangaroo rat	FE/ST MSHCP Covered Species	Primarily occurs in sparsely vegetated areas within grassland habitats, but also found in open coastal scrub habitat. Feeds on filaree (*Erodium* sp.) and brome (*Bromus* sp.) seeds. Dig burrows in firm soil or use abandoned pocket gopher burrows.	**Moderate.** The study area supports sparsely vegetated areas with filaree and brome species. Small mammal burrows were observed throughout the study area.

Appendix F (cont.)
Sensitive Animal Species Potential to Occur[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Mammals (cont.)				
Eumops perotis californicus	western mastiff bat	SSC	Roosts under exfoliating rock slabs on cliff faces and occasionally in large boulder crevices and building cracks. Forages in a variety of open areas, including washes, floodplains, chaparral, coastal sage scrub, woodlands, ponderosa pine forests, grassland, and agricultural areas.	**Low.** Although the study area does not support suitable roosting habitat, this species may use the study area for foraging. This species was only recorded once within the Murrieta quadrangle on CNDDB, which was in 1991 approximately 2.9 miles to the southwest of the study area.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	SSC MSHCP Covered Species	Occurs primarily in open habitats including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present.	**High**. The study area supports suitable habitat, including disturbed, open areas with minimal shrub cover.
Perognathus longimembris brevinasus	Los Angeles pocket mouse	SSC MSHCP Covered Species (c)	Sandy, gravelly, or stony soils within coastal scrub, alluvial sage scrub, and grassland habitats.	**Moderate.** The study area supports sandy soil and a small area of non-native vegetation/buckwheat scrub habitat. Small mammal burrows were observed throughout the study area.

Source: HELIX (2017)

[1] Sensitive species reported within the Murrieta quadrangle based on a database search conducted on CNDDB.

[2] Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; CT = Candidate Threated; FP = Fully Protected; SSC = State Species of Special Concern. MSHCP Conditionally Covered Species (a) through (f): (a) surveys may be required for species as part of wetland mapping (MSHCP Section 6.1.2); (b) surveys may be required for species within Narrow Endemic Plant Species Survey Area (MSHCP Section 6.1.3); (c) surveys may be required for species within locations shown on survey maps (MSHCP Section 6.3.2); (d) surveys may be required for species within Criteria Area Species Survey Area (MSHCP Section 6.3.2); (e) covered species will be considered to be covered species adequately conserved when conservation requirements identified in species-specific conservation objectives have been met (MSHCP Table 9-3); and (f) covered species will be conserved covered species adequately conserved when a Memorandum of Understanding is executed with the Forest Service that addresses management for these species on Forest Service Land (MSHCP Table 9-3).

[3] Potential to Occur is assessed as follows. **None**: Species is so limited to a particular habitat that it cannot disperse across unsuitable habitat (*e.g.* aquatic organisms), and habitat suitable for its survival does not occur on the study area; **Not Expected**: Species moves freely and might disperse through or across the study area, but suitable habitat for residence or breeding does not occur on the study area (includes species recorded during surveys but only as transients); **Low**: Suitable habitat is present on the study area but of low quality and/or small extent. The species has not been recorded recently on or near the study area. Although the species was not observed during surveys for the current project, the species cannot be excluded with certainty; **Moderate**: Suitable habitat is present on the study area and the species was recorded recently near the study area; however, the habitat is of moderate quality and/or small extent. Although the species was not observed during surveys for the current project, the species cannot be excluded

with certainty; **High**: Suitable habitat of sufficient extent for residence or breeding is present on the study area and the species has been recorded recently on or near the study area, but was not observed during surveys for the current project. However, focused/protocol surveys are not required or have not been completed; **Presumed Present**: The species was observed during biological surveys for the current project and is assumed to occupy the study area; **Presumed Absent**: Suitable habitat is present on the study area but focused/protocol surveys for the species were negative.

Appendix G

Burrowing Owl Focused Survey Report

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September 5, 2018 AVA-01

Ara Tchaghlassian
AVA Property Investments, LLC
144407 Alondra Boulevard
La Mirada, CA 90638

Subject: 2018 Burrowing Owl (*Athene cunicularia*) Survey Report for the Sky Canyon Retail Center Project

Dear Mr. Tchaghlassian:

This letter report presents the results of the 2018 focused burrowing owl (*Athene cunicularia;* BUOW) survey conducted by HELIX Environmental Planning, Inc. (HELIX) for the Sky Canyon Retail Center Project (project) located in unincorporated Riverside County (County), California. The survey was conducted in accordance with the County's Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP; County of Riverside [County] 2006). This survey was conducted to meet applicable conditions under the MSHCP, which was approved in 2003 (Dudek and Associates [Dudek] 2003). The MSHCP is a comprehensive planning effort that includes Western Riverside County and multiple cities within the County. As part of the MSHCP implementation, enrolled jurisdictions are required to impose terms of the MSHCP, including appropriate surveys in accordance with Volume 1, Section 6. The project site is located within the survey area for BUOW; therefore, surveys are required if suitable habitat is present (County 2006). This letter report describes the methods used to perform the survey and the survey results.

STUDY AREA LOCATION

The approximately 7.31-acre project site comprises two parcels with Assessor Parcel Numbers 920-120-034 and -035 located in unincorporated Riverside County, California. The project site is generally located to the north of the City of Temecula limits and east of the Interstate (I-) 215 and the I-15 junction (Figure 1, *Regional Location*). The project site is located in the U.S. Geological Survey (USGS) 7.5-minute Murrieta quadrangle map within Township 7 South, Range 3 West, Section 24 (Figure 2, *USGS Topography*). Specifically, the project site is located to the northeast of the intersection of California State Route 79 and Willows Avenue (Figure 3, *Aerial Photograph*).

The project also includes an approximately 2.53-acre off-site area located within a portion of the right-of-way associated with the extension of Sky Canyon Drive. The off-site area is located along the eastern project boundary. For the purpose of this report, the project site and off-site area are collectively referred to as the study area.

PROJECT DESCRIPTION

The project consists of a commercial and retail center comprising a 31,900-square foot (sf) grocery store, 10,000-sf retail store, 7,500-sf tire shop, 3,000-sf tire shop, 3,000-sf drive-through restaurant, and 4,300-sf car wash on approximately 7.31 acres. The site would connect to existing utilities for electricity, water, and sewer within adjacent roadways and would also require installation of two water quality basins. In addition, the project would build an extension southward of Sky Canyon Drive from its current southern terminus to connect the roadway with Willows Avenue.

STUDY AREA DESCRIPTION

The study area consists of undeveloped land dominated by non-native herbaceous species, with a small area supporting a mixture of non-native vegetation and buckwheat scrub. Ornamental trees and shrubs were observed in the southwestern corner and a small area of southern willow scrub was observed in the southeastern corner. The periphery of the site is highly disturbed and sparsely vegetated. The topography of the study area is mostly flat, with elevations ranging from approximately 1,099 feet (335 meters) above mean sea level (AMSL) at the southern boundary of the study area to a high of approximately 1,114 feet (340 meters) AMSL along the northern boundary. The study area is bounded by commercial development to the north, Tucalota Creek to the east, Willows Avenue to the south, and Winchester Road to the west. Undeveloped land is located to the south of Willows Avenue.

Vegetation Communities

A total of five vegetation communities and land uses were mapped on the study area, including disturbed habitat, non-native vegetation, non-native vegetation/buckwheat scrub, ornamental, and southern willow scrub (Figure 3, *Aerial Vicinity*). A brief description of vegetation communities and land uses that were surveyed for burrowing owl and sign during the focused surveys is provided below. Representative photographs of the site are shown on Attachment A, *Site Photographs*.

Disturbed Habitat

Disturbed habitat includes land cleared of vegetation (e.g., dirt roads) or actively maintained or heavily disturbed areas that are mostly unvegetated, but may support scattered non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance. Disturbed habitat is similar to the non-native vegetation community described below, although disturbed areas generally support little to no vegetative cover.

Disturbed areas dominated the periphery of the study area, totaling 2.94 acres. The disturbed areas included disked slopes and dirt roads, which were mostly unvegetated.

Non-native Vegetation

Non-native vegetation is typically associated with land that has been heavily influenced by human activities, including areas adjacent to roads, manufactured slopes, and abandoned lots. Non-native vegetation areas are dominated by ornamental and exotic species that take advantage of previously cleared or abandoned landscaping or land showing signs of past or present animal usage that removes any capability of providing viable habitat.

Non-native vegetation dominated the study area, totaling 5.84 acres. This community mostly comprised non-native Mediterranean grass (*Schismus barbatus*) and short-pod mustard (*Hirschfeldia incana*). Other non-native species observed in this community included London rocket (*Sisymbrium irio*), red brome (*Bromus madritensis* ssp. *rubens*), redstem filaree (*Erodium cicutarium*), Russian thistle (*Salsola tragus*), and tocalote (*Centaurea melitensis*). A few scattered native species were also observed in this, including dove weed (*Croton setigerus*), jimson weed (*Datura wrightii*), miniature lupine (*Lupinus bicolor*), and western sunflower (*Helianthus annuus*).

Non-native Vegetation/Buckwheat Scrub

Non-native vegetation/buckwheat scrub is a community that is dominated by non-native species, but also includes a low density of species associated with buckwheat scrub. Buckwheat scrub occupies xeric sites such as steep slopes, severely drained soils, or clays that slowly release stored soil moisture. It is dominated by subshrubs with leaves that are deciduous during drought, an adaptation that allows the habitat to withstand the prolonged drought period in the summer and fall. Composition varies substantially depending on physical circumstances and the successional status of the vegetation community; however, characteristic species include buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), brittlebush (*Encelia farinosa*), and several species of sage (*Salvia* spp.).

A linear swath of non-native vegetation/buckwheat scrub community was observed along the boundary dividing the project site and off-site area, totaling 0.88 acre. This community was dominated by Mediterranean grass and short-pod mustard, although native species commonly associated with buckwheat scrub were also observed scattered throughout. These species included buckwheat, California sagebrush, and deerweed (*Acmispon glaber*).

METHODS

A Step I Habitat Assessment was conducted by HELIX Biologist and Regulatory Specialist Ezekiel Cooley on February 2, 2018 and Step II Locating Burrows and Burrowing Owls were conducted by HELIX Biologists Lauren Singleton and Daniel Torres between May 10 and August 9, 2018, in accordance with the County's survey protocol (County 2006). The specific survey information is provided in Table 1, *Survey Information.* The habitat assessment and focused burrow and BUOW surveys are described in detail below.

Table 1
SURVEY INFORMATION

Site Visit	Survey Date	Biologist	Start/Stop Time	Start/Stop Weather Conditions	Survey Results
HA[1]	02/02/18	Ezekiel Cooley	0800-1400	54°F, wind 1-2 mph, 10% clouds 72°F, wind 0-1 mph, 30% clouds	Suitable habitat present.
1[2]	05/10/18	Lauren Singleton	0605-0730	56°F, wind 0-1 mph, 0% clouds 60°F, wind 0-1 mph, 0% clouds	Suitable burrows observed; no BUOW detected.
2	06/10/18	Lauren Singleton	0530-0650	59°F, wind 1-2 mph, 0% clouds 64°F, wind 0-1 mph, 0% clouds	No BUOW detected.
3	07/12/18	Lauren Singleton	0545-0700	68°F, wind 1-2 mph, 35% clouds 70°F, wind 1-2 mph, 20% clouds	No BUOW detected.
4	08/09/18	Daniel Torres	0650-0730	76°F, wind 2-3 mph, 35% clouds 79°F, wind 0-1 mph, 20% clouds	No BUOW detected.

[1] Habitat Assessment
[2] Step II Part A conducted concurrently with the first focused survey (Step II Part B).

Step I – Habitat Assessment

The study area is located within an MSHCP BUOW survey area; therefore, a Step I Habitat Assessment was conducted to determine whether the study area supports suitable BUOW habitat. The habitat assessment was conducted prior to commencement of the Step II surveys described below. The assessment was conducted on the study area and within a 150-meter (approximately 500-foot) buffer zone around the periphery of the study area (survey area). The survey area was slowly walked and assessed for suitable BUOW habitat, including:

- disturbed low-growing vegetation within grassland and shrublands (less than 30 percent canopy cover);
- gently rolling or level terrain;
- areas with abundant small mammal burrows, especially California ground squirrel burrows (*Otospermophilus beecheyi*);
- fence posts, rocks, or other low perching locations; and
- man-made structures, such as earthen berms, debris piles, and cement culverts.

Inaccessible areas of the survey area were visually assessed using binoculars.

Step II – Locating Burrows and Burrowing Owls

Since suitable habitat was observed during the habitat assessment, Step II surveys were conducted within the survey area. Step II surveys, which consist of a focused burrow survey (Part A) and four focused BUOW surveys (Part B), were conducted to determine whether the survey area supports suitable burrows and/or BUOW. The focused burrow survey was conducted concurrently with the first BUOW survey.

All potential burrows were checked for signs of recent owl occupation. Signs of occupation include:

- pellets/casting (regurgitated fur, bones, and/or insect parts);
- white wash (excrement); and/or
- feathers.

Since suitable burrows were observed within the survey area, three additional BUOW surveys were conducted. The biologists walked transects spaced no greater than 30 meters apart (approximately 100 feet) to allow for 100 percent visual coverage of all suitable habitat within the survey area. The biologists walked slowly and methodically, closely checking suitable habitat within the survey area for suitable burrows, BUOW diagnostic sign (e.g., molted feathers, pellets/castings, or whitewash at or near a burrow entrance), and individual BUOW. Inaccessible areas of the survey area were visually assessed using binoculars. All suitable burrows, burrow surrogates, BUOW sign, and/or BUOW observations were recorded using a handheld Global Positioning System unit (Figure 4, *Suitable Burrow and Transect Locations*).

RESULTS

Suitable BUOW habitat was observed within the survey area, including disturbed habitat, non-native vegetation, and non-native vegetation/buckwheat scrub communities (Attachment A). Suitable burrows that could potentially be used by BUOW were observed within and adjacent to the survey area. No BUOW or sign of BUOW occupation were observed during the four focused surveys. Therefore, BUOW does not currently occupy the study area. Observed burrow locations and transects walked are shown on Figure 4.

CONCLUSION

No BUOW were observed or detected within the survey area during the focused surveys. Burrows with potential to support BUOW were noted on the study area, but no sign of BUOW occupation was observed. A pre-construction survey is required 30 days prior to ground disturbance pursuant to the County's survey protocol (County of Riverside 2006). If ground-disturbing activities are delayed more than 30 days after the pre-construction survey has been completed, the study area must be resurveyed.

Please contact us or Amir Morales at (949) 234-8770 should you have any questions.

Sincerely,

Ezekiel Cooley
Biologist/Regulatory Specialist

Lauren Singleton
Biologist

Daniel Torres
Biologist

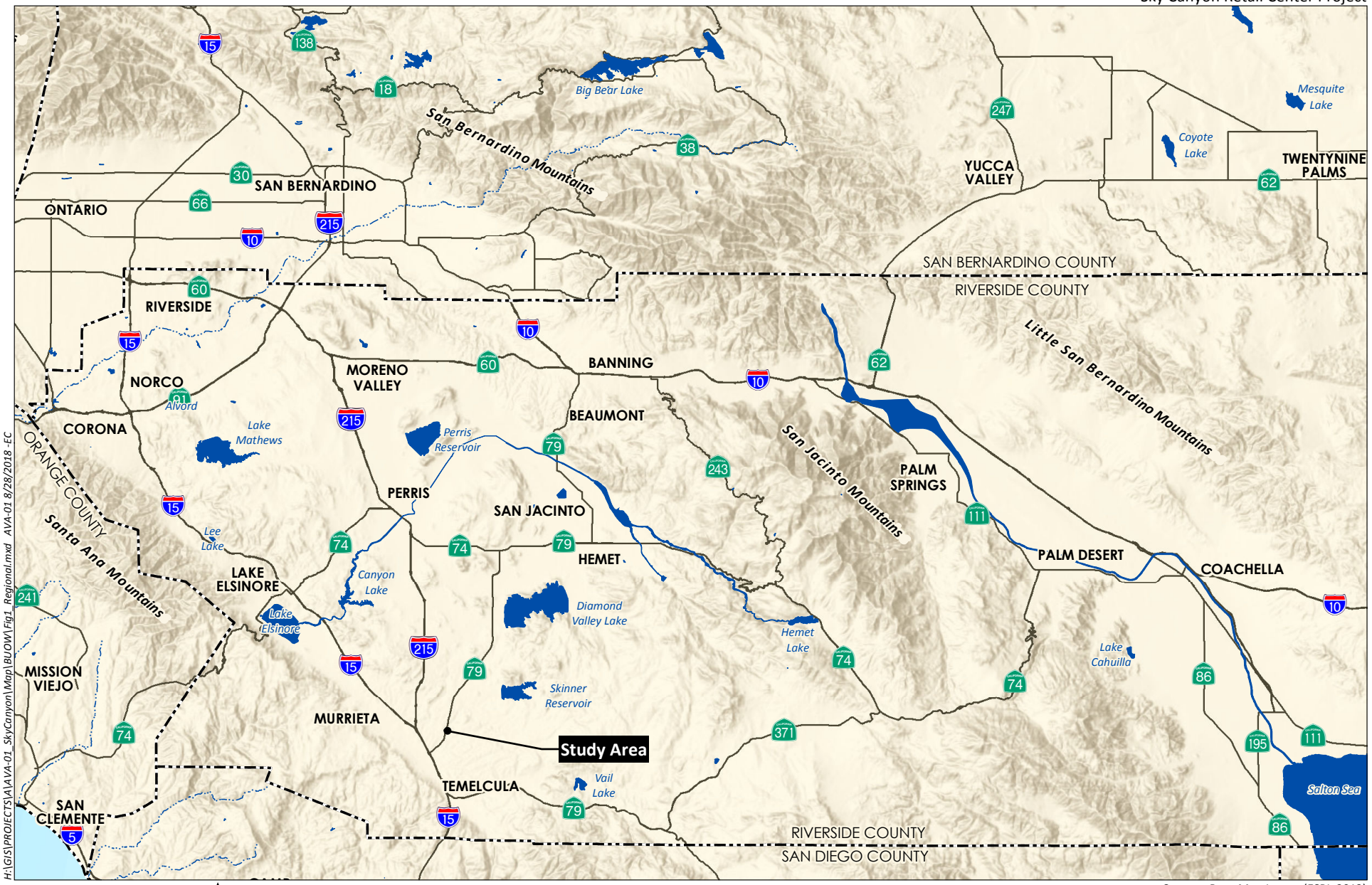
Enclosures:

Figure 1: Regional Location
Figure 2: USGS Topography
Figure 3: Aerial Photograph
Figure 4: Suitable Burrow and Transect Locations
Attachment A: Site Photographs

REFERENCES

Dudek and Associates. 2003. Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Final MSHCP Volume I. Prep. for County of Riverside, Transportation and Land Management Agency.

Riverside, County of. 2006. Environmental Programs Department. Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area. Retrieved from: http://www.tlma.co.riverside.ca.us/epd/documents/Burrowing_Owl _Survey_Instructions.pdf. March 29. Accessed August 3, 2017.



H:\GIS\PROJECTS\A\AVA-01_SkyCanyon\Map\BUOW\Fig1_Regional.mxd AVA-01 8/28/2018 -EC

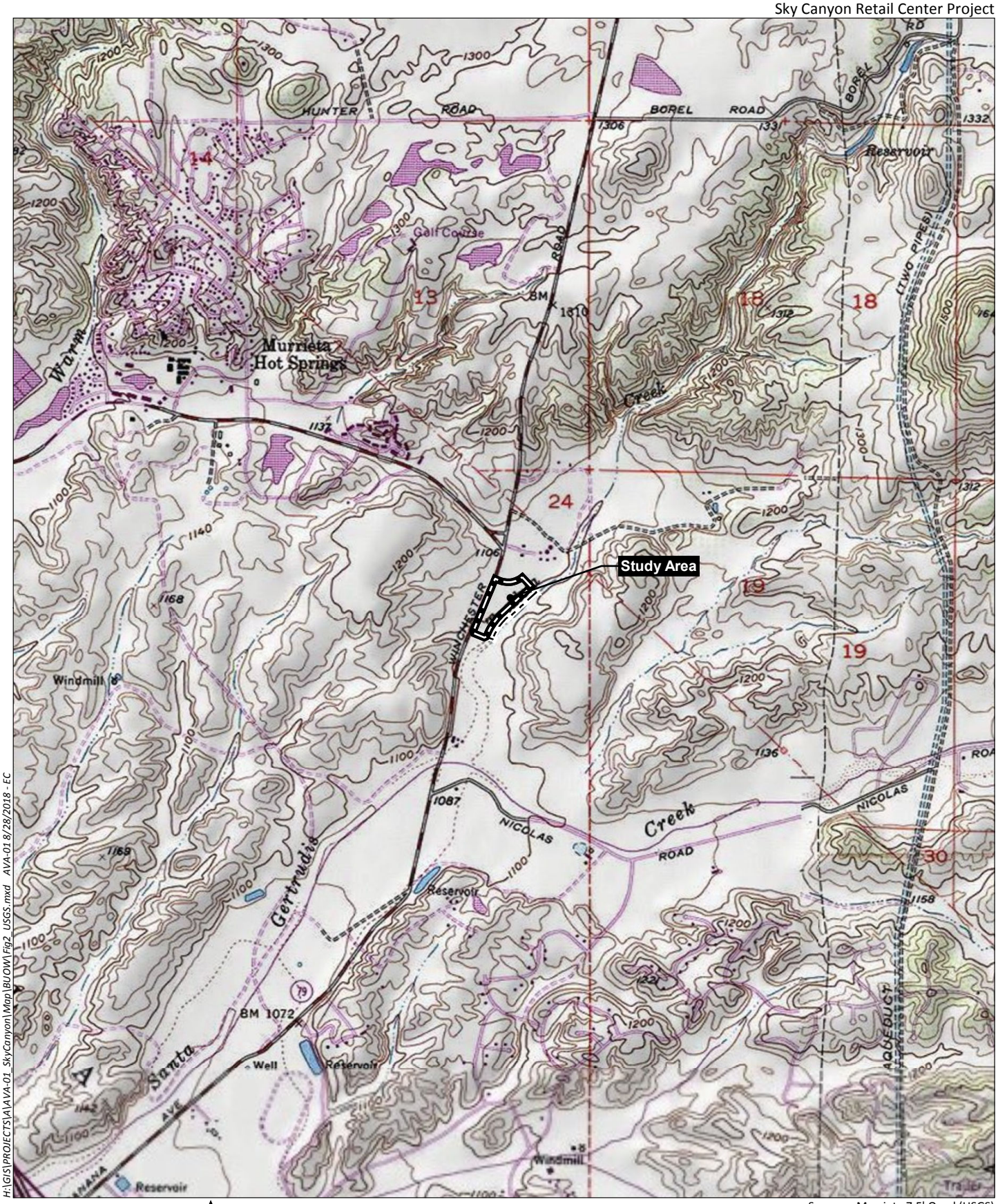
0 10 Miles

Source: Base Map Layers (ESRI, 2013)

HELIX Environmental Planning

Regional Location

Figure 1



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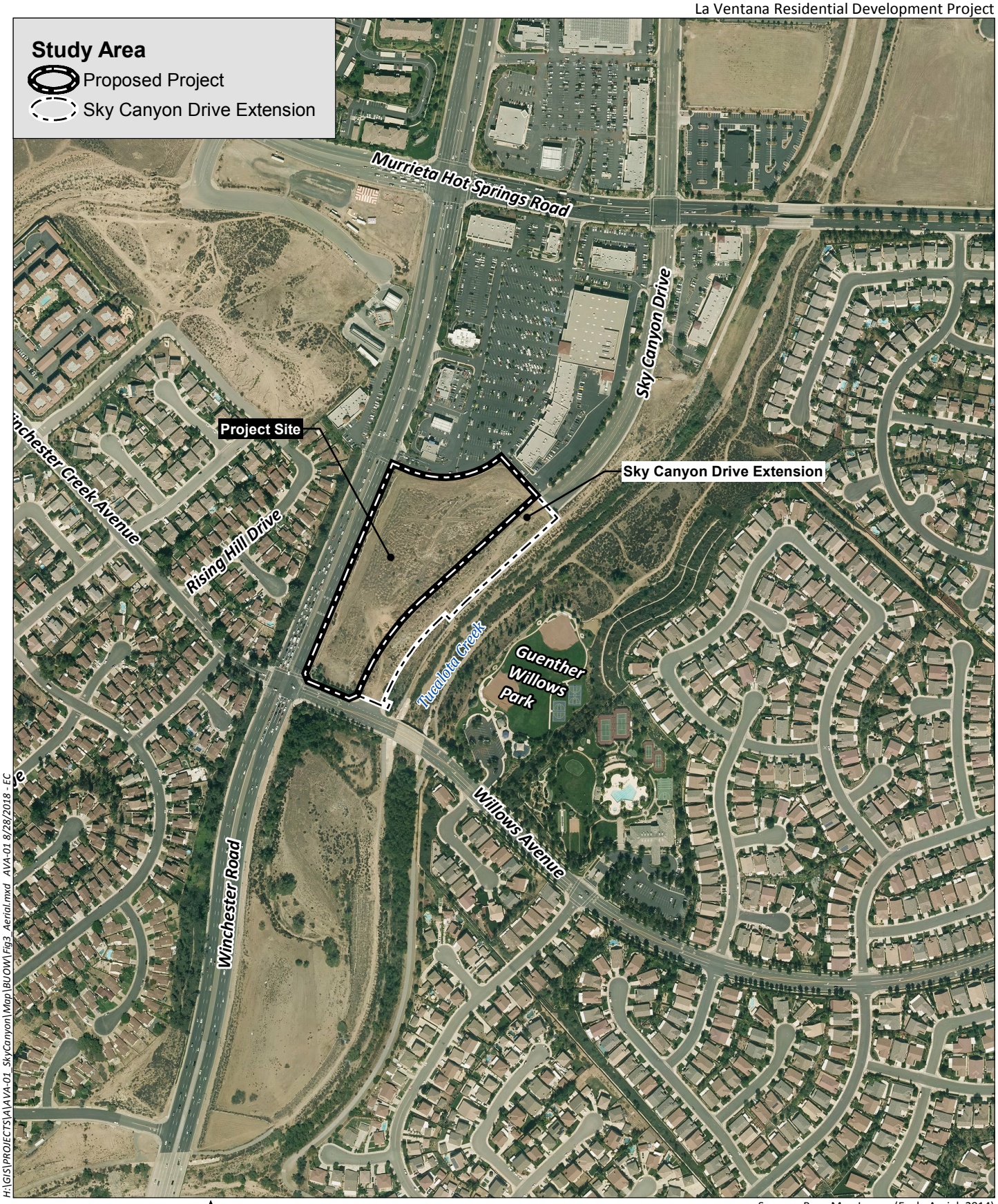
0 2,000 Feet

Source: Murrieta 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2

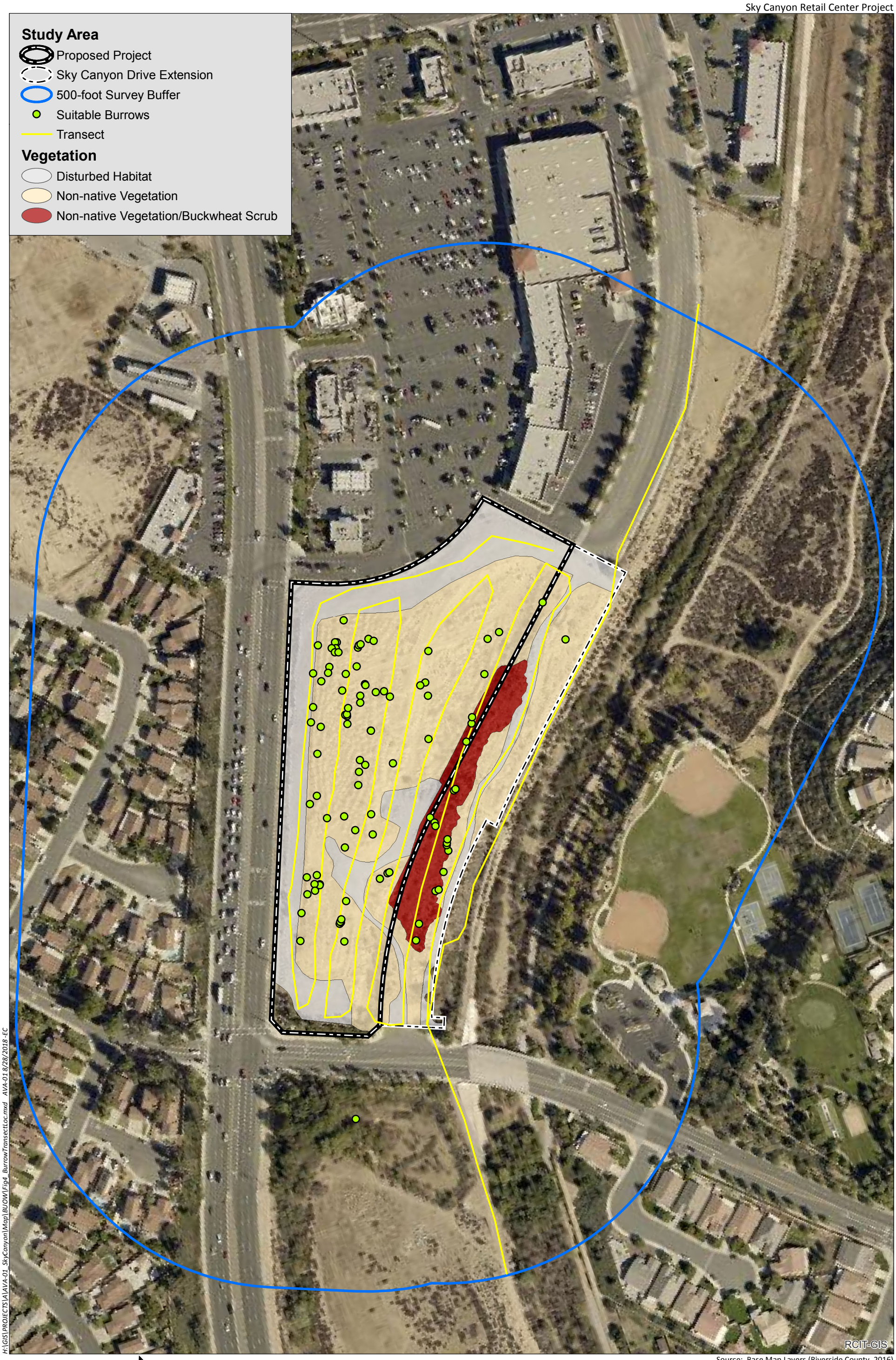


Source: Base Map Layers (Eagle Aerial, 2014)

HELIX Environmental Planning

Aerial Photograph

Figure 3



H:\GIS\PROJECTS\A\AVA-01_SkyCanyon\Map\BUOW\Fig4_BurrowTransectLoc.mxd AVA-01 8/28/2018 -EC

0 175 Feet

Source: Base Map Layers (Riverside County, 2016)

HELIX Environmental Planning

Suitable Burrow and Transect Locations

Figure 4

Photograph 1: View of the non-native vegetation (left) and non-native vegetation/buckwheat scrub (right) in the southern portion of the project site, facing north.

Photograph 2: View of the of the non-native vegetation/buckwheat scrub (left) and the non-native vegetation (right) in the northern portion of the project site, facing southwest.

Photograph 3: View of the disturbed habitat along the western boundary of the project site, facing south. California State Route 79 can be seen on the right.

Photograph 4: View of the disturbed habitat along the eastern boundary of the off-site area, facing south.

Source: HELIX 2018

Appendix H

Least Bell's Vireo Focused Survey Report

HELIX Environmental Planning, Inc.
16485 Laguna Canyon Road
Suite 150
Irvine, CA 92618
949.234.8792 **tel.**
619.462.0552 **fax**
www.**helixepi**.com

August 22, 2018 AVA-01

Ms. Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

Subject: 2018 Least Bell's Vireo (*Vireo bellii pusillus*) Survey Report for the Sky Canyon Retail Center Project

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey for the federally endangered least Bell's vireo (*Vireo bellii pusillus*; LBVI) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Sky Canyon Retail Center (project). This letter describes the survey methods and results and is being submitted to the USFWS in accordance with protocol survey guidelines.

PROJECT LOCATION

The approximately 7.31-acre project site comprises two parcels with Assessor Parcel Number 920-120-034 and -035 located in unincorporated Riverside County, California. The project site is generally located to the north of the City of Temecula and east of the Interstate (I-) 215 and I-15 junction (Figure 1). The project site is located in the U.S. Geological Survey (USGS) 7.5-minute Murrieta quadrangle map within Township 7 South, Range 3 West, Section 24 (Figure 2). Specifically, the project site is located directly northeast of the intersection of Winchester Road (State Route 79) and Willows Avenue (Figure 3).

The project also includes an approximately 2.53-acre off-site area located within a portion of the right-of-way associated with the extension of Sky Canyon Drive. The off-site area is located along the southeastern project boundary (Figure 3).

METHODS

The survey consisted of eight site visits led by qualified HELIX biologist Lauren Singleton between April 24 and July 12, 2018 (Table 1) in accordance with the current USFWS survey protocol (2001). The surveys were conducted by walking along the edges of, as well as within, potential LBVI habitat in the survey area while listening for LBVI and viewing birds with the aid of binoculars. The survey route was designed to ensure complete survey coverage of habitat potentially occupied by LBVI. The survey area consisted of approximately 0.02 acres of suitable LBVI habitat within the off-site area, including

southern willow scrub (Figure 4). No suitable habitat was observed on the project site. Accessible suitable habitat in the immediate vicinity was also surveyed, which included approximately 5.00 acres of mule fat scrub and southern riparian forest. Table 1 details the survey dates, times, and conditions.

SURVEY RESULTS

A total of two LBVI pairs were detected adjacent to the project site during the 2018 survey effort (Figure 4). No LBVI were detected on the project site. Both pairs were observed to the south of the project site, south of Willows Avenue. No banded individuals were observed during the survey; however, not all individuals were directly observed. A detailed description of LBVI locations and observations is included below.

A LBVI pair (Pair No. 1) was detected approximately 175 feet to the southwest of the project site within a basin located to the west of Tucalota Creek (Figure 4). A male was heard singing during the first survey while surveying the southern willow scrub located within the off-site area. A male and female were observed foraging together during the second survey in the same general area. A male was heard singing during the third survey in the same general area and is presumed to be the same male observed during the previous two surveys. The pair was observed foraging again during the fourth survey, and the male was heard singing during the fifth survey. No vireos were detected at this location during the sixth, seventh, or eighth surveys.

A LBVI pair (Pair No. 2) was observed approximately 400 feet to the southeast of the project site within Tucalota Creek (Figure 4). A male was heard singing during the first survey while surveying the southern willow scrub located within the off-site area. The male was heard singing during the second and third surveys in the same general area. A male and female were observed foraging together during the fourth survey in the same general area. A male was heard singing during the fifth, sixth, seventh, and eighth and is presumed to be the same male detected during the previous surveys.

The brown-headed cowbird (*Molothrus ater*; BHCO), a nest parasite of the LBVI, was detected during four of the eight surveys in three separate locations (Figure 4). Observations of BHCO included singing males and calling females.

CERTIFICATION

I certify that the information in this survey report and attached exhibits fully and accurately represents our work. Please contact me or Amir Morales at (949) 234-8792 should you have any questions.

Sincerely,

Lauren Singleton
Biologist

Attachments: Figure 1: Regional Location
Figure 2: USGS Topography
Figure 3: Aerial Photograph
Figure 4: 2018 Least Bell's Vireo Survey Results

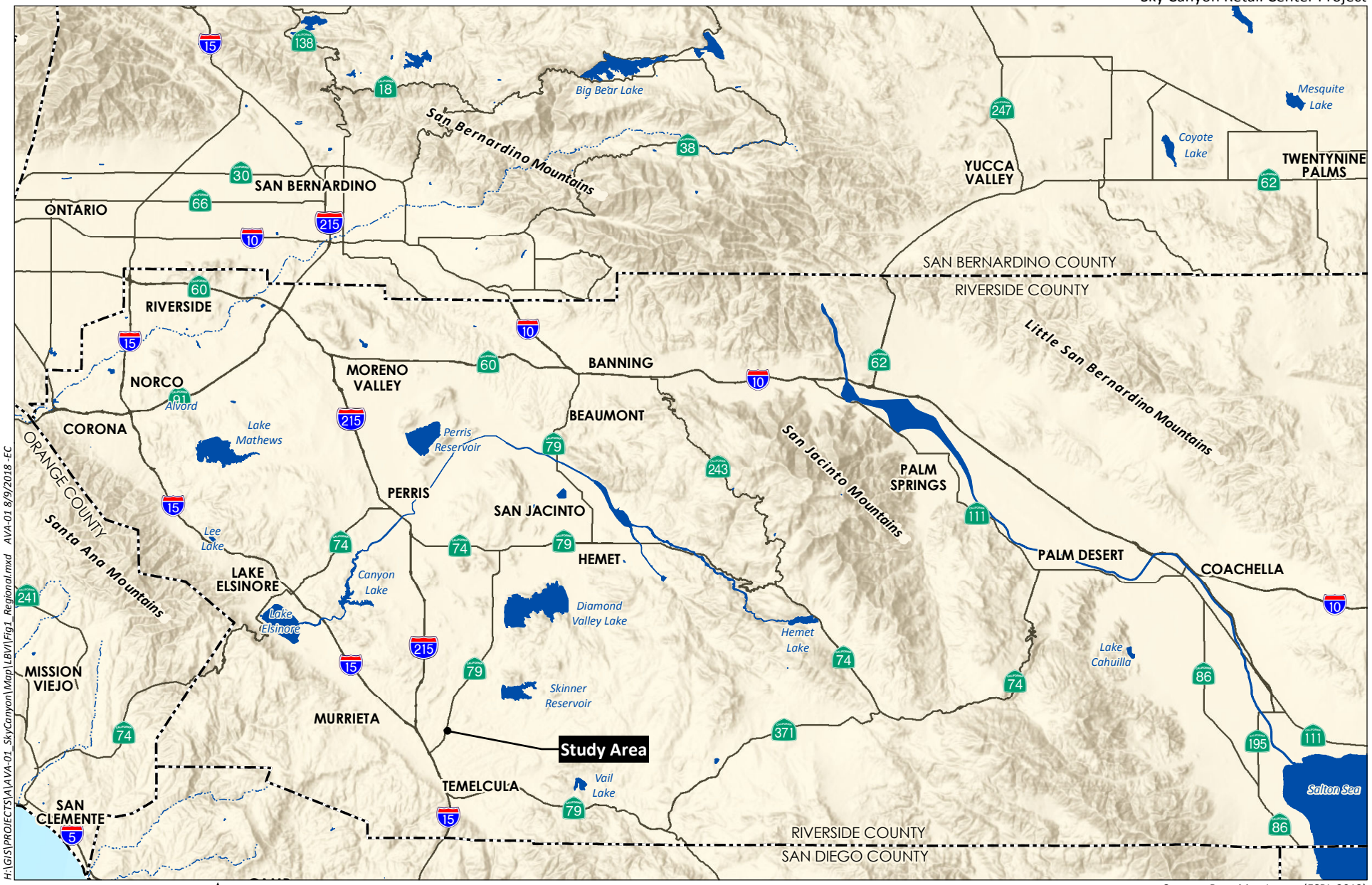
Table 1
SURVEY INFORMATION

Site Visit	Survey Date	Biologist	Time Start-End	Approx. Acres Surveyed/Acres per Hour[1]	Start/Stop Weather Conditions	Survey Result	
						Least Bell's Vireo (LBVI)	Brown-Headed Cowbird[2]
1	04/24/18	Lauren Singleton	0715-1100	5.02 ac/ 1.34 ac per hr	55°F, wind 0-1 mph, 15% clouds 71°F, wind 3-4 mph, 50% clouds	• Male (later determined to be same male as in Pair No. 1) singing to the south of the project site, southeast of Winchester Avenue-Willows Avenue. intersection. • Male (later determined to be same male as in Pair No. 2) singing to south of the project site, to the south of Willows Avenue within Tucalota Creek.	0
2	05/10/18	Lauren Singleton	0735-1045	5.02 ac/ 1.58 ac per hr	60°F, wind 0-1 mph, 0% clouds 70°F, wind 3-4 mph, 0% clouds	• Pair No. 1 foraging in the same general area. • Male from Pair No. 2 singing in the same general area.	0
3	05/22/18	Lauren Singleton	0715-1045	5.02 ac/ 1.43 ac per hr	52°F, wind 2-3 mph, 100% clouds 59°F, wind 3-4 mph, 100% clouds	• Male from Pair No. 2 singing in the same general area.	0
4	06/01/18	Lauren Singleton	0715-1100	5.02 ac/ 1.34 ac per hr	57°F, wind 3-4 mph, 90% clouds 71°F, wind 3-4 mph, 0% clouds	• Pair No. 1 foraging and singing in the same general area. • Pair No. 2 foraging and singing in the same general area.	0
5	06/11/18	Lauren Singleton	0650-0930	5.02 ac/ 1.88 ac per hr	64°F, wind 0-1 mph, 0% clouds 74°F, wind 1-2 mph, 0% clouds	• Male from Pair No. 1 singing in the same general area. • Male from Pair No. 2 singing in the same general area.	0
6	06/21/18	Lauren Singleton	0645-0945	5.02 ac/ 1.67 ac per hr	63°F, wind 0-1 mph, 100% clouds 69°F, wind 2-3 mph, 0% clouds	• Male from Pair No. 2 singing in same general area.	5
7	07/02/18	Lauren Singleton	0620-0945	5.02 ac/ 1.47 ac per hr	58°F, wind 0-1 mph, 100% clouds 68°F, wind 0-1 mph, 0% clouds	• Male from Pair No. 2 singing in same general area.	3
8	07/12/18	Lauren Singleton	0700-1030	5.02 ac/ 1.43 ac per hr	70°F, wind 1-2 mph, 20% clouds 83°F, wind 2-3 mph, 40% clouds	• Male from Pair No. 2 singing in same general area.	0

[1] Approximately 0.02 acre of southern willow scrub was surveyed in the off-site area and approximately 5.00 acres of habitat was surveyed in areas adjacent to the project site and off-site area.
[2] Number of brown-headed cowbird (*Molothrus ater*) detected during survey.

REFERENCES

U.S. Fish and Wildlife Service (USFWS). 2001. Least Bell's Vireo Survey Guidelines. January 19.



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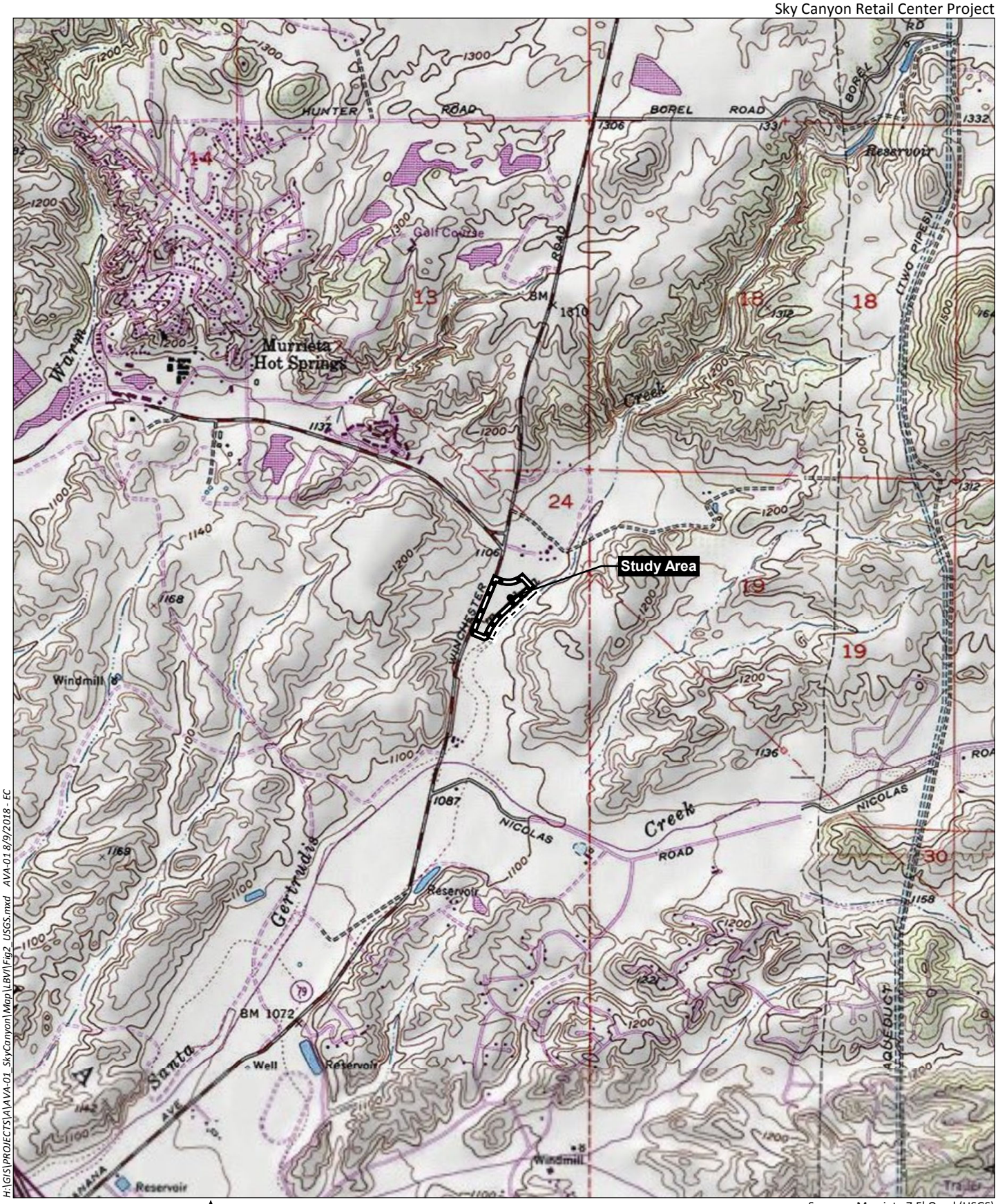
Source: Base Map Layers (ESRI, 2013)

HELIX Environmental Planning

Regional Location

Figure 1



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0 2,000 Feet

Source: Murrieta 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2

Source: Base Map Layers (Eagle Aerial, 2014)

HELIX Environmental Planning

Aerial Photograph

Figure 3

H:\GIS\PROJECTS\A\AVA-01_SkyCanyon\Map\LBVI\Fig4_2018_LBVI_Results.mxd AVA-01 8/9/2018 -EC

Source: Base Map Layers (NearMap, 2017)

HELIX Environmental Planning

2018 Least Bell's Vireo Survey Results

Figure 4

Appendix I

Noise Analysis Report

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942
619.462.1515 tel
619.462.0552 fax
www.**helixepi**.com

October 25, 2018

Ara Tchaghlassion
AVA Property Investments, LLC
144407 Alondra Boulevard
La Mirada, CA 90638

Subject: Sky Canyon Retail Center Project Car Wash Noise Analysis at Biologically Sensitive Habitat

Dear Mr. Tchaghlassion:

HELIX Environmental Planning, Inc. (HELIX) has performed a noise analysis for the operational noise impacts of a future car wash within the proposed Sky Canyon Retail Center Project (project), focusing on potential noise impacts to the nearby biologically sensitive habitat. This letter supplements the full noise impact analysis for the project prepared by HELIX in October 2018, which analyses additional aspects of project components, including construction (HELIX 2018a).

PROJECT DESCRIPTION AND ENVIRONMENTAL SETTING

The project would construct a commercial and retail center with five buildings on a 7.3-acre site. Project components include a 31,900 square foot (SF) Smart and Final grocery store, 10,000 SF of retail space, a 7,500 SF tire shop, 3,000 SF restaurant with attached drive-thru, and a 4,300 SF car wash. The car wash building would be the southernmost building in the project, with cars entering the car wash tunnel to the south. Noise-producing equipment would be located internally within the enclosed car wash building.

The project would include a southern extension of the existing Sky Canyon Drive from its current terminus just north of the project. Sky Canyon Drive would connect to Willows Avenue at an existing turnout approximately 340 feet east of the intersection of Willows Avenue and Winchester Road. Access to the project would be provided by driveways onto nearby roadways, including one on Winchester Road, and three on Sky Canyon Drive.

According to the project's General Biological Resources Assessment (HELIX 2018b), southern riparian forest habitat was observed south of the study area across Willows Avenue. Two least Bell's vireo (LBVI) pairs were observed during a focused survey, approximately 175 feet (on the property at the southeast corner of Willows Avenue and Winchester Road) and 400 feet (within Tucalota Creek) south of the project.

TERMINOLOGY

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting (dBA) to approximate the hearing sensitivity of humans. Time-averaged noise levels of one hour are expressed by the symbol L_{EQ}, unless a different time period is specified.

NOISE MODELING SOFTWARE

Modeling of the car wash operations was accomplished using Computer Aided Noise Abatement (CadnaA) version 2018. CadnaA is a model-based computer program developed by *DataKustik* for predicting noise impacts in a wide variety of conditions. CadnaA assists in the calculation, presentation, assessment, and mitigation of noise exposure. It allows for the input of project-related information, such as noise source data, barriers, structures, and topography to create a detailed model for the prediction of outdoor noise impacts.

NOISE STANDARDS

Biologically Sensitive Habitat

Some studies, such as that completed by the Bioacoustics Research Team (1997), have concluded that 60 dBA is a criterion to use as a starting point for passerine (perching birds) impacts until more specific research is done. Associated guidelines produced by the U.S. Fish and Wildlife Service (USFWS) require that project noise be limited to a level not to exceed 60 dBA L_{EQ} or, if the existing ambient noise level is above 60 dBA L_{EQ}, limit increases to the ambient noise level by 3 dBA L_{EQ} at the edge of occupied habitat during the avian species breeding season.

EXISTING NOISE CONDITIONS

Area Measurement

An ambient noise survey of the project site was conducted on February 1, 2018 for the project's Acoustical Analysis Report (HELIX 2018a). One measurement (Site 1) was taken near the habitat, and it was noted that noise from Winchester Road was the dominant noise source. The measurement was taken east of the biologically sensitive habitat, at a farther distance from Winchester Road (see Figure 1, *Car Wash Noise Contours*, for location). The measurement site is located approximately 70 feet north of the centerline of Willows Avenue, 325 feet east of its intersection with Winchester Road. An ambient noise level of 60.7 dBA L_{EQ} was measured at this location.

Traffic Noise

As noted above, the dominant noise source at the project site and the biologically sensitive habitat is traffic along Winchester Road. Noise levels at three locations (R1 through R3 as shown on Figure 1) within the biologically sensitive habitat were calculated based on modeling conducted for the project's Acoustical Analysis Report, which used the Traffic Noise Model (TNM) version 2.5 to calculate traffic noise levels (HELIX 2018a). These noise levels are calculated based on the traffic volumes from the project's Traffic Impact Analysis (Linscott, Law & Greenspan 2018). Winchester Road generates 3,363 trips during the PM peak hour, and Willows Avenue generates 445 trips during the PM peak hour. Traffic

noise levels at each receiver are displayed in Table 1, *Biologically Sensitive Habitat – Existing Noise Levels*. The locations of these receivers are depicted in Figure 1.

Table 1
BIOLOGICALLY SENSITIVE HABITAT – EXISTING NOISE LEVELS

Receiver[1]	Winchester Road Noise Levels	Willows Avenue Noise Levels	Combined Noise Levels
R1	66.3 dBA L_{EQ}	59.9 dBA L_{EQ}	67.2 dBA L_{EQ}
R2	58.8 dBA L_{EQ}	59.9 dBA L_{EQ}	62.4 dBA L_{EQ}
R3	57.7 dBA L_{EQ}	59.9 dBA L_{EQ}	61.9 dBA L_{EQ}

[1] Receivers measured at a 5-foot height.

The ambient noise measurement and calculations based on modeling of existing traffic conditions indicates that noise levels at the biologically sensitive habitat are currently above the 60 dBA L_{EQ} limit.

CAR WASH NOISE ANALYSIS

Noise generated by the car wash is assumed to be from several internal sources. Noise produced by equipment within the car wash structure would be largely contained within the car wash tunnel. However, noise would emanate from the car wash entrance. To model this noise source, noise levels were measured at an existing car wash facility that includes similar equipment to what is proposed for the project to provide reference noise levels from interior noise-generating equipment. At a distance of 60 feet, noise levels during continuous operation of a car wash generate noise levels of approximately 68 dBA L_{EQ}[1]. For modeling purposes, all systems were analyzed assuming operational use for 30 minutes per given hour. Refer to Attachment 1, *Car Wash Measurements,* for additional measurement information.

The loudest single source is the air-blast drying systems (blower) just inside the car wash exit. Exact specifications for the car wash blower system are not available at this point in project design. For the purposes of analysis, a Sonny's Enterprises 45-horsepower blower unit was assumed for the blower unit. The manufacturer's data sheet indicates that the blowers would generate noise levels of 75 dBA L_{EQ} at a distance of 100 feet. The sheet is attached as Attachment 2, *Blower Assembly*. All systems were conservatively analyzed assuming operational use for 30 minutes per given hour. Although the blower would be the loudest single source of noise, the exit to the car wash tunnel would face north, away from the biologically sensitive habitat.

Table 2, *Site Features Included in the Noise Model*, shows the proposed features at the project site that were included in the CadnaA noise model. These features would affect the emission, obstruction, and reflection of noise from the speaker. To isolate noise generation from the car wash, the model did not include existing traffic noise from vehicles along Willows Avenue, Winchester Road, or the future Sky Canyon Drive extension.

[1] This measurement was taken at a car wash facility located at 5261 Baltimore Drive in La Mesa, California on September 26, 2018. The car wash entrance measurement was measured over the course of approximately 15 minutes. The loudest portion of the car wash cycle was used for this measurement in which a direct line-of-sight was provided. Additional details can be found in Attachment 1.

Table 2
SITE FEATURES INCLUDED
IN THE NOISE MODEL

Description	Height[1]
Proposed Car Wash Building	15 feet
Blower	8 feet
Car Wash Entrance	10 feet

[1] Heights are estimated from architectural plans and from typical heights of objects/buildings.

Noise levels at nine receivers in three locations within the biologically sensitive habitat were calculated in CadnaA using the data described above. Because the biologically sensitive habitat may contain nesting birds at varying heights in trees, each location was modeled at 5-foot, 10-foot, and 15-foot heights. Additionally, the 60 dBA L_{EQ} noise contours as measured at a 5-foot height were modeled. The noise levels for each receiver are depicted in Table 3, *Operational Noise Levels*. The project site plan is depicted on Figure 1, *Site Plan*. The location of the nine receivers and noise contours are depicted on Figure 2, *Car Wash Noise Contours* (see Attachment 3, *Figures*). At the nearby biologically sensitive habitat, noise levels from operation of the car wash would not exceed 45 dBA L_{EQ}. When added to the existing traffic noise levels calculated above, operation of the car wash would not be expected to increase noise any biologically sensitive habitat receiver by more than 0.1 dBA L_{EQ}[2].

Table 3
OPERATIONAL NOISE LEVELS

Receiver	Receiver Height	Car Wash Noise (dBA L_{EQ})
R1	5 feet	43.5
	10 feet	42.3
	15 feet	40.2
R2	5 feet	43.6
	10 feet	42.3
	15 feet	40.2
R3	5 feet	43.7
	10 feet	42.3
	15 feet	40.3

Conclusions

Existing conditions at the biologically sensitive habitat are currently above 60 dBA L_{EQ}. Operation of the project's car wash would generate noise levels below 45 dBA L_{EQ}. When car wash noise is combined with existing noise levels, noise levels at the biologically sensitive habitat would not increase by more than

[2] Because decibels are logarithmic units of measurement, they cannot be added by standard arithmetic. A doubling of sound energy corresponds to a 3 dBA increase.

0.1 dBA L_{EQ}, which would not exceed the 3 dBA L_{EQ} threshold. Impacts to nearby biologically sensitive habitat from car wash noise would be less than significant.

Jason Runyan
Noise Analyst

Joanne M. Dramko, AICP
Senior Technical Specialist

Attachments:

Attachment 1: Car Wash Measurements

Attachment 2: Blower Assembly

Attachment 3: Figures

REFERENCES

Bioacoustics Research Team. 1997. Environmental Effects of Transportation Noise, A Case Study: Noise Criteria for Protection of Endangered Passerine Birds. University of California, Davis, Transportation Noise Control Center Technical Report 97-001.

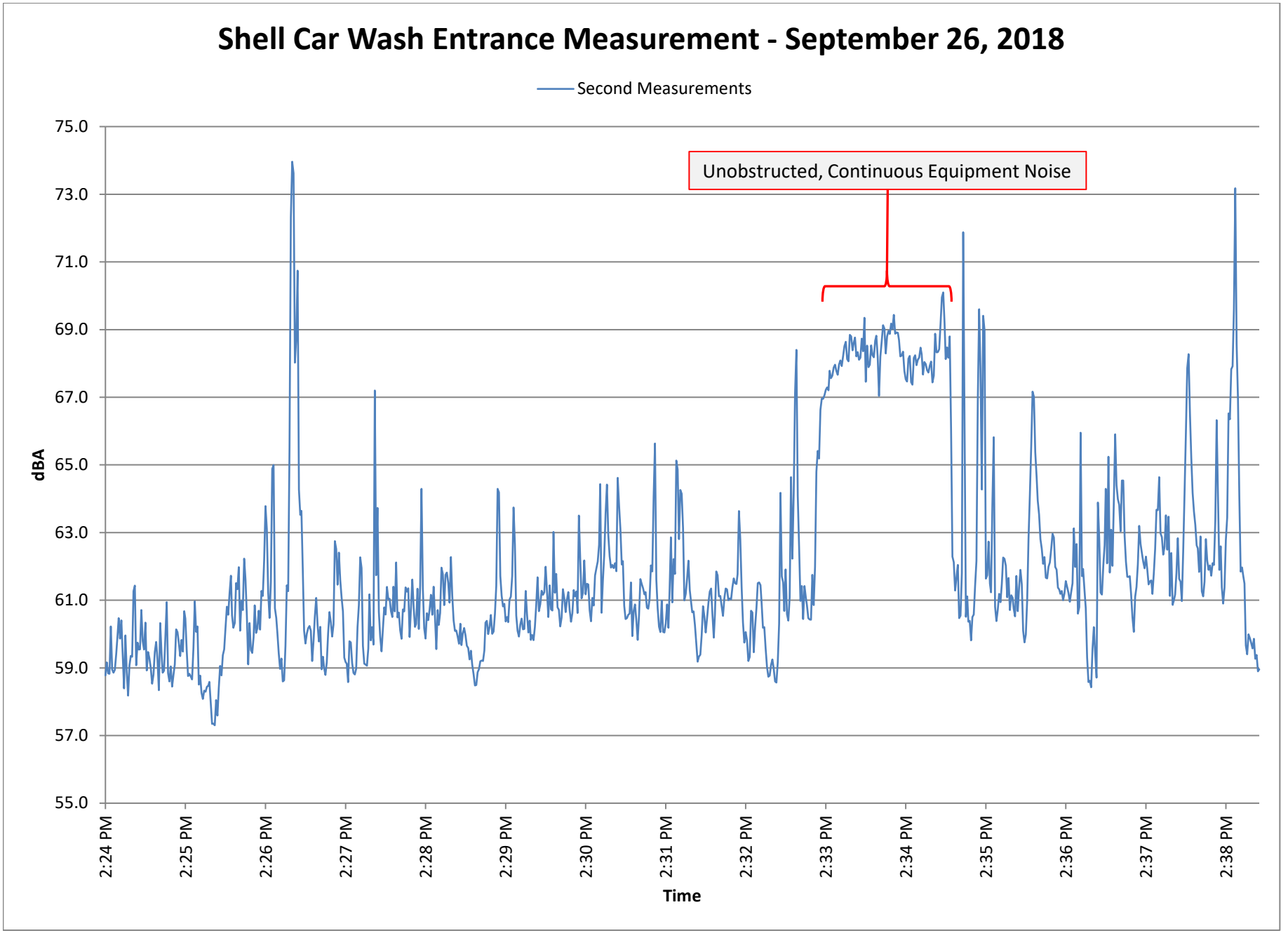
HELIX Environmental Planning (HELIX). 2018a. Sky Canyon Retail Center Project Acoustical Analysis Report. October.

2018b. Sky Canyon Retail Center Project General Biological Resources Assessment. August.

Linscott, Law, & Greenspan. 2018. Traffic Impact Analysis Report for the Sky Canyon Retail Center Project. October 16.

Attachment 1

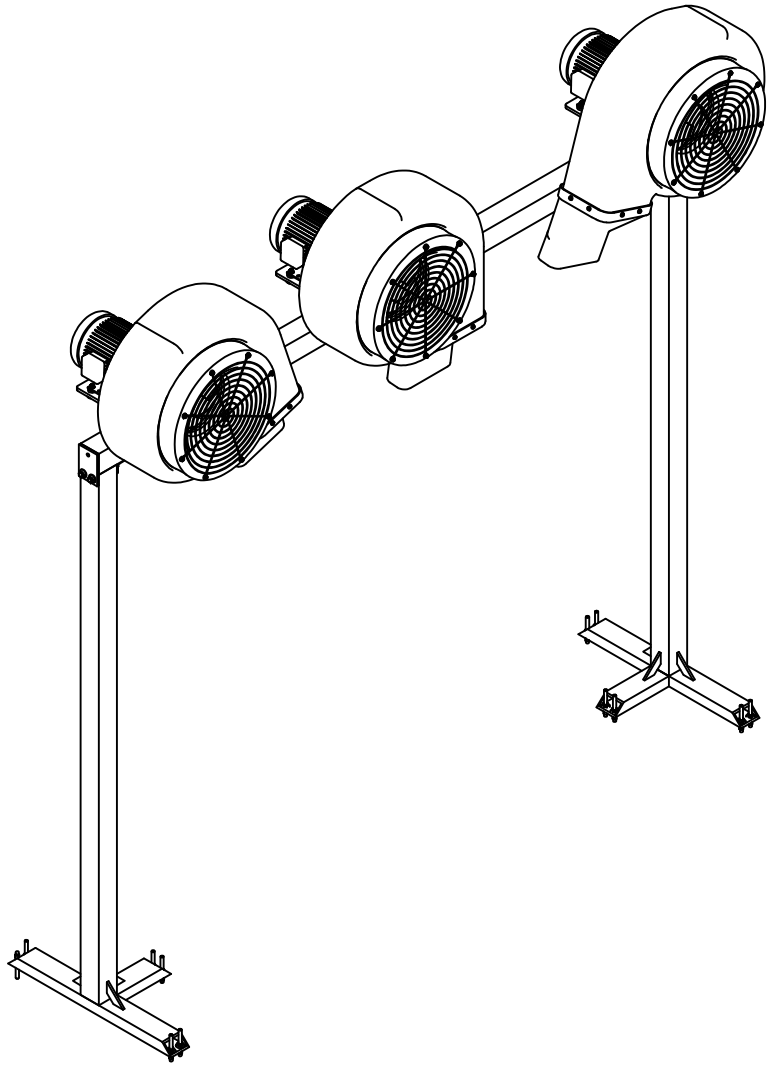
Car Wash Measurements

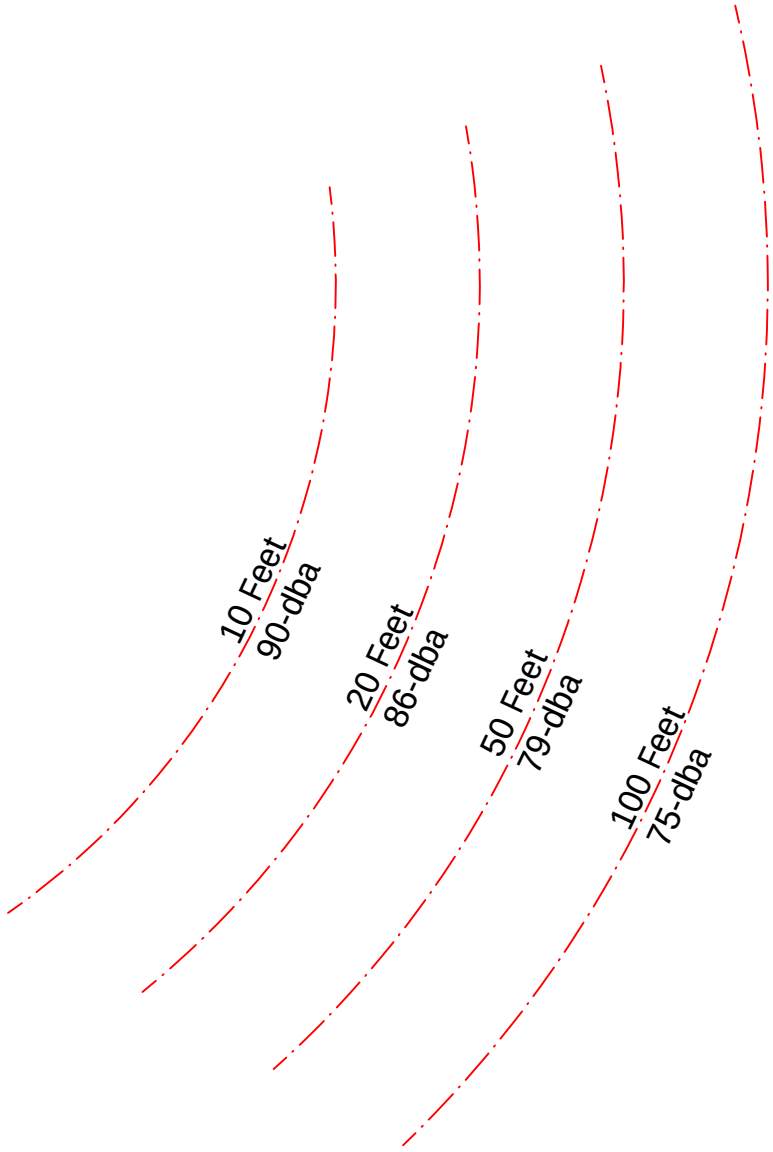

Shell Car Wash Entrance Measurement - September 26, 2018
Second Measurements
Unobstructed, Continuous Equipment Noise
dBA
75.0
73.0
71.0
69.0
67.0
65.0
63.0
61.0
59.0
57.0
55.0
2:24 PM
2:25 PM
2:26 PM
2:27 PM
2:28 PM
2:29 PM
2:30 PM
2:31 PM
2:32 PM
2:33 PM
2:34 PM
2:35 PM
2:36 PM
2:37 PM
2:38 PM
Time

Attachment 2

Blower Assembly

Enviromental Noise with Dryer OFF: 70 dba





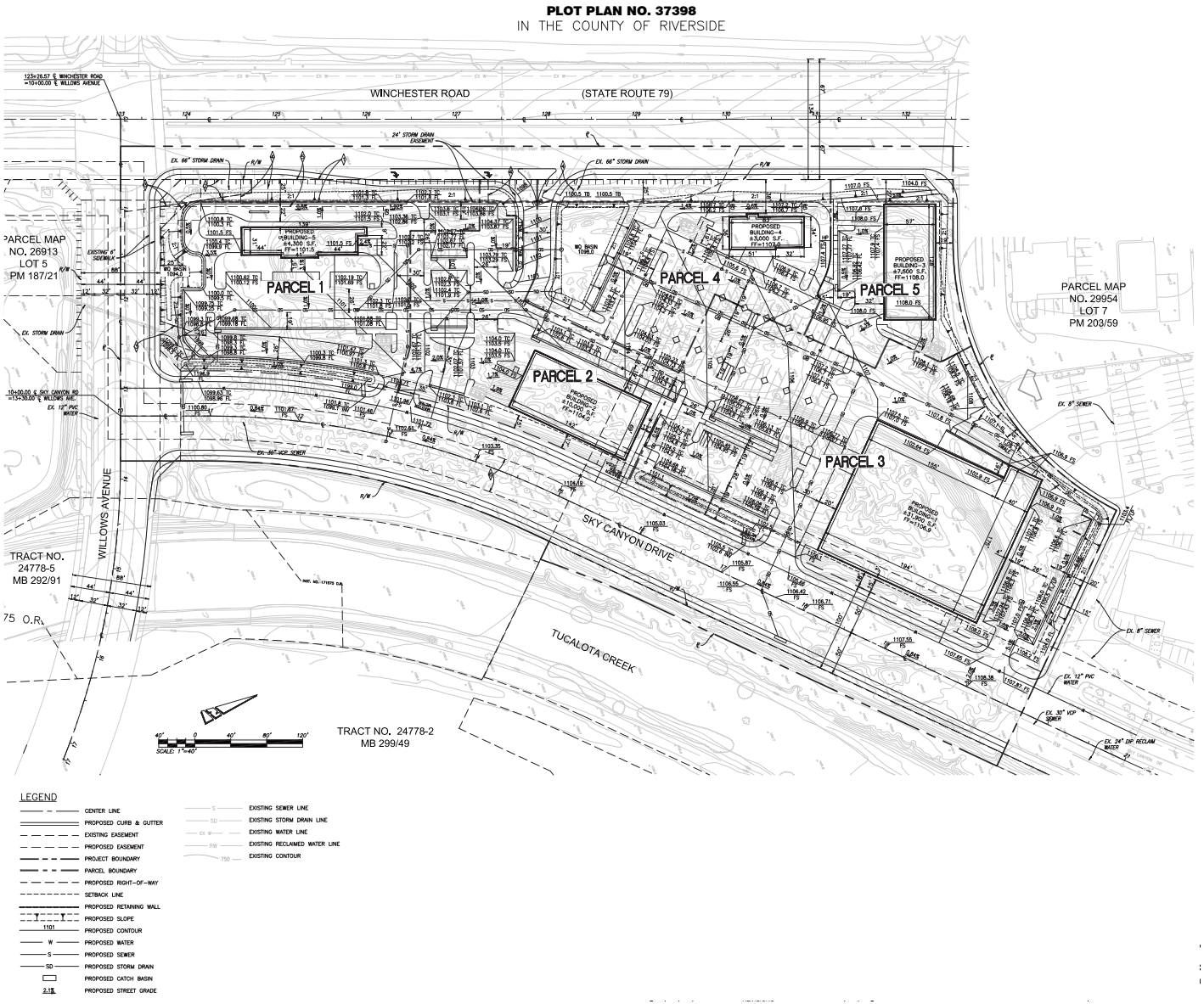
THIRD ANGLE PROJECTION	*MACHINING TOLERANCES*	DRAWN LVerdecia	8/26/2011
BREAK ALL SHARP CORNERS. PART TO BE FREE OF BURRS.	FRACTION± 1/16"	APPROVED	8/1/2012
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES	.XX DECIMAL ± 0.030	CATEGORY BLOWER	
MATERIAL	.XXX DECIMAL ± 0.005		
	ANGULARITY ± 2°		
	FINISH 125		

SONNY'S ENTERPRISES
THE CARWASH FACTORY

DESCRIPTION	BLOWER ASSEMBLY, ONE ARCH 45HP		
PART NUMBER	BL1-45HP-1		
SHEET 2 OF 2	SIZE A	SCALE N.T.S.	

Attachment 3

Figures



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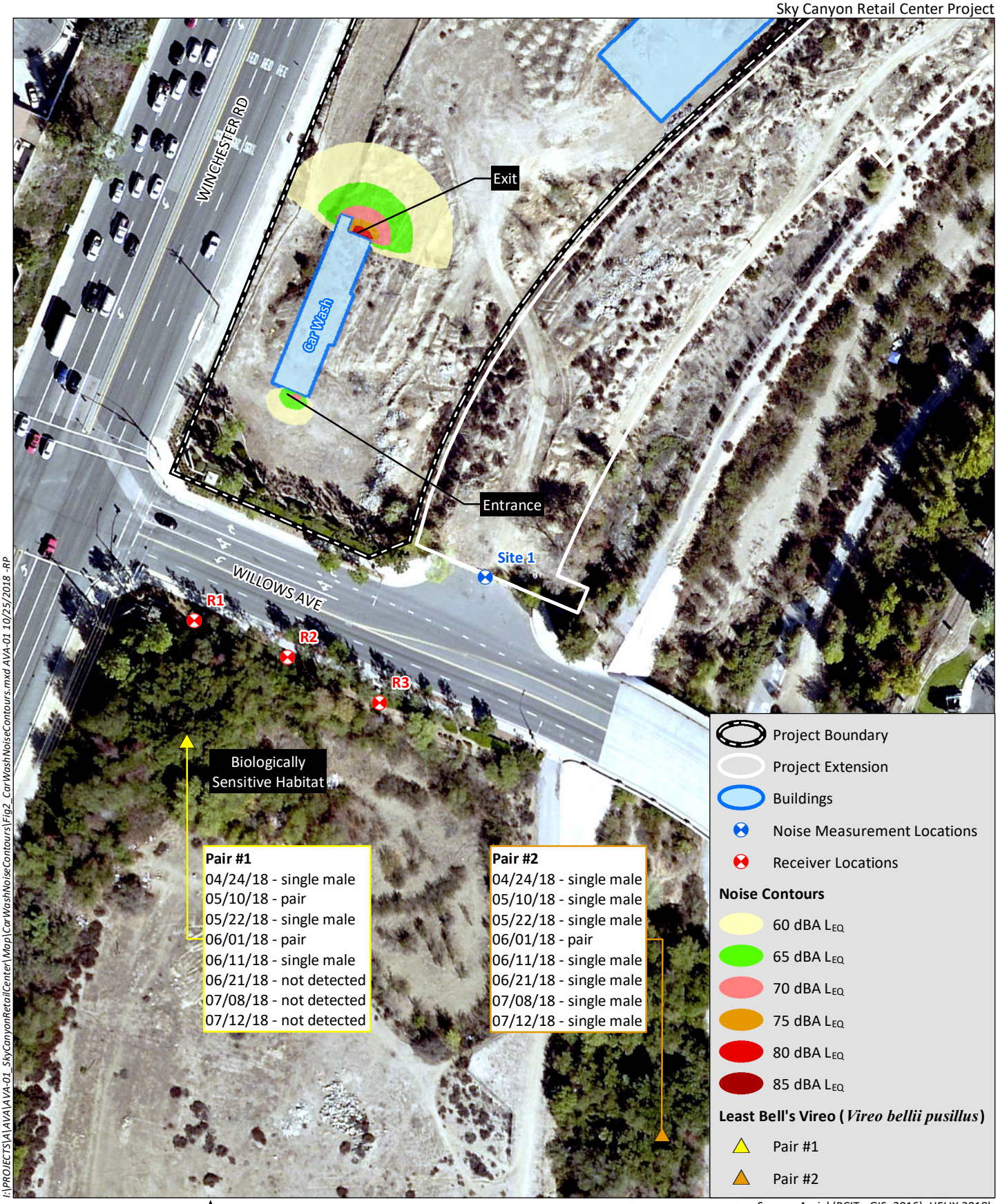
Source: Proactive Engineering Consultants West, 2018

HELIX Environmental Planning

Site Plan

Figure 1



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Source: Aerial (RCIT - GIS, 2016); HELIX 2018b

HELIX Environmental Planning

Car Wash Noise Contours

Figure 2

Appendix J

Determination of Biologically Equivalent or Superior Preservation

HELIX Environmental Planning

Sky Canyon Retail Center Project

Determination of Biologically Equivalent or Superior Preservation Analysis

September 19, 2019 | AVA-01

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Prepared for:

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Irvine, CA 92618

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September 19, 2019| AVA-01

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ACRONYMS AND ABBREVIATIONS

AMSL	Above Mean Sea Level
Applicant	AVA Property Investments, LLC
Blower	Air-Blast Dryer Systems
BMPs	Best Management Practices
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
County	County of Riverside
DBESP	Determination of Biologically Equivalent or Superior Preservation
dBA	A-Weighted Decibel
Dudek	Dudek and Associates
GBRA	General Biological Resources Assessment
HELIX	HELIX Environmental Planning, Inc.
I-	Interstate
LBVI	Least Bell's Vireo
MSHCP	Multiple Species Habitat Conservation Plan
Project	Sky Canyon Retail Center Project
RCA	Western Riverside County Regional Conservation Authority
ROW	Right-of-Way
SF	Square Foot
SWPPP	Storm Water Pollution Prevention Plan
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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1.0 INTRODUCTION

At the request of AVA Property Investments, LLC (Applicant), HELIX Environmental Planning, Inc. (HELIX) prepared this Determination of Biologically Equivalent or Superior Preservation (DBESP) analysis to address consistency of the proposed Sky Canyon Retail Center (project) with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP; Dudek and Associates [Dudek] 2003), specifically with MSHCP Section 6.1.2. Consistency. Project consistency with other sections of the MSHCP is addressed in the General Biological Resources Assessment (GBRA; HELIX Environmental Planning, Inc. [HELIX] 2018). The project site is located within the Southwest Area Plan of the MSHCP and is not located within any Criteria Cell or Group Cell targeted for conservation by the MSHCP.

This DBESP analysis provides information necessary for the County of Riverside (County) as the MSHCP Permittee and California Environmental Quality Act (CEQA) lead agency to find that the project, with mitigation and conservation measures incorporated, would result in a biologically equivalent or superior MSHCP Conservation Area design and configuration compared to the baseline condition.

This DBESP focuses on demonstrating project consistency and conservation with respect to MSHCP Section 6.1.2 due to unavoidable impacts to Riparian/Riverine Areas. MSHCP Section 6.1.2 states the following:

> "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."

The emphasis is on conservation of habitats capable of supporting MSHCP Covered Species, particularly within an identified MSHCP Conservation Area. For projects that propose impacts to Riparian/Riverine or Vernal Pool resources, a DBESP assessment must be completed to ensure that the proposed alternative provides for "replacement of any lost functions and values of Habitat as it relates to Covered Species." This DBESP analysis provides information necessary for the County to find that the project meets these objectives.

1.1 DEFINITION OF PROJECT AREA

1.1.1 Project Location

The approximately 7.31-acre project site comprises two parcels with Assessor Parcel Numbers 920-120-034 and -035 located in unincorporated Riverside County, California. The project site is generally located to the north of the City of Temecula limits and east of the Interstate (I-) 215 and I-15 junction (Figure 1, *Regional Location*). The project site is located in the U.S. Geological Survey (USGS) 7.5-minute Murrieta quadrangle map within Township 7 South, Range 3 West, Section 24 (Figure 2, *USGS Topography*). Specifically, the project site is located directly northeast of the intersection of Winchester Road (State Route 79) and Willows Avenue (Figure 3, *Aerial Photograph*).

The project also includes an approximately 2.53-acre off-site area located within the proposed Sky Canyon Drive right-of-way (ROW). The off-site area (Sky Canyon Drive Extension) is located along the eastern project boundary (Figure 3). For the purpose of this report, the project site and off-site area are collectively referred to as the study area. The study area is located entirely within the MSHCP Plan Area.

1.1.2 Project Description

The project consists of a commercial and retail center made up of a 31,900-square foot (sf) grocery store, 10,000-sf retail store, 7,500-sf tire shop, 3,000-sf tire shop, 3,000-sf drive-through restaurant, and 4,300-sf car wash on approximately 7.31 acres (Figure 4, *Site Plan*). The site would connect to existing utilities for electricity, water, and sewer within adjacent roadways and would also require installation of two water quality basins.

In addition, the project would build an extension southward of Sky Canyon Drive from its current southern terminus to connect the roadway with Willows Avenue. The extension of Sky Canyon Drive is considered a Planned Road under the policies of Section 7.3 of the MSHCP (Dudek 2003). To avoid impacts to adjacent Tucalota Creek, the Sky Canyon Drive extension will be constructed using sheet pilings. The sheet pilings will be installed using high frequency vibrators that work above the natural frequency of the existing soil so that only minor negative resonances are generated and therefore reduces disturbance to the surrounding area. High frequency vibrators produce rotating eccentric weight segments in opposite directions, which create vertical vibrations. The vertical vibrations are transferred to the pile element and the neighboring soil swings to achieve a pseudo-liquid condition. Friction is also reduced so that the pile element can penetrate more easily into the soil. Since the high frequency vibrators work at frequencies that are higher than the natural frequencies of the soil, potential damaging resonances to surrounding structures are greatly reduced

2.0 METHODS

2.1 GENERAL BIOLOGICAL RESOURCES ASSESSMENT

HELIX prepared the GBRA for the study area, which addresses project consistency with the MSHCP (HELIX 2018). HELIX conducted a general biological survey on February 2, 2018, which included vegetation mapping and recording of all plant and wildlife species. Prior to conducting field visits, a literature review and records search were conducted for special-status species potentially occurring on or within the vicinity of the study area.

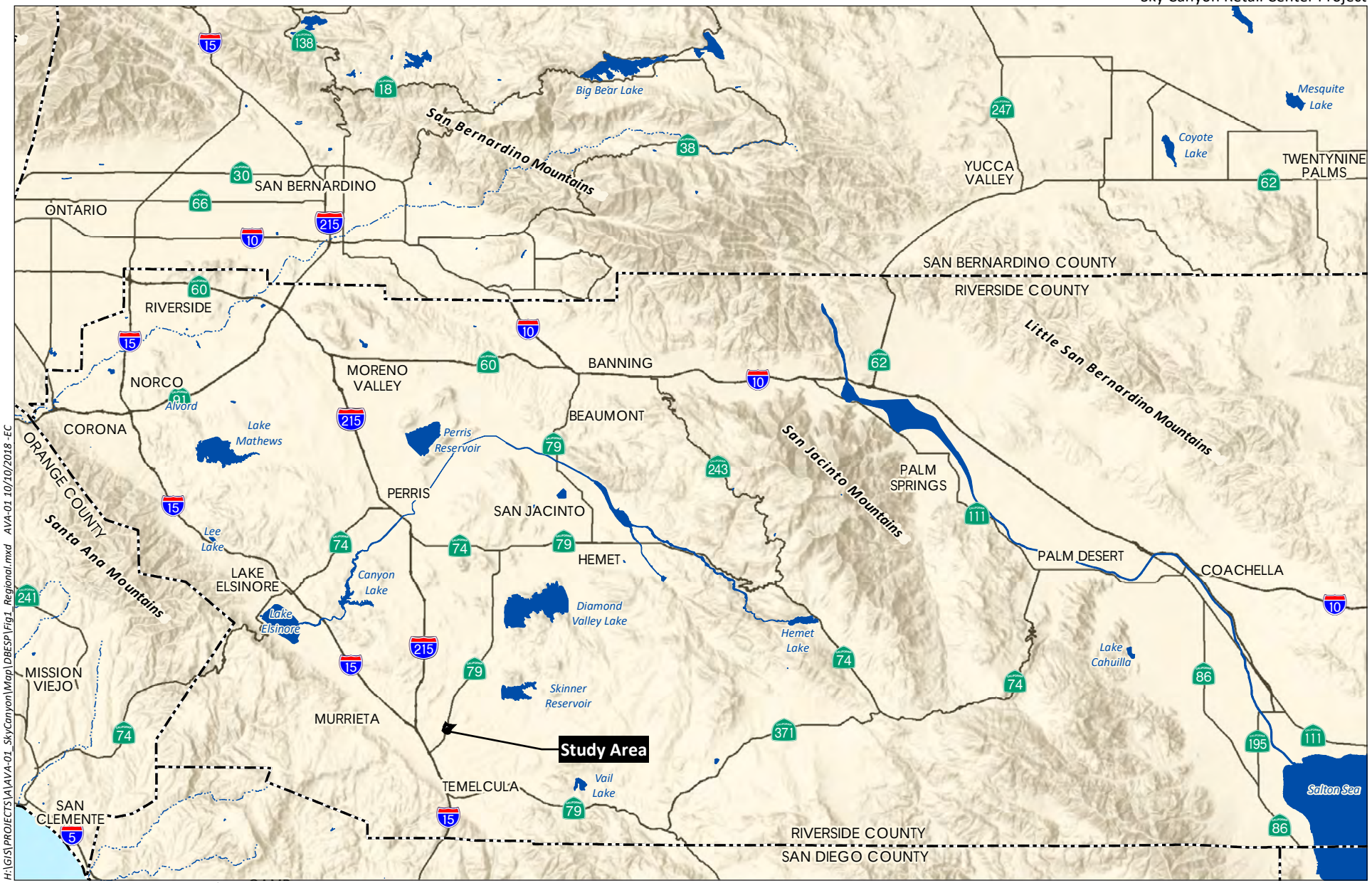
2.2 RIPARIAN/RIVERINE AREAS

2.2.1 Habitat Assessment

A Riparian/Riverine and Vernal Pool habitat assessment was conducted by HELIX on March 23, 2018. This habitat assessment was conducted concurrently with the jurisdictional delineation. The identification of Riparian/Riverine habitats is based on potential for the habitat to support, or are tributary to habitat that support, Riparian/Riverine Covered Species identified in MSHCP Section 6.1.2.

Riparian/Riverine Areas are defined in MSHCP Section 6.1.2 as:

> "Riparian/riverine areas are lands that contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or depend upon soil moisture from a nearby freshwater source; or areas with freshwater flow during all or a portion of the year."



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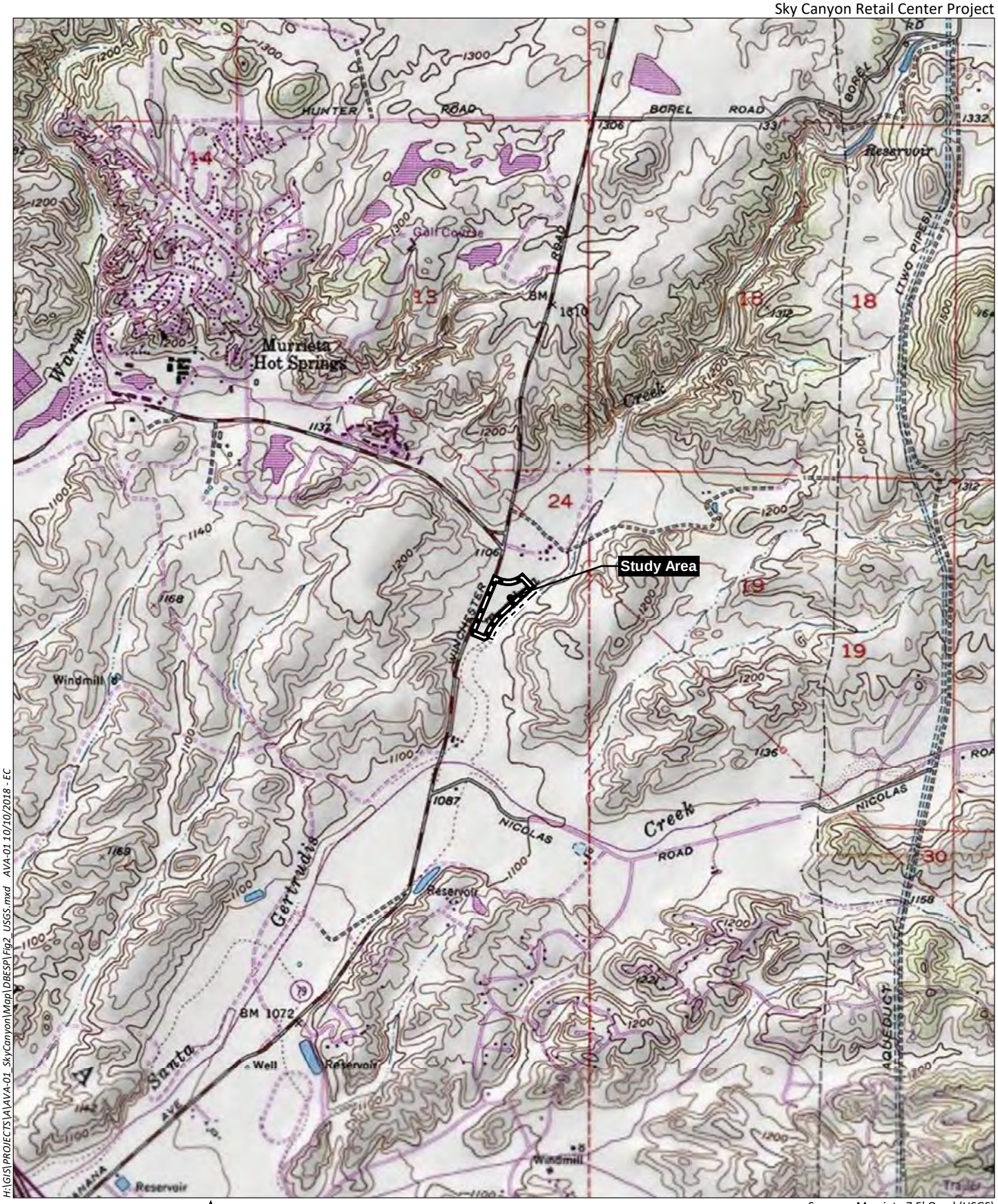
Source: Base Map Layers (ESRI, 2013)

HELIX Environmental Planning

Regional Location

Figure 1



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0 2,000 Feet

Source: Murrieta 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

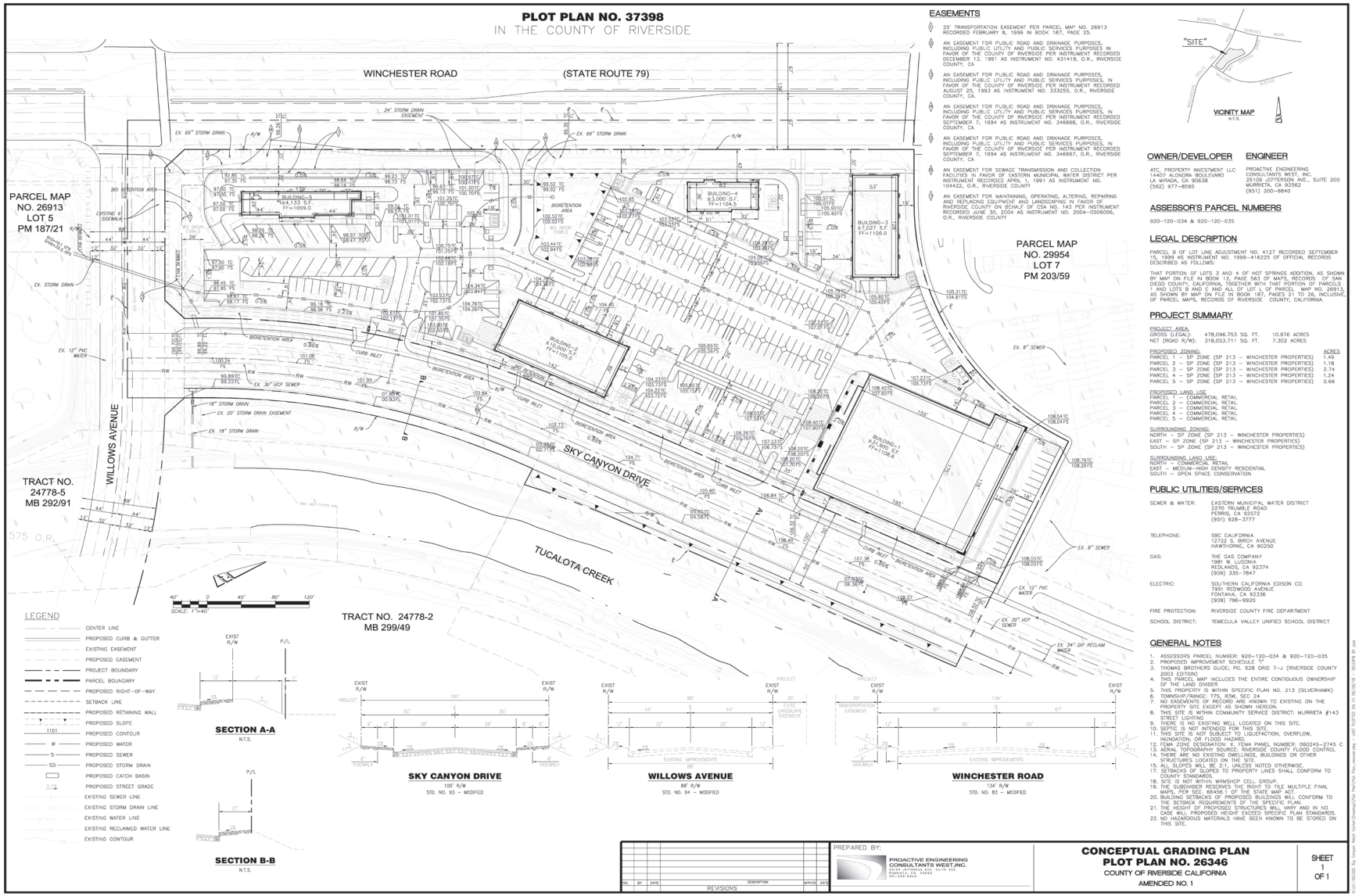
Figure 2

Source: Base Map Layers (NAIP, 2016)

HELIX Environmental Planning

Aerial Photograph

Figure 3



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Source: Proactive Engineering, 2018

HELIX Environmental Planning

Site Plan

Figure 4

Vernal Pools are defined in MSHCP Section 6.1.2 as:

> "Vernal pools are seasonal wetlands that occur in depression areas that have wetland indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics and the definition of the watershed supporting vernal pool hydrology must be made on a case-by-case basis. Such determinations should consider the length of time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records."

2.2.2 Formal Jurisdictional Delineation

HELIX conducted the jurisdictional delineation field work on March 23, 2018. Prior to beginning fieldwork, aerial photographs (1-inch = 100-foot scale), topographic maps (1-inch = 100-foot scale), USGS quadrangle maps, and National Wetlands Inventory maps (U.S. Fish and Wildlife Service [USFWS] 2018) were reviewed to assist determining potential jurisdictional waters and wetlands on the study area. Data collection was targeted in areas that were deemed to have the potential to support jurisdictional resources, such as the presence of an ordinary high water mark and/or other surface indications of wetland hydrology.

2.3 LEAST BELL'S VIREO

HELIX conducted a focused survey for the least Bell's vireo (LBVI) in accordance with current U.S. Fish and Wildlife Service (USFWS) survey protocol (USFWS 2001). The survey consisted of eight site visits conducted between April 24 and July 12, 2018. The surveys were conducted by walking along the edges of, as well as within, potential LBVI habitat on the study area while listening for individuals and viewing birds with the aid of binoculars. The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by LBVI. The survey area consisted of approximately 0.02 acre of suitable LBVI habitat within the off-site area. In addition, approximately 5.0 acres of adjacent habitat within Tucalota Creek was also surveyed, which consisted of mule fat scrub to the east and southern riparian forest to the south of Willows Avenue.

3.0 EXISTING CONDITIONS

3.1 STUDY AREA DESCRIPTION

The study area consists of undeveloped land dominated by non-native herbaceous species with some interspersed buckwheat scrub species in the southeastern portion of the study area. Ornamental trees and shrubs were observed in the southwestern corner of the study area. The periphery of the site is highly disturbed and sparsely vegetated. One jurisdictional feature was mapped in the off-site area, which included a small section of a manmade basin located in the southeastern corner. Although the

majority of the basin is located outside of the study area, a small portion of the southern willow scrub canopy associated with the basin extends into the off-site area. The project site does not support any jurisdictional features. The topography of the study area is mostly flat, with elevations ranging from approximately 1,099 feet (335 meters) above mean sea level (AMSL) at the southern boundary of the study area to a high of approximately 1,114 feet (340 meters) AMSL along the northern boundary. The study area is bounded by commercial development to the north, Tucalota Creek to the east, Willows Avenue to the south, and Winchester Road to the west. Undeveloped land is located to the south of Willows Avenue.

Soils on the study area are mapped primarily as Hanford fine sandy loam (0 to 2 percent slopes). The northern portion of the study area is mapped as Hanford coarse sandy loam (2 to 8 percent slopes), Greenfield sandy loam (0 to 2 percent slopes), and Riverwash. The Hanford soil series consists of well-drained soils and is associated with stream bottoms, floodplains, and alluvial fans. The Greenfield series also consists of well-drained soils but is associated with terraces and alluvial fans (Natural Resources Conservation Service 2018). Riverwash consists of excessively drained soils associated with river and stream bottoms. Although the soils mapped on the study area are typically associated with alluvial features, the majority of the study area has not supported natural habitat since at least the 1930s (Historic Aerials 1938).

3.2 RIPARIAN/RIVERINE AREAS

Based on the results of the jurisdictional delineation, Riparian/Riverine Areas were identified on the study area. A manmade basin was observed adjacent to the eastern boundary of the off-site area. The majority of the basin is located outside of the study area boundary. However, a small portion of the southern willow scrub canopy associated with the basin extends into the southeastern corner of the off-site area (Figure 5, *MSHCP Riparian/Riverine Areas*). Therefore, the off-site area supports approximately 0.02 acre of Riparian/Riverine Areas.

The basin is not associated with any historic natural drainages and is located outside of the banks of Tucalota Creek. However, the basin is hydrologically connected to Tucalota Creek to the east only by way of an existing riser pipe that discharges to Tucalota Creek just upstream of the Willows Avenue bridge crossing. The basin appears to have been created between 1999 and 2002 when the study area and open land to the north were originally graded (Google Earth 2018). Although never completed, a rough grade of the alignment for the Sky Canyon Drive ROW was also created. The basin was placed between the Sky Canyon Drive ROW and Tucalota Creek. The basin is dominated by southern willow scrub and a small portion of the tree canopies extend into the off-site area, including Goodding's black willow (*Salix gooddingii*), mule fat (*Baccharis salicifolia*), tamarisk (*Tamarix* sp.), and Fremont cottonwood (*Populus fremontii*).

It should be noted that a small depressional area was observed in the northeastern portion of the County ROW. The depressional area was artificially created when the rough grade of Sky Canyon Drive was completed. Shallow mud cracks were observed within the depressional area, indicating that some water ponds during the rainy season. However, the cracks were not well-defined suggesting that the area holds water only for a short duration. Soils within the depression are sandy loam consistent with the rest of the study area. No clay dominated soils were observed on the study area. On March 10 and 15, 2018, the Murrieta/Temecula area received 0.37 inch and 0.20 inch of rainfall, respectively (The Weather Company 2018). No water was observed within the depressional area during the jurisdictional delineation conducted by Mr. Morales on March 23, 2018, or during the site visit conducted by

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0 100 Feet

Source: Base Map Layers (NearMap, 2017)

HELIX Environmental Planning

MSHCP Riparian/Riverine Areas

Figure 5

Mr. Cooley on February 2, 2018. Based on the definition of Riparian/Riverine and Vernal Pools, the MSHCP excludes features that are artificially created. Therefore, this area is not considered an MSHCP Riparian/Riverine Area.

3.3 SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AREAS

The definition of Riparian/Riverine Areas is based on potential for the habitat to support associated species, which are identified in MSHCP Section 6.1.2 and described below.

3.3.1 Plants

The MSHCP lists 23 plant species that have a potential to occur in Riparian/Riverine and/or Vernal Pool habitats within the MSHCP Plan Area, which are listed below in Table 1, *MSHCP Riparian/Riverine and Vernal Pool Plant Species*. None of the 23 species were determined to have a potential to occur on the study area based on the species' geographic range, elevation range, preferred habitat, and/or nearby occurrence records.

Table 1
MULTIPLE SPECIES HABITAT CONSERVATION PLAN (MSHCP)
RIPARIAN/RIVERINE AND VERNAL POOL PLANT SPECIES

Common Name	Scientific Name	Habitat
Brand's phacelia	*Phacelia stellaris*	Sandy washes and/or benches in alluvial flood plains.
California black walnut	*Juglans californica* var. *californica*	Open savannahs, creek beds, alluvial terraces, and north-facing slopes.
California Orcutt grass	*Orcuttia californica*	Vernal pools.
Coulter's matilija poppy	*Romneya coulteri*	Dry washes and canyons in chaparral and coastal sage scrub communities and disturbed areas.
Engelmann oak	*Quercus engelmannii*	Woodlands, mixed chaparral, and savannah grasslands.
Fish's milkwort	*Polygala cornuta* var. *fishiae*	Shaded, rocky places in canyons associated with woodlands and chaparral.
graceful tarplant	*Holocarpha virgata* ssp. *elongata*	Coastal mesas and foothills with grassland habitats.
lemon lily	*Lilium parryi*	Moist montane meadows.
Mojave tarplant	*Deinandra mohavensis*	Drainages within arid montane chaparral.
mud nama	*Nama stenocarpum*	Marshes, swamps, lake margins, and riverbanks along muddy embankments.
ocellated Humboldt lily	*Lilium humboldtii* ssp. *ocellatum*	Shaded montane canyons.

Table 1 (cont.)
MULTIPLE SPECIES HABITAT CONSERVATION PLAN (MSHCP)
RIPARIAN/RIVERINE AND VERNAL POOL PLANT SPECIES

Common Name	Scientific Name	Habitat
Orcutt's brodiaea	*Brodiaea orcuttii*	Vernally moist grasslands and vernal pools; occasionally occurs along stream embankments within clay soils.
Parish's meadowfoam	*Limnanthes gracilis* var. *parishii*	Montane meadows with abundant annual and herbaceous perennials and lack of shrubs.
prostrate navarretia	*Navarretia prostrata*	Coastal sage scrub, valley and foothill grassland, and vernal pools.
San Diego button-celery	*Eryngium aristulatum* var. *parishii*	Vernal pools.
San Jacinto Valley crownscale	*Atriplex coronata* var. *notatior*	Highly alkaline and silty-clay soils associated with alkali sink scrub, alkali playa, vernal pool, and annual alkali grassland habitats.
San Miguel savory	*Clinopodium chandleri*	Coastal sage scrub, chaparral, cismontane woodland, riparian woodland, and valley and foothill grasslands.
Santa Ana River woolly-star	*Eriastrum densifolium* spp. *Sanctorum*	Sandy soils on flood plains and terraces within coastal scrub and chaparral communities.
slender-horned spineflower	*Dodecahema leptoceras*	Sandy soil associated with alluvial scrub; is often found on stream terraces and banks.
smooth tarplant	*Centromadia pungens* ssp. *laevis*	Alkali scrubs, playas, and grasslands; riparian woodland and streams.
spreading navarretia	*Navarretia fossalis*	Vernal pools, depressions, and ditches.
thread-leaved brodiaea	*Brodiaea filifolia*	Clay soils in vernally moist grasslands and vernal pool periphery are typical locales.
vernal barley	*Hordeum intercedens*	Saline flats and depressions in grasslands or vernal pools.

Source: Dudek (2003)

3.3.2 Animals

The MSHCP lists 12 sensitive animal species that have a potential to occur in Riparian/Riverine and/or Vernal Pool habitats within the MSHCP Plan Area, which are provided in Table 2, *MSHCP Riparian/Riverine and Vernal Pool Animal Species*. The MSHCP requires focused surveys to be conducted for projects that propose impacts to three invertebrate and three bird species, as described in detail

below. The study area supports suitable habitat for one of the sensitive bird species (LBVI) listed in Table 2 below.

Invertebrates

There are three sensitive fairy shrimp species that occur in the MSHCP Plan Area, including Riverside fairy shrimp (*Streptocephalus woottoni*), Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*), and vernal pool fairy shrimp (*Branchinecta lynchi*). Vernal pool fairy shrimp occurs throughout the Central Valley and in several disjunct populations in Riverside County. This species exists in vernal pools and other ephemeral basins often located in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral. Riverside fairy shrimp occurs in Riverside, Orange, and San Diego Counties as well as in northern Baja California, Mexico. This species is typically found in deeper vernal pools and other ephemeral basins that hold water for long periods of time (30 or more days). Santa Rosa Plateau fairy shrimp is limited to the Santa Rosa Plateau in Riverside County.

The MSHCP requires focused surveys to be conducted for projects that propose impacts to suitable habitat for the three sensitive fairy shrimp species discussed above. Vernal pools are defined 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" (Dudek 2003). Although fairy shrimp generally occur in vernal pools, they can also occur in artificial depressions that have a similar wet-dry regime as vernal pools. These depressions must have a non-permeable layer that prevents water from percolating down into the subsoils. The non-permeable soil layer generally comprises fine silt and/or clay soil particles that poorly drain water. Rather than percolating through the subsoils, water leaves the depressions through evaporation. Due to prolonged submersion, vernal pools and similar artificial depressional areas will develop anaerobic conditions due to lack of oxygen.

No vernal pool indicators or other wetland features that could support fairy shrimp species were observed during the Riparian/Riverine and Vernal Pool habitat assessment. As described in Section 3.2 above, a small artificially created depressional area was observed in the northeastern portion of the County ROW. This area is not expected to provide suitable habitat fairy shrimp species since the area is shallow and does not pond long enough to support suitable habitat for fairy shrimp. No evidence of hydric soils, vernal pool/wetland vegetation, or vernal pool/wetland hydrology were observed during the habitat assessment. The soils do not consist of clay or silt and are dominated by sandy loam, which is consistent with the rest of the study area. Shallow mud cracks were observed within the depressional area, indicating some water may pond during the rainy season. However, the cracks were not well-defined suggesting that the area holds water only for a short duration due to the sandy loam soils, which percolate relatively quickly. On March 10 and 15, 2018, the Murrieta/Temecula area received 0.37 inch and 0.20 inch of rainfall, respectively (The Weather Company 2018). No water was observed within the depressional area during the jurisdictional delineation conducted by Mr. Morales on March 23, 2018, or during the site visit conducted by Mr. Cooley on February 2, 2018. Since no signs of hydric soils, vernal pool/wetland vegetation, or vernal pool/wetland hydrology were observed during habitat assessment, suitable fairy shrimp habitat is presumed absent from the study area and no focused surveys were required.

Birds

Riparian/Riverine Areas within the MSHCP Plan Area provide suitable habitat for sensitive bird species, such as LBVI, southwestern willow flycatcher (*Empidonax traillii extimus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), bald eagle (*Haliaeetus leucocephalus*), and peregrine falcon (*Falco peregrinus*). Typical habitat for LBVI consists of well-developed riparian scrub, woodland, or forest dominated by willows, mule fat, and Fremont cottonwood. LBVI will also use small patches of trees adjacent to dense, riparian habitat. Southwestern willow flycatcher and western yellow-billed cuckoo require mature riparian forest with a stratified canopy and nearby water. Both the bald eagle and peregrine falcon occur primarily in and adjacent to open water habitats, with peregrine falcon occurring in riparian areas.

The MSHCP requires focused surveys to be conducted for projects that propose impacts to suitable habitat for LBVI, southwestern willow flycatcher, and western yellow-billed cuckoo. The study area supports a very small area of suitable habitat (0.02 acre) for LBVI; therefore, a focused survey was required. A focused survey for LBVI was conducted in accordance with USFWS's survey protocol, as described in Section 2.3.2.2 of this report. No LBVIs were observed within suitable habitat on the study area. However, LBVI pairs were observed outside of the study area within Tucalota Creek, approximately 175 feet and 400 feet to the south of the study area. The survey methods and results are discussed in detail in a separate letter report, which is provided as Appendix A, *Least Bell's Vireo Focused Survey Report*.

Table 2
MSHCP RIPARIAN/RIVERINE AND VERNAL POOL ANIMAL SPECIES

Common Name	Scientific Name	Habitat
Riverside fairy shrimp	*Streptocephalus woottoni*	Deep vernal pools and other ephemeral basins that hold water for typically 30 or more days.
Santa Rosa Plateau fairy shrimp	*Linderiella santarosae*	Limited to vernal pools within the Santa Rosa Plateau.
vernal pool fairy shrimp	*Branchinecta lynchi*	Vernal pools and other ephemeral basins within patches of grassland and agriculture interspersed in coastal sage scrub and chaparral.
arroyo toad	*Anaxyrus californicus*	Washes and intermittent streams with open-canopy riparian forest.
California red-legged frog	*Rana aurora draytonii*	Perennial streams with dense, shrubby riparian vegetation.
mountain yellow-legged frog	*Rana muscosa*	Perennial waterways, often within open riparian vegetation.
Santa Ana sucker	*Catostomus santaanae*	Clear, cool perennial streams with loose sand, gravel, cobble, and boulders with algae, aquatic emergent vegetation, macroinvertebrates, and riparian vegetation.
bald eagle	*Haliaeetus leucocephalus*	Within close proximity to lakes or other water bodies.

Table 2 (cont.)
MSHCP RIPARIAN/RIVERINE AND VERNAL POOL ANIMAL SPECIES

Common Name	Scientific Name	Habitat
least Bell's vireo	*Vireo bellii pusillus*	Well-developed riparian scrub, woodland, or forest.
peregrine falcon	*Falco peregrinus*	Generally, areas with cliffs or tall buildings near water where prey (shorebirds and ducks) is concentrated.
southwestern willow flycatcher	*Empidonax traillii extimus*	Breeds within thickets of willows or other riparian understory usually along streams, ponds, lakes, or canyons.
western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	Extensive stands of mature riparian woodland.

Source: Dudek (2003)

4.0 PROJECT IMPACTS

4.1 IMPACTS TO RIPARIAN/RIVERINE AREAS

Project construction would require permanent impacts to 0.02 acre of MSHCP Riparian/Riverine Areas consisting of southern willow scrub in the off-site area (Figure 6, *Impacts to MSHCP Riparian/Riverine Areas*). Permanent impacts are required by the County in order to complete the extension of Sky Canyon Drive, which is considered a Planned Road under the policies of Section 7.3 of the MSHCP and is therefore an MSHCP Covered Activity (Dudek 2003).

No temporary impacts to Riparian/Riverine Areas would occur as a result of the project. Project impacts shown on Figure 6 include all grading and access areas required for construction. Therefore, there would be no additional impacts beyond the impacts shown, including temporary impacts. Construction grading, access, staging, and storage areas would be restricted to the project footprint.

4.2 IMPACTS TO SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AREAS

The project impacts would result in the loss of 0.02 acre of Riparian/Riverine Areas; however, the impact areas do not support Riparian/Riverine or Vernal Pool target species and do not contribute substantially to the biological values of the MSHCP since the site is not within a Criteria Cell or Group cell targeted for conservation. Although the off-site area supports a small area of suitable LBVI habitat, no LBVIs were detected on the study area during focused survey and LBVI is currently presumed absent from the study area. Therefore, the project would not directly impact any MSHCP Section 6.1.2 species associated with Riparian/Riverine Areas or Vernal Pools.

Two LBVI pairs were observed to the south of the study area within higher quality southern riparian forest habitat associated with Tucalota Creek. Since LBVIs were observed within the vicinity of the study area, project construction could have indirect impacts to LBVI occupying habitat to the south of the

Willows Avenue. Post-project noise associated with the proposed commercial development is not anticipated to indirectly impact LBVI for the following reasons:

1. The proposed commercial development and off-site occupied habitat would be separated by Willows Avenue, which is a four-lane road approximately 60 feet wide. Based on a noise analysis conducted for the project, existing noise within the occupied habitat is currently above an hourly average of 60 A-weighted decibels (dBA; Appendix B, *Noise Analysis Report*). Noise from the proposed car wash, which would be located in the southwest corner of the study area, would generate noise levels below an hourly average of 45 dBA. When the car wash noise is combined with existing noise levels, noise levels within the occupied habitat would not increase by more than an hourly average of 0.1 dBA.

2. The loudest single-source of noise generated by the proposed car wash would be the air-blast dryer systems (blower; Appendix B). The proposed car wash would be oriented in a fashion that directs blower noise away from occupied habitat. Cars would enter the car wash bay from the south end and exit at the north end.

3. Existing ornamental trees planted on the north side and south side of Willows Avenue would provide a visual barrier between the proposed commercial development and off-site occupied habitat.

5.0 AVOIDANCE, MINIMIZATION, AND MITIGATION

5.1 AVOIDANCE

5.1.1 Riparian/Riverine Area

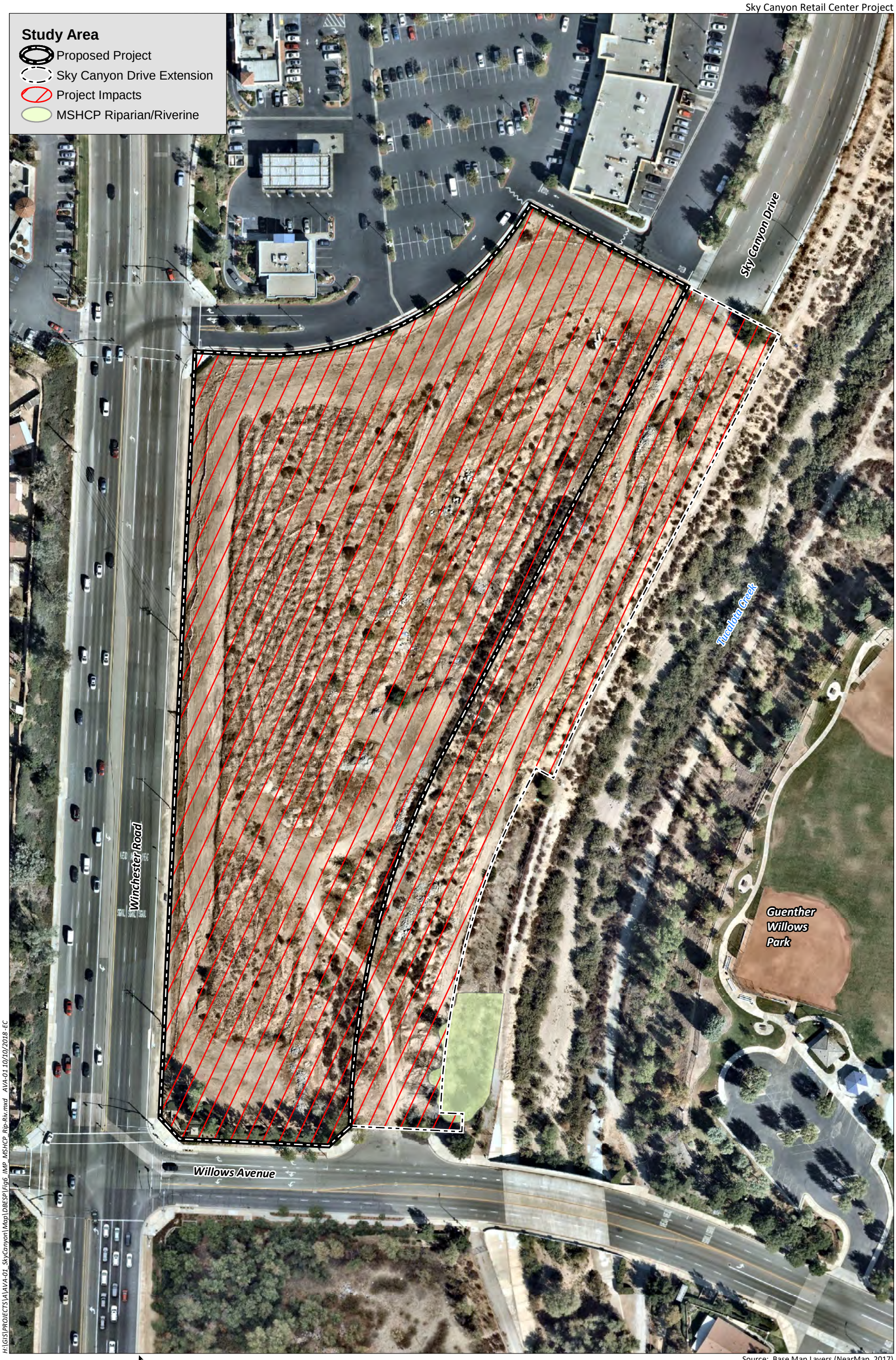
Emphasis of the MSHCP Riparian/Riverine Area and Vernal Pool policy is on conservation of habitats capable of supporting MSHCP Covered Species. Furthermore, the goal of the DBESP process is to determine if the project has in fact provided a project alternative that results in biologically equivalent or superior preservation. The first priority for Riparian/Riverine Areas that have potential to contribute to the biological values of the MSHCP preserve is avoidance of direct impacts.

MSHCP Section 6.1.2 states:

> "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 MSHCP Conservation Areas are maintained."

The MSHCP also states that:

> "[f]or identified and mapped resources not necessary for inclusion in the MSHCP Conservation Area, applicable mitigation under CEQA, which may include federal and state regulatory standards related to wetland functions and values, will be imposed by the Permittees. To ensure that these standards are met, Permittees shall ensure that, through the CEQA process, project applicants develop project alternatives demonstrating efforts that first avoid, and then minimize



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Source: Base Map Layers (NearMap, 2017)

HELIX Environmental Planning

Impacts to MSHCP Riparian/Riverine Areas

Figure 6

direct and indirect effects to the mapped wetlands and shall review these alternatives with the Permittee. An avoidance alternative shall be selected, if feasible. If an avoidance alternative is selected, measures shall be incorporated into the project design to ensure the long-term conservation of the areas to be avoided.

If an avoidance alternative is not feasible, a practicable alternative that minimizes direct and indirect effects to riparian/riverine areas and vernal pools and associated functions and values to the greatest extent possible shall be selected. Those impacts that are unavoidable shall be mitigated such that the lost functions and values as they relate to Covered Species are replaced as set forth below under the Determination of Biologically Equivalent or Superior Preservation."

The Applicant has worked diligently to minimize impacts to MSHCP Riparian/Riverine Areas. Impacts to MSHCP Riparian/Riverine Area are limited to only what is required to complete the extension of Sky Canyon Drive, which includes minor permanent impact to 0.02 acre of southern willow scrub canopy. Although the project is adjacent to Tucalota Creek, revetment in the form of sheet pilings will occur outside of Riparian/Riverine Areas associated with the creek. In accordance with MSHCP Section 7.3, the project is a Planned Road within the plan area. Under the MSHCP, such public development is considered a Covered Activity (Dudek 2003).

5.1.2 Least Bell's Vireo

The project would not directly impact LBVI. Since LBVIs were observed within the vicinity of the study area, project construction could potentially have indirect impacts to LBVI occupying habitat to the south of the Willows Avenue. Therefore, the following avoidance measure was included as BIO-2 in the GBRA:

BIO-2 **Least Bell's Vireo:** Due to presence of LBVI in the vicinity of the study area, the following avoidance and minimization measures shall be implemented to avoid potential impacts:

1. To the extent feasible, construction activities (i.e., earthwork, clearing, and grubbing) shall occur outside of the nesting season for LBVI (September 1 through March 14). All pile driving activities required for the Sky Canyon Drive extension shall be conducted outside of the LBVI nesting season.

2. If construction activities are proposed within the LBVI nesting season (March 15 through August 31), the following measures (a. through g.) shall be implemented to avoid potential indirect impacts. Pile driving activities shall not be conducted in the LBVI nesting season.

    a. Prior to initiation of construction activities, a qualified biological monitor shall clearly delineate a 300-foot avoidance buffer around suitable habitat. The 300-foot avoidance buffer shall be clearly marked with flags and/or fencing prior to commencement of construction. No construction activities shall occur within the 300-foot buffer during the nesting season without the presence of a biological monitor.

b. If construction activities (e.g., ground disturbance and canopy trimming) are planned within 300 feet of suitable habitat, the following measures shall be implemented:

   i. A biological monitor shall be present to perform daily surveys for LBVI and monitor construction activities. The biological monitor shall have the authority to stop work and notify the construction supervisor if the construction activities appear to be altering the birds' normal behavior. The activities shall cease until additional minimization measures have been determined through coordination with CDFW and/or USFWS.

   ii. A qualified acoustician shall also be retained to determine ambient noise levels and construction-related noise levels at the edge of suitable habitat. Noise levels at the edge of the suitable habitat shall not exceed an hourly average of 60 dBA, or an hourly average increase of 3 dBA if existing ambient noise levels exceed 60 dBA. If project-related noise levels exceed the threshold described above, construction activities shall cease until additional minimization measures are taken to reduce project-related noise levels to below an hourly average of 60 dBA, or below an hourly average increase of 3 dBA if existing ambient noise levels exceed 60 dBA. If additional measures do not decrease project-related noise levels below the thresholds described above, construction activities shall cease until CDFW and/or USFWS are contacted to discuss alternative methods.

c. All project personnel shall attend a Workers Environmental Awareness Program training presented by a qualified biologist prior to construction activities. The training program will inform project personnel about the life history of LBVI and all avoidance and minimization measures.

d. The construction contractor shall only allow construction activities to occur during daylight hours.

e. The construction contractor shall require functional mufflers on all construction equipment (stationery or mobile) used within or immediately adjacent to any 300-foot avoidance buffers to reduce construction equipment noise. Stationary equipment shall be situated so that noise generated from the equipment is not directed towards any suitable habitat for the LBVI.

f. The construction contractor shall place staging areas as far as possible from any suitable habitat for the LBVI.

g. The biological monitor shall prepare written documentation of all monitoring activities at the completion of construction activities, which shall be submitted to CDFW and/or USFWS.

5.2 MINIMIZATION

The project would incorporate the following minimization measures to reduce the overall impact on Riparian/Riverine Areas to the maximum extent:

- Implementation of standard Best Management Practices (BMPs) to minimize the impacts during construction and post-construction.
    - Construction BMPs may include, but are not limited to, erosion control measures, stabilized construction entrances, silt fencing, and gravel bags. Measures would include those required for construction pursuant to the State Water Resources Control Board General Construction Storm Water Permit and the project Storm Water Pollution Prevention Plan (SWPPP).
    - Post-construction BMPs may include, but are not limited to, prohibiting dumping of oils, paint, or other hazardous waste into streets and storm drains; requiring covered trash containers; routine street sweeping; and/or providing education materials to residents. Measures would be implemented in compliance with the National Pollutant Discharge Elimination System and the Municipal Storm Drain Permit requirements.
- Applicable Standard BMPs included as Appendix C to the MSHCP would be implemented, including, but not limited to, delineating the limits of disturbance to Riparian/Riverine Areas prior to construction, storing equipment outside of the Riparian/Riverine Areas, placing staging areas outside of the Riparian/Riverine Areas, not depositing erodible fill material into the Riparian/Riverine Areas; and/or disposing all debris and trash items (Dudek 2003).
- Source control and treatment control BMPs would be implemented to minimize the potential contaminants that are generated during and after construction.
    - Source control BMPs may include education/training for residents, irrigation system and landscape maintenance, common area litter control, street sweeping, drainage facility inspection and maintenance, restricting overuse of fertilizations, municipal separate storm sewer systems stenciling and signage, and/or protection of slopes and channels (e.g., vegetation, riprap, etc.).
    - Treatment-control BMPs would include bioretention basins. Water quality BMPs would be implemented according to the project's Water Quality Management Plan and SWPPP. The water quality BMPs would be designed to avoid hydromodification, including discharge of sediment and/or pollutants during construction, and capture and treatment of all pollutants of concern before they are discharged from the residential development post-construction.
- All BMPs would be consistent with the California Stormwater Quality Association guidelines and County water quality standards.
- Site drainage on the commercial development would consist of subsurface storm drain systems and bioretention basins, which would treat on-site flows and address increased runoff from impervious surfaces associated with the development.

In conformance with MSHCP Section 6.1.4, the project would reduce edge effects to the urban/wildland interface through the following measures:

- Drainage: Flows generated by the project would not directly drain into any MSHCP Conservation Areas that could ultimately reach a downstream Conservation Area. Therefore, construction and post-construction BMPs would be implemented to maintain water quality. All runoff from the development area would be treated prior to exiting the site to reduce pollutants of concern.

- Toxics: The project would not discharge toxics that may adversely affect wildlife species, habitat, or water quality.

- Lighting: Temporary construction lighting and ambient lighting generated by the project is required to be selectively placed, directed, and shielded away from any MSHCP Conservation Area. Large spotlight-type lighting directed into conserved habitat are prohibited.

- Invasives: No invasive plants identified in Table 6-2 of the MSHCP would be used for erosion control, landscaping, wind rows, or other purposes within the study area.

- Grading/Land Development: No manufactured slopes associated with the project would extend into any MSHCP Conservation Area.

5.3 MITIGATION

To offset impacts to 0.02 acre of MSHCP Riparian/Riverine Areas, the Applicant will purchase off-site in-lieu fee credits from Skunk Hollow Mitigation Bank at a ratio of 3:1 (0.06 acre). Skunk Hollow Mitigation Bank offers wetland preservation credits within the Santa Margarita Watershed. Purchase of in-lieu fee credits from Skunk Hollow Mitigation Bank provides preservation within the same watershed of a higher-value resource (wetlands) than what the project proposes impacts to (riparian vegetation). Skunk Hollow Mitigation Bank was contacted to confirm availability of 0.06 acre credits (Michael McCollum, personal communication, May 14, 2019).

6.0 CONCLUSION

This DBESP demonstrates that the proposed project is consistent with MSHCP Section 6.1.2 based on the following:

- The study area is not located within any Criteria Cell or Group Cell that is targeted for conservation by the MSHCP. As such, there are no requirements for MSHCP Biological Issues and Considerations.

- The study area does not support suitable habitat for Riparian/Riverine or Vernal Pool plant species and, therefore, no impacts are anticipated by the project.

- The study area does not support suitable habitat for 11 of the 12 Riparian/Riverine or Vernal Pool animal species. LBVI was not observed on the study area during focused surveys, although two pairs were observed within Tucalota Creek to the south of the study area. The project would not directly impact LBVI, although indirect impacts could occur during project construction. Implementation of measure BIO-2 would avoid indirect impacts to LBVI during

construction. Based on the noise analysis, the project is not expected to generate increased ambient noise within the occupied habitat (Appendix B).

- Avoidance of 100 percent of the Riparian/Riverine Areas is not feasible since a small portion of southern willow scrub will be permanently impacted to complete the County-required extension of Sky Canyon Road, which is considered a Planned Road under the policies of Section 7.3 of the MSHCP and is therefore an MSHCP Covered Activity.

- In conformance with the stated goals of the MSHCP, impacts to Riparian/Riverine Areas have been minimized to the maximum extent practicable though project design.

- Mitigation for permanent impacts to 0.02 acre of Riparian/Riverine Areas would occur at a 3:1 mitigation ratio through the purchase of in-lieu fee credits from Skunk Hollow Mitigation Bank.

- The project is consistent with MSHCP Section 6.1.2 since it would provide biologically superior preservation. Permanent impacts to 0.02 acre of Riparian/Riverine Areas would be mitigated through the purchase of streambed in-lieu fee credits at a 3:1 ratio. Therefore, the proposed mitigation for permanent impacts to Riparian/Riverine Areas meets the definition of a Biologically Equivalent Preservation Alternative.

- The project is consistent with MSHCP Section 6.1.4 since indirect impacts would be minimized by implementing BMPs, designing access control, and controlling exotic species. The project would not introduce drainage, toxics, night lighting, manufactured slopes, or fuel modification zones into any MSHCP Conservation Area.

7.0 REFERENCES

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Appendix A

Least Bell's Vireo Focused Survey Report

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August 22, 2018 AVA-01

Ms. Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

Subject: 2018 Least Bell's Vireo (*Vireo bellii pusillus*) Survey Report for the Sky Canyon Retail Center Project

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey for the federally endangered least Bell's vireo (*Vireo bellii pusillus*; LBVI) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Sky Canyon Retail Center (project). This letter describes the survey methods and results and is being submitted to the USFWS in accordance with protocol survey guidelines.

PROJECT LOCATION

The approximately 7.31-acre project site comprises two parcels with Assessor Parcel Number 920-120-034 and -035 located in unincorporated Riverside County, California. The project site is generally located to the north of the City of Temecula and east of the Interstate (I-) 215 and I-15 junction (Figure 1). The project site is located in the U.S. Geological Survey (USGS) 7.5-minute Murrieta quadrangle map within Township 7 South, Range 3 West, Section 24 (Figure 2). Specifically, the project site is located directly northeast of the intersection of Winchester Road (State Route 79) and Willows Avenue (Figure 3).

The project also includes an approximately 2.53-acre off-site area located within a portion of the right-of-way associated with the extension of Sky Canyon Drive. The off-site area is located along the southeastern project boundary (Figure 3).

METHODS

The survey consisted of eight site visits led by qualified HELIX biologist Lauren Singleton between April 24 and July 12, 2018 (Table 1) in accordance with the current USFWS survey protocol (2001). The surveys were conducted by walking along the edges of, as well as within, potential LBVI habitat in the survey area while listening for LBVI and viewing birds with the aid of binoculars. The survey route was designed to ensure complete survey coverage of habitat potentially occupied by LBVI. The survey area consisted of approximately 0.02 acres of suitable LBVI habitat within the off-site area, including

southern willow scrub (Figure 4). No suitable habitat was observed on the project site. Accessible suitable habitat in the immediate vicinity was also surveyed, which included approximately 5.00 acres of mule fat scrub and southern riparian forest. Table 1 details the survey dates, times, and conditions.

SURVEY RESULTS

A total of two LBVI pairs were detected adjacent to the project site during the 2018 survey effort (Figure 4). No LBVI were detected on the project site. Both pairs were observed to the south of the project site, south of Willows Avenue. No banded individuals were observed during the survey; however, not all individuals were directly observed. A detailed description of LBVI locations and observations is included below.

A LBVI pair (Pair No. 1) was detected approximately 175 feet to the southwest of the project site within a basin located to the west of Tucalota Creek (Figure 4). A male was heard singing during the first survey while surveying the southern willow scrub located within the off-site area. A male and female were observed foraging together during the second survey in the same general area. A male was heard singing during the third survey in the same general area and is presumed to be the same male observed during the previous two surveys. The pair was observed foraging again during the fourth survey, and the male was heard singing during the fifth survey. No vireos were detected at this location during the sixth, seventh, or eighth surveys.

A LBVI pair (Pair No. 2) was observed approximately 400 feet to the southeast of the project site within Tucalota Creek (Figure 4). A male was heard singing during the first survey while surveying the southern willow scrub located within the off-site area. The male was heard singing during the second and third surveys in the same general area. A male and female were observed foraging together during the fourth survey in the same general area. A male was heard singing during the fifth, sixth, seventh, and eighth and is presumed to be the same male detected during the previous surveys.

The brown-headed cowbird (*Molothrus ater*; BHCO), a nest parasite of the LBVI, was detected during four of the eight surveys in three separate locations (Figure 4). Observations of BHCO included singing males and calling females.

CERTIFICATION

I certify that the information in this survey report and attached exhibits fully and accurately represents our work. Please contact me or Amir Morales at (949) 234-8792 should you have any questions.

Sincerely,

Lauren Singleton
Biologist

Attachments: Figure 1: Regional Location
Figure 2: USGS Topography
Figure 3: Aerial Photograph
Figure 4: 2018 Least Bell's Vireo Survey Results

Table 1
SURVEY INFORMATION

Site Visit	Survey Date	Biologist	Time Start-End	Approx. Acres Surveyed/Acres per Hour[1]	Start/Stop Weather Conditions	Survey Result	
						Least Bell's Vireo (LBVI)	Brown-Headed Cowbird[2]
1	04/24/18	Lauren Singleton	0715-1100	5.02 ac/ 1.34 ac per hr	55°F, wind 0-1 mph, 15% clouds 71°F, wind 3-4 mph, 50% clouds	• Male (later determined to be same male as in Pair No. 1) singing to the south of the project site, southeast of Winchester Avenue-Willows Avenue. intersection. • Male (later determined to be same male as in Pair No. 2) singing to south of the project site, to the south of Willows Avenue within Tucalota Creek.	0
2	05/10/18	Lauren Singleton	0735-1045	5.02 ac/ 1.58 ac per hr	60°F, wind 0-1 mph, 0% clouds 70°F, wind 3-4 mph, 0% clouds	• Pair No. 1 foraging in the same general area. • Male from Pair No. 2 singing in the same general area.	0
3	05/22/18	Lauren Singleton	0715-1045	5.02 ac/ 1.43 ac per hr	52°F, wind 2-3 mph, 100% clouds 59°F, wind 3-4 mph, 100% clouds	• Male from Pair No. 2 singing in the same general area.	0
4	06/01/18	Lauren Singleton	0715-1100	5.02 ac/ 1.34 ac per hr	57°F, wind 3-4 mph, 90% clouds 71°F, wind 3-4 mph, 0% clouds	• Pair No. 1 foraging and singing in the same general area. • Pair No. 2 foraging and singing in the same general area.	0
5	06/11/18	Lauren Singleton	0650-0930	5.02 ac/ 1.88 ac per hr	64°F, wind 0-1 mph, 0% clouds 74°F, wind 1-2 mph, 0% clouds	• Male from Pair No. 1 singing in the same general area. • Male from Pair No. 2 singing in the same general area.	0
6	06/21/18	Lauren Singleton	0645-0945	5.02 ac/ 1.67 ac per hr	63°F, wind 0-1 mph, 100% clouds 69°F, wind 2-3 mph, 0% clouds	• Male from Pair No. 2 singing in same general area.	5
7	07/02/18	Lauren Singleton	0620-0945	5.02 ac/ 1.47 ac per hr	58°F, wind 0-1 mph, 100% clouds 68°F, wind 0-1 mph, 0% clouds	• Male from Pair No. 2 singing in same general area.	3
8	07/12/18	Lauren Singleton	0700-1030	5.02 ac/ 1.43 ac per hr	70°F, wind 1-2 mph, 20% clouds 83°F, wind 2-3 mph, 40% clouds	• Male from Pair No. 2 singing in same general area.	0

[1] Approximately 0.02 acre of southern willow scrub was surveyed in the off-site area and approximately 5.00 acres of habitat was surveyed in areas adjacent to the project site and off-site area.
[2] Number of brown-headed cowbird (*Molothrus ater*) detected during survey.

REFERENCES

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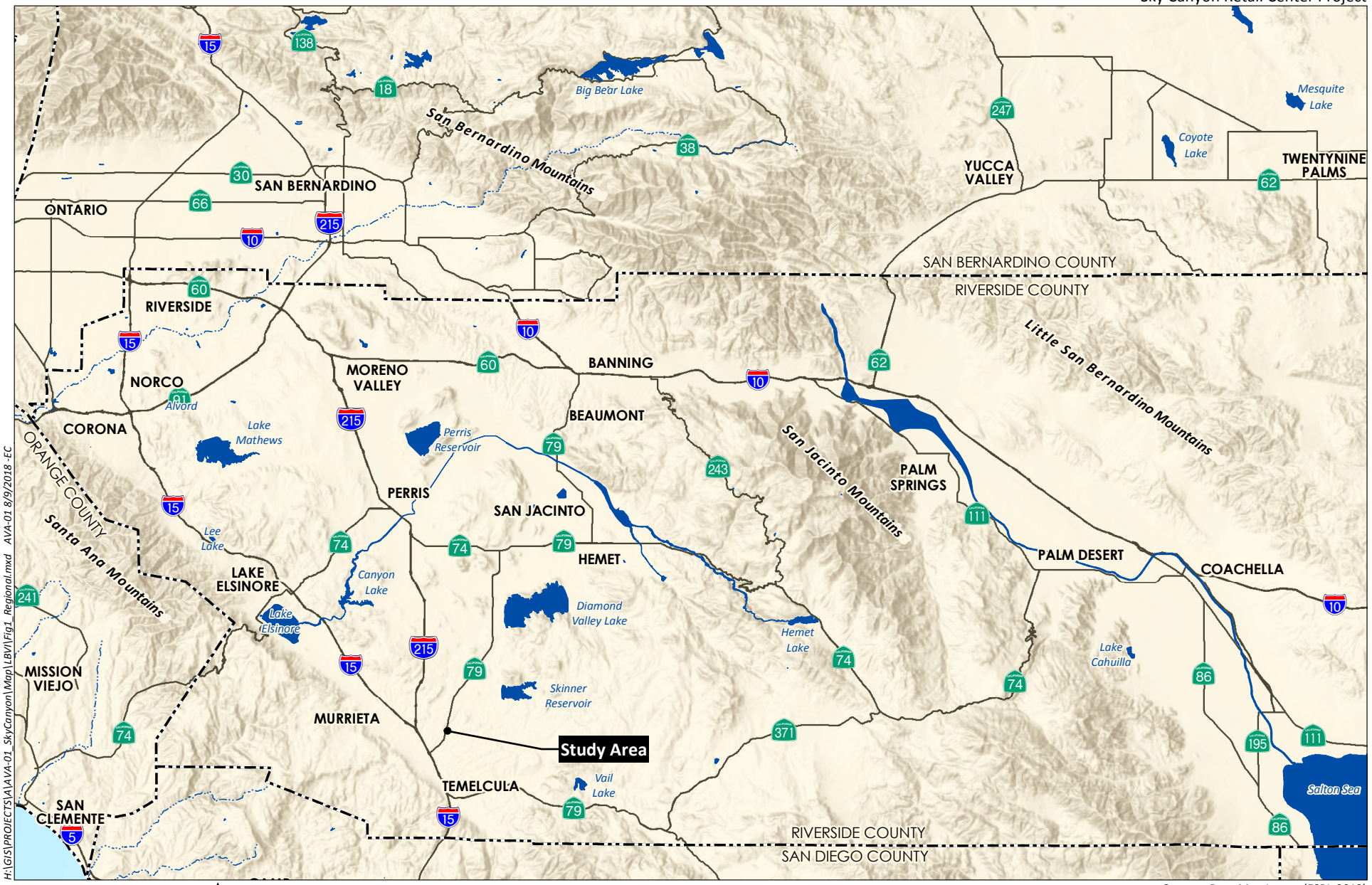

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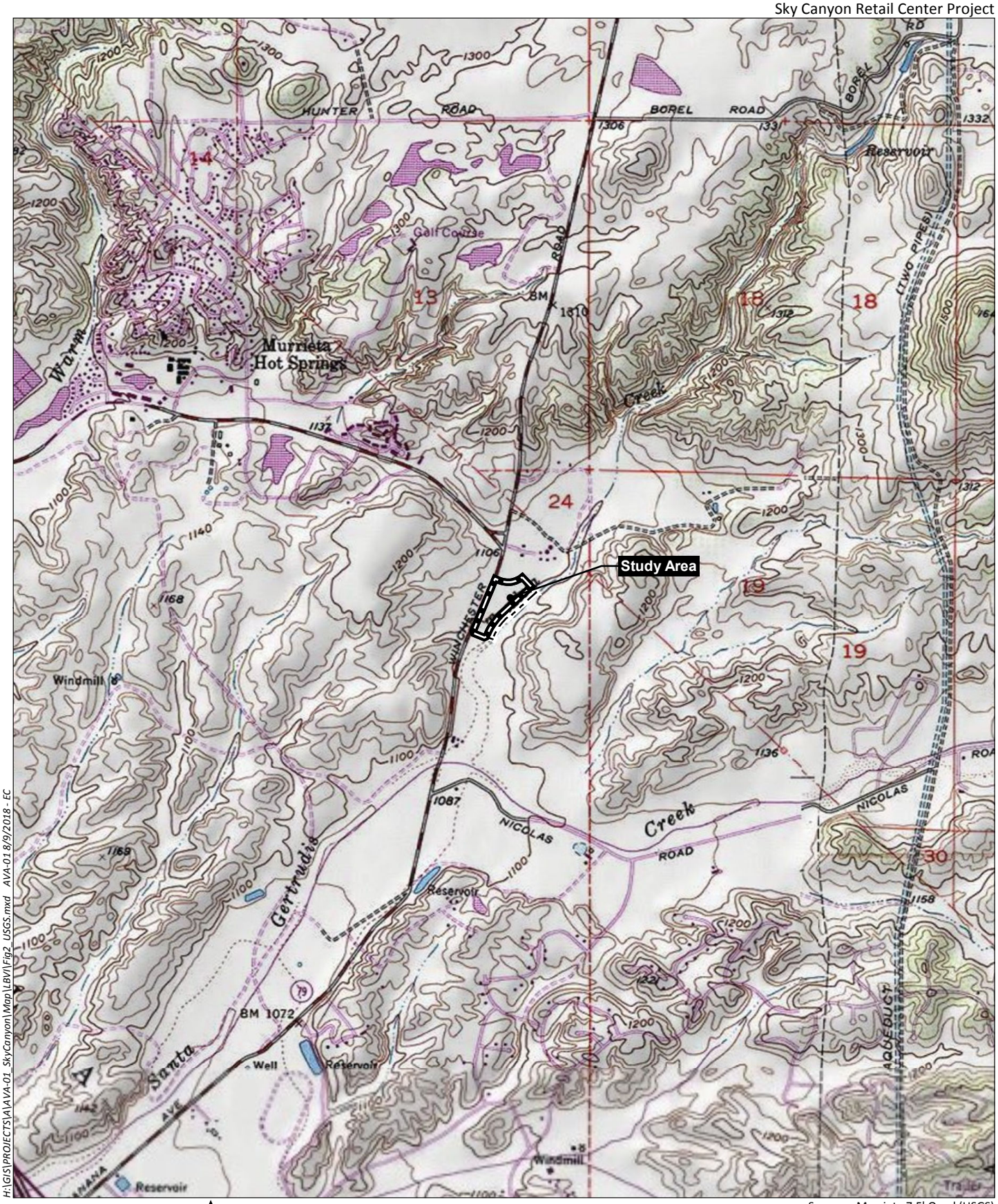
Source: Base Map Layers (ESRI, 2013)

HELIX Environmental Planning

Regional Location

Figure 1



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0 2,000 Feet

Source: Murrieta 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2

Source: Base Map Layers (Eagle Aerial, 2014)

HELIX Environmental Planning

Aerial Photograph

Figure 3

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Source: Base Map Layers (NearMap, 2017)

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2018 Least Bell's Vireo Survey Results

Figure 4

Appendix B

Noise Analysis Report

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August 19, 2019

Ara Tchaghlassion
AVA Property Investments, LLC
144407 Alondra Boulevard
La Mirada, CA 90638

Subject: Sky Canyon Retail Center Project Car Wash Noise Analysis at Biologically Sensitive Habitat

Dear Mr. Tchaghlassion:

HELIX Environmental Planning, Inc. (HELIX) has performed a noise analysis for the operational noise impacts of a future car wash within the proposed Sky Canyon Retail Center Project (project), focusing on potential noise impacts to the nearby biologically sensitive habitat. This letter supplements the full noise impact analysis for the project prepared by HELIX in June 2019, which analyses additional aspects of project components, including construction (HELIX 2019).

PROJECT DESCRIPTION AND ENVIRONMENTAL SETTING

The project would construct a commercial and retail center with five buildings on a 7.3-acre site. Project components include a 31,900 square foot (SF) Smart and Final grocery store, 10,000 SF of retail space, a 7,500 SF tire shop, 3,000 SF restaurant with attached drive-thru, and a 4,300 SF car wash. The car wash building would be the southernmost building in the project, with cars entering the car wash tunnel to the south. Noise-producing equipment would be located internally within the enclosed car wash building.

The project would include a southern extension of the existing Sky Canyon Drive from its current terminus just north of the project. Sky Canyon Drive would connect to Willows Avenue at an existing turnout approximately 340 feet east of the intersection of Willows Avenue and Winchester Road. Access to the project would be provided by driveways onto nearby roadways, including one on Winchester Road, and three on Sky Canyon Drive.

According to the project's General Biological Resources Assessment (HELIX 2018), southern riparian forest habitat was observed south of the study area across Willows Avenue. Two least Bell's vireo (LBVI) pairs were observed during a focused survey, approximately 175 feet (on the property at the southeast corner of Willows Avenue and Winchester Road) and 400 feet (within Tucalota Creek) south of the project.

TERMINOLOGY

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting (dBA) to approximate the hearing sensitivity of humans. Time-averaged noise levels of one hour are expressed by the symbol L_{EQ}, unless a different time period is specified.

NOISE MODELING SOFTWARE

Modeling of the car wash operations was accomplished using Computer Aided Noise Abatement (CadnaA) version 2018. CadnaA is a model-based computer program developed by *DataKustik* for predicting noise impacts in a wide variety of conditions. CadnaA assists in the calculation, presentation, assessment, and mitigation of noise exposure. It allows for the input of project-related information, such as noise source data, barriers, structures, and topography to create a detailed model for the prediction of outdoor noise impacts.

NOISE STANDARDS

Biologically Sensitive Habitat

Some studies, such as that completed by the Bioacoustics Research Team (1997), have concluded that 60 dBA is a criterion to use as a starting point for passerine (perching birds) impacts until more specific research is done. Associated guidelines produced by the U.S. Fish and Wildlife Service (USFWS) require that project noise be limited to a level not to exceed 60 dBA L_{EQ} or, if the existing ambient noise level is above 60 dBA L_{EQ}, limit increases to the ambient noise level by 3 dBA L_{EQ} at the edge of occupied habitat during the avian species breeding season.

EXISTING NOISE CONDITIONS

Area Measurement

An ambient noise survey of the project site was conducted on February 1, 2018 for the project's Acoustical Analysis Report (HELIX 2019). One measurement (Site 1) was taken near the habitat, and it was noted that noise from Winchester Road was the dominant noise source. The measurement was taken east of the biologically sensitive habitat, at a farther distance from Winchester Road (see Figure 1, *Car Wash Noise Contours*, for location). The measurement site is located approximately 70 feet north of the centerline of Willows Avenue, 325 feet east of its intersection with Winchester Road. An ambient noise level of 60.7 dBA L_{EQ} was measured at this location.

Traffic Noise

As noted above, the dominant noise source at the project site and the biologically sensitive habitat is traffic along Winchester Road. Noise levels at three locations (R1 through R3 as shown on Figure 1) within the biologically sensitive habitat were calculated based on modeling conducted for the project's Acoustical Analysis Report, which used the Traffic Noise Model (TNM) version 2.5 to calculate traffic noise levels (HELIX 2019). These noise levels are calculated based on the traffic volumes from the project's Traffic Impact Analysis (Linscott, Law & Greenspan 2018). Winchester Road generates 3,363 trips during the PM peak hour, and Willows Avenue generates 445 trips during the PM peak hour. Traffic

noise levels at each receiver are displayed in Table 1, *Biologically Sensitive Habitat – Existing Noise Levels*. The locations of these receivers are depicted in Figure 1.

Table 1
BIOLOGICALLY SENSITIVE HABITAT – EXISTING NOISE LEVELS

Receiver[1]	Winchester Road Noise Levels	Willows Avenue Noise Levels	Combined Noise Levels
R1	66.3 dBA L_{EQ}	59.9 dBA L_{EQ}	67.2 dBA L_{EQ}
R2	58.8 dBA L_{EQ}	59.9 dBA L_{EQ}	62.4 dBA L_{EQ}
R3	57.7 dBA L_{EQ}	59.9 dBA L_{EQ}	61.9 dBA L_{EQ}

[1] Receivers measured at a 5-foot height.

The ambient noise measurement and calculations based on modeling of existing traffic conditions indicates that noise levels at the biologically sensitive habitat are currently above the 60 dBA L_{EQ} limit.

CAR WASH NOISE ANALYSIS

Noise generated by the car wash is assumed to be from several internal sources. Noise produced by equipment within the car wash structure would be largely contained within the car wash tunnel. However, noise would emanate from the car wash entrance. To model this noise source, noise levels were measured at an existing car wash facility that includes similar equipment to what is proposed for the project to provide reference noise levels from interior noise-generating equipment. At a distance of 60 feet, noise levels during continuous operation of a car wash generate noise levels of approximately 68 dBA L_{EQ}[1]. For modeling purposes, all systems were analyzed assuming operational use for 30 minutes per given hour. Refer to Table 2, *Car Wash Entrance Noise Data*, and Attachment 1, *Car Wash Measurements,* for additional measurement information.

Table 2
CAR WASH ENTRANCE NOISE DATA

Noise Level in Decibels[1] (dB) Measured at Octave Frequency									Overall dBA
31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	
43.0	88.0	88.0	83.0	79.0	85.0	73.0	59.0	57.0	86.3

Hz = hertz, kHz = kilohertz
[1] Sound Power Level (S_{WL})

The loudest single source is the air-blast drying systems (blower) just inside the car wash exit. Exact specifications for the car wash blower system are not available at this point in project design. For the purposes of analysis, a Sonny's Enterprises 45-horsepower blower unit was assumed for the blower unit. The manufacturer's data sheet indicates that the blowers would generate noise levels of 75 dBA L_{EQ} at a distance of 100 feet. The sheet is attached as Attachment 2, *Blower Assembly,* and the noise data is shown in Table 3, *Car Wash Blower Noise Data*. All systems were conservatively analyzed assuming

[1] This measurement was taken at a car wash facility located at 5261 Baltimore Drive in La Mesa, California on September 26, 2018. The car wash entrance measurement was measured over the course of approximately 15 minutes. The loudest portion of the car wash cycle was used for this measurement in which a direct line-of-sight was provided. Additional details can be found in Attachment 1.

operational use for 30 minutes per given hour. Although the blower would be the loudest single source of noise, the exit to the car wash tunnel would face north, away from the biologically sensitive habitat.

Table 3
CAR WASH BLOWER NOISE DATA

Noise Level in Decibels[1] (dB) Measured at Octave Frequency									Overall dBA
31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	
55.5	99.5	99.5	94.5	91.5	97.5	85.5	81.5	69.5	98.8

Hz = hertz, kHz = kilohertz
[1] Sound Power Level (S_{WL})

Table 4, *Site Features Included in the Noise Model*, shows the proposed features at the project site that were included in the CadnaA noise model. These features would affect the emission, obstruction, and reflection of noise from the speaker. To isolate noise generation from the car wash, the model did not include existing traffic noise from vehicles along Willows Avenue, Winchester Road, or the future Sky Canyon Drive extension.

Table 4
SITE FEATURES INCLUDED
IN THE NOISE MODEL

Description	Height[1]
Proposed Car Wash Building	15 feet
Blower	8 feet
Car Wash Entrance	10 feet

[1] Heights are estimated from architectural plans and from typical heights of objects/buildings.

Noise levels at nine receivers in three locations within the biologically sensitive habitat were calculated in CadnaA using the data described above. Because the biologically sensitive habitat may contain nesting birds at varying heights in trees, each location was modeled at 5-foot, 10-foot, and 15-foot heights. Additionally, the 60 dBA L_{EQ} noise contours as measured at a 5-foot height were modeled. The noise levels for each receiver are depicted in Table 5, *Operational Noise Levels*. The project site plan is depicted on Figure 1, *Site Plan*. The location of the nine receivers and noise contours are depicted on Figure 2, *Car Wash Noise Contours* (see Attachment 3, *Figures*). At the nearby biologically sensitive habitat, noise levels from operation of the car wash would not exceed 45 dBA L_{EQ}. When added to the existing traffic noise levels calculated above, operation of the car wash would not be expected to increase noise any biologically sensitive habitat receiver by more than 0.1 dBA L_{EQ}[2].

[2] Because decibels are logarithmic units of measurement, they cannot be added by standard arithmetic. A doubling of sound energy corresponds to a 3 dBA increase.

Table 5
OPERATIONAL NOISE LEVELS

Receiver	Receiver Height	Car Wash Noise (dBA L_{EQ})
R1	5 feet	43.5
	10 feet	42.3
	15 feet	40.2
R2	5 feet	43.6
	10 feet	42.3
	15 feet	40.2
R3	5 feet	43.7
	10 feet	42.3
	15 feet	40.3

Conclusions

Existing conditions at the biologically sensitive habitat are currently above 60 dBA L_{EQ}. Operation of the project's car wash would generate noise levels below 45 dBA L_{EQ}. When car wash noise is combined with existing noise levels, noise levels at the biologically sensitive habitat would not increase by more than 0.1 dBA L_{EQ}, which would not exceed the 3 dBA L_{EQ} threshold. Impacts to nearby biologically sensitive habitat from car wash noise would be less than significant.

Jason Runyan
Noise Analyst

Joanne M. Dramko, AICP
Senior Technical Specialist

Attachments:

Attachment 1: Car Wash Measurements

Attachment 2: Blower Assembly

Attachment 3: Figures

REFERENCES

Bioacoustics Research Team. 1997. Environmental Effects of Transportation Noise, A Case Study: Noise Criteria for Protection of Endangered Passerine Birds. University of California, Davis, Transportation Noise Control Center Technical Report 97-001.

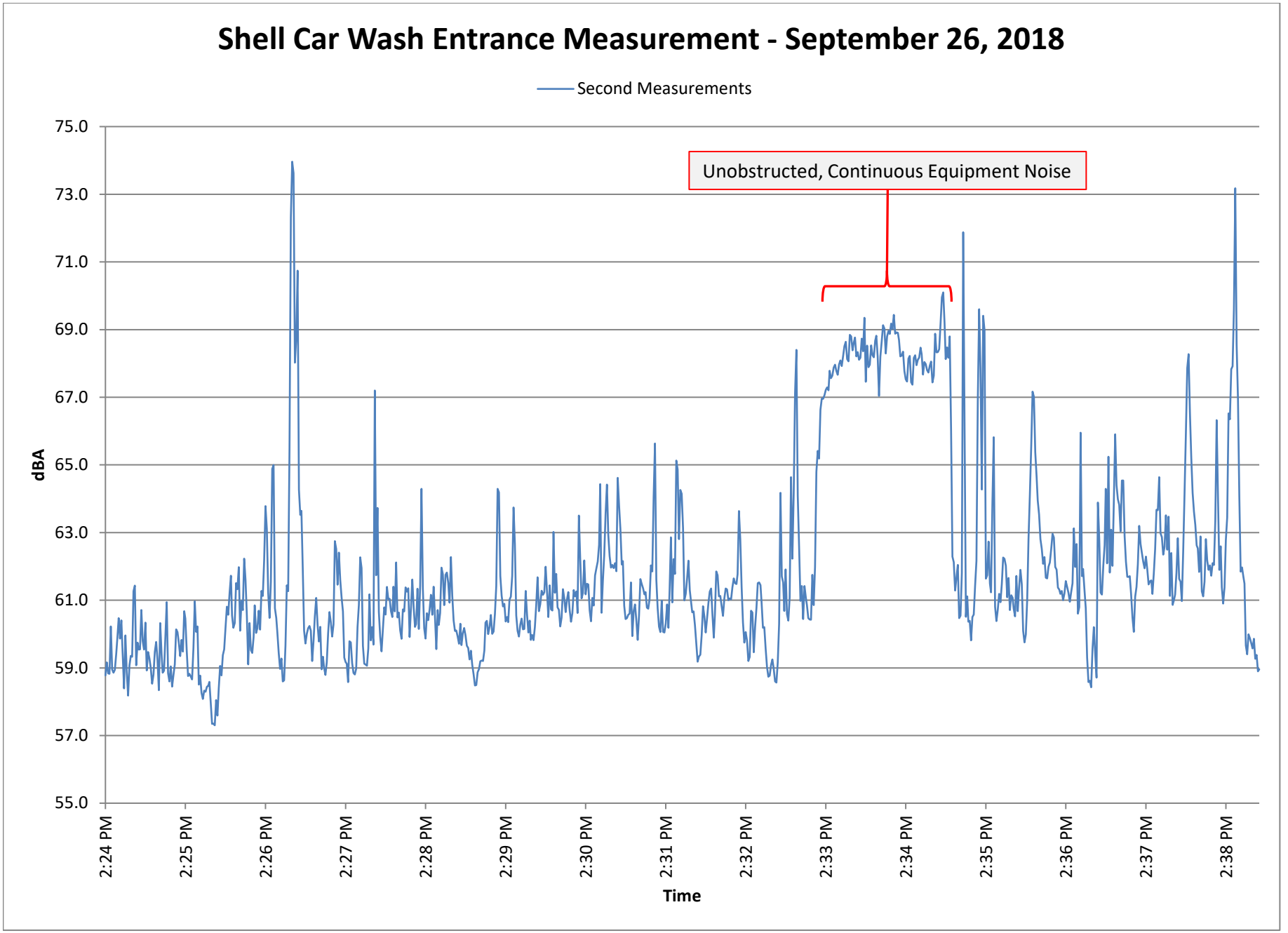
HELIX Environmental Planning (HELIX). 2019. Sky Canyon Retail Center Project Acoustical Analysis Report. June.

2018. Sky Canyon Retail Center Project General Biological Resources Assessment. August.

Linscott, Law, & Greenspan. 2018. Traffic Impact Analysis Report for the Sky Canyon Retail Center Project. October 16.

Attachment 1

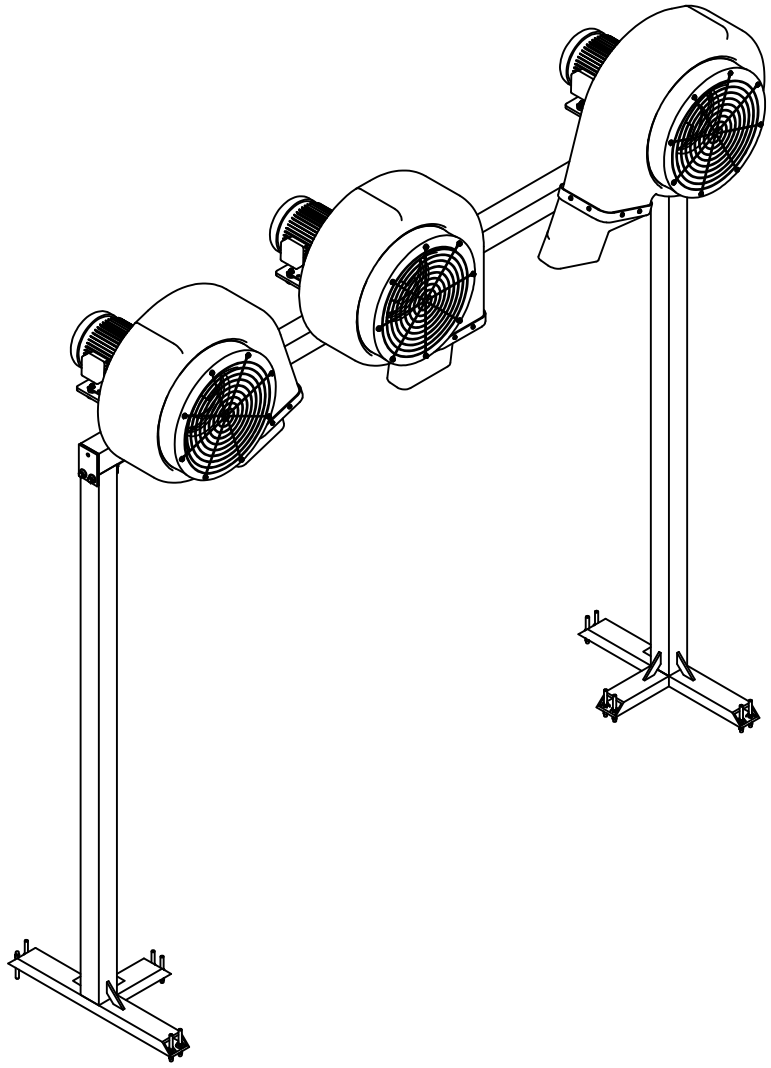
Car Wash Measurements

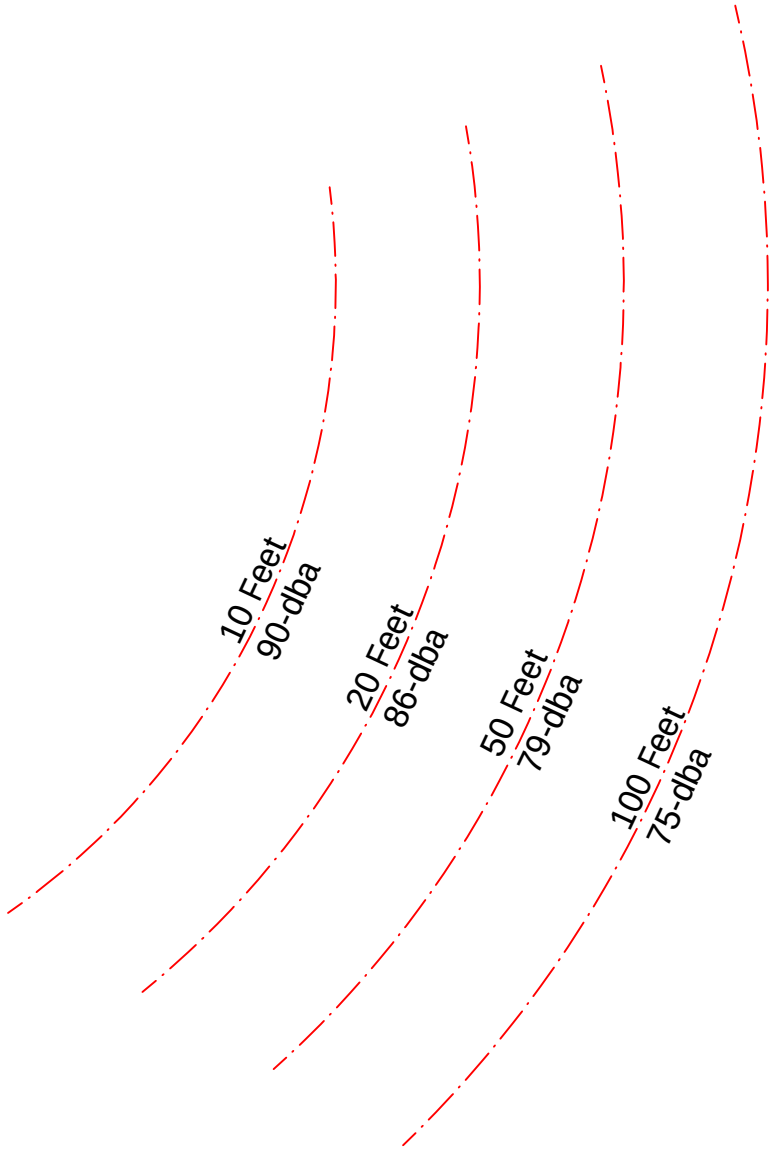

Shell Car Wash Entrance Measurement - September 26, 2018
Second Measurements
Unobstructed, Continuous Equipment Noise
dBA
75.0
73.0
71.0
69.0
67.0
65.0
63.0
61.0
59.0
57.0
55.0
2:24 PM
2:25 PM
2:26 PM
2:27 PM
2:28 PM
2:29 PM
2:30 PM
2:31 PM
2:32 PM
2:33 PM
2:34 PM
2:35 PM
2:36 PM
2:37 PM
2:38 PM
Time

Attachment 2

Blower Assembly

Enviromental Noise with Dryer OFF: 70 dba





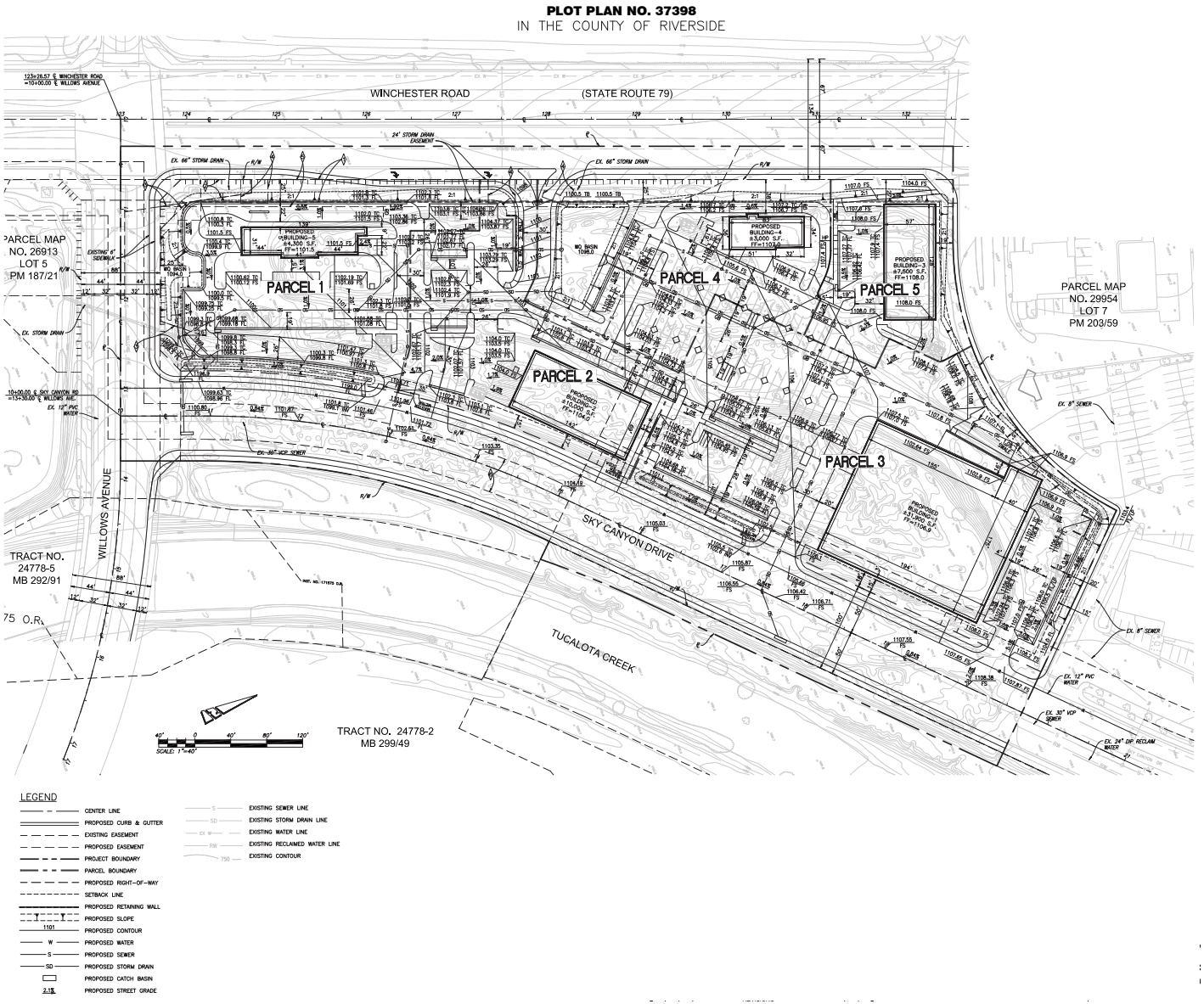
THIRD ANGLE PROJECTION	*MACHINING TOLERANCES*	DRAWN LVerdecia	8/26/2011
BREAK ALL SHARP CORNERS. PART TO BE FREE OF BURRS.	FRACTION± 1/16"	APPROVED	8/1/2012
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES	.XX DECIMAL ± 0.030	CATEGORY BLOWER	
MATERIAL	.XXX DECIMAL ± 0.005		
	ANGULARITY ± 2°		
	FINISH 125		

SONNY'S ENTERPRISES
THE CARWASH FACTORY

DESCRIPTION	BLOWER ASSEMBLY, ONE ARCH 45HP		
PART NUMBER	BL1-45HP-1		
SHEET 2 OF 2	SIZE A	SCALE N.T.S.	

Attachment 3

Figures



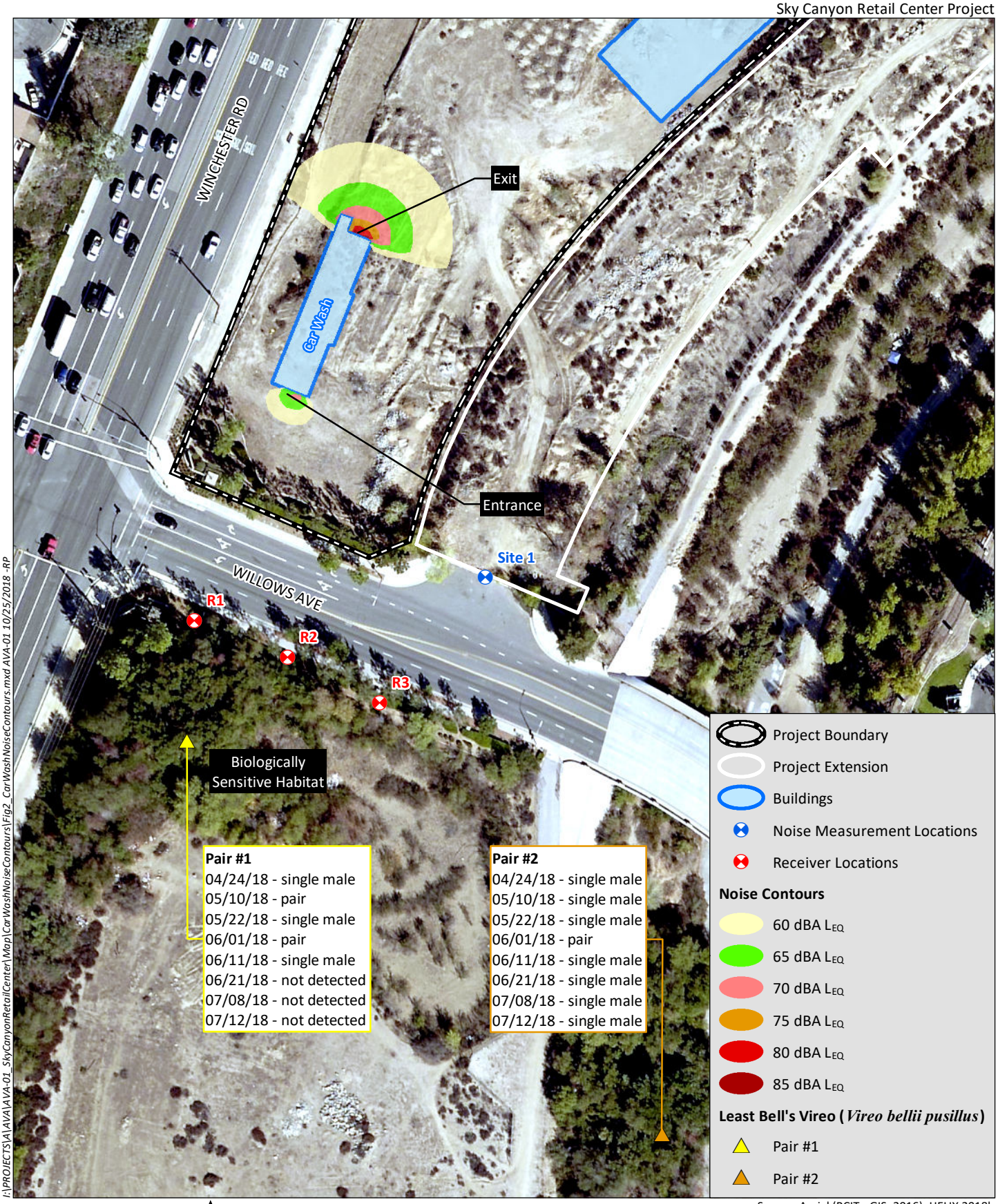
I:\PROJECTS\A\AVA\AVA-01_SkyCanyonRetailCenter\Map\CarWashNoiseContours\Fig1_SitePlan.indd AVA-01 02/01/18 - RP

Source: Proactive Engineering Consultants West, 2018

HELIX Environmental Planning

Site Plan

Figure 1



I:\PROJECTS\A\AVA\AVA-01_SkyCanyonRetailCenter\Map\CarWashNoiseContours\Fig2_CarWashNoiseContours.mxd AVA-01 10/25/2018 -RP

0 100 Feet

Source: Aerial (RCIT - GIS, 2016); HELIX 2018b

HELIX Environmental Planning

Car Wash Noise Contours

Figure 2