Habitat Assessment
MSHCP Consistency Analysis
and HANS Review
World Logistics Center Specific Plan
City of Moreno Valley, Riverside County, California

Sunnymead and El Casco USGS 7.5-minute Topographic Quadrangles
Sections 1, 10, 11, 12, 13, and 14 Township 3 South, Range 2 West and
Sections 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, and 21 Township 3 South, Range 3 West

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ABBREVIATIONS AND ACRONYMS

APNs	Assessor's Parcel Numbers
BMP	Best Management Practice
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CWA	Clean Water Act
DBESP	Determination of Biologically Equivalent or Superior Preservation
EPA	Environmental Protection Agency
GIS	Geographic Information Systems
HANS	Habitat Acquisition and Negotiation Strategy
HCP	Habitat Conservation Plan
I	Interstate
IA	Implementation Agreement
LPSRA	Lake Perris State Recreation Area
MBA	Michael Brandman Associates
MBTA	Migratory Bird Treaty Act
MSHCP	Multiple Species Habitat Conservation Plan
NPDES	National Pollutant Discharge Elimination System
OHWM	ordinary high water mark
PQP	Public/Quasi-Public
RCA	Regional Conservation Authority
RCIP	Riverside County Integrated Project
RPW	Relatively Permanent Water
SJWA	San Jacinto Wildlife Area
sq ft	square feet
SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
TNW	Traditional Navigable Water
USACE	United States Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WDR	Waste Discharge Requirement
WLCSP	World Logistics Center Specific Plan

SECTION 1: EXECUTIVE SUMMARY

Michael Brandman Associates (MBA) conducted a Habitat Assessment, Multiple Species Habitat Conservation Plan (MSHCP) Consistency Analysis, Habitat Acquisition and Negotiation Strategy (HANS) Review, and California Environmental Quality Act (CEQA) Biological Resources Assessment to comply with the Western Riverside County MSHCP requirements for an Environmental Impact Report (EIR) for the World Logistics Center Specific Plan and General Plan Amendment. This report addresses 3,814 acres inclusive of streets and rights-of-way located in of the City of Moreno Valley in western Riverside County, California. In addition to these acres, offsite facilities in the form of possible roadway and utility improvements, interchange improvements on State Route (SR) 60, and potential reservoirs and associated access were included in the studies. This area is hereafter referred to as the study area. Within the study area, Highland Fairview Operating Company is proposing the World Logistics Center Specific Plan (WLCSP) for 2,710 acres of the northern portions of the study area inclusive of 1,104 acres of land currently owned by California Department of Fish and Game (CDFG). This land was purchased by the Wildlife Conservation Board in 2001 to allow for the protection of a portion of Mystic Lake and its associated upland habitat (Excerpt from Minutes of Wildlife Conservation Board, May 18, 2001). The CDFG recommended that the acquisition of the properties are important to the wildlife area as they will serve as a buffer from development north of the wildlife area and add significant wildlife benefits to the wildlife area. These acres are identified as the CDFG Conservation Buffer lands throughout the report.

Finally, the study area encompasses an additional area of approximately 1,000 feet along the eastern, southern, and southwestern borders of the 3,814 acres was examined to comply with the Urban/Wildlands interface and to address indirect impacts associated with construction and operation of the facilities. In total with the WLCSP, Offsite Facilities, CDFG Conservation Buffer, and the 1,000-foot buffer, 6,041 acres were examined through direct pedestrian surveys, literature reviews, or aerial photography reviews.

The study area is located within the Reche Canyon/Badlands Area Plan of the Western Riverside County MSHCP. Portions of the study area occur within 14 Criteria Cells within the MSHCP boundaries. Because portions of the study area are located within Criteria Cells, a HANS is required between the City of Moreno Valley, the Western Riverside County Regional Conservation Authority (RCA), and any potential developers of the study area. Portions of the study area are also located within the northern extent of the San Jacinto Wildlife Area (SJWA), which is Public/Quasi-Public Conservation Area (PQP) Land and designated as existing Core Area H.

Suitable habitat for burrowing owl (*Athene cunicularia*) occurs on the majority of the study area. MBA conducted focused surveys for burrowing owl across the study area in May and August 2005, August 2006, May 2007, June 2010, and July 2012. MBA determined that no burrowing owl were present in the study area in 2012. However, burrowing owl were documented within the WLCSP in

2005 (MBA 2005), 2008 (Fierro, pers. comm.) and more recently by MBA in early spring 2012 (MBA 2012a). Due to the presence of suitable habitat and periodic use of the area by burrowing owls, mitigation measures will likely be required to offset the project-related impacts to occupied burrowing owl habitat. In addition, conducting a 30-day pre-construction clearance survey prior to any ground disturbance activity will be required in an effort to avoid any direct impact to the species.

Suitable habitat for Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) occurs within one of the main drainage features located on the study area. MBA conducted focused surveys for Los Angeles pocket mouse in August 2005, June 2010, and July 2012 and concluded that Los Angeles pocket mouse is absent from the study area.

A sensitive plant survey was conducted in June and July 2010 (MBA 2010), and resulted in negative findings for 3 sensitive species identified as having a potential to occur on the site: Coulter's goldfields (*Lasthenia glabrata* sub. *coulteri*), smooth tarplant (*Hemizonia pungens laevis*), and thread-leaved brodiaea (*Brodiaea filifolia*); the survey concluded that these species are not currently present in the study area and are not likely to occur under current use conditions.

The study area is located within the Stephens' kangaroo rat (*Dipodomys stephensi*) Habitat Conservation Plan (HCP) fee area. Based on the HCP's Implementation Agreement (IA), payment of the County's per-acre mitigation fee is required. This fee is separate from any MSHCP development fees. The SJWA is currently designated as public/quasi public conserved lands and has been incorporated into the SKR core conservation area. Impacts to the proposed study area will not directly impact any portion of the SKR core conservation area and are unlikely to indirectly impact the SKR core conservation area.

The study area is bordered to the southeast by MSHCP Proposed Core 3 (Section 6.1.1, Proposed Core 3) and to the south by Existing Core H and SJWA. Moreover, portions of the study area fall within the boundaries of all the aforementioned MSHCP Conservation Areas. The portions of the study area within the SJWA are not proposed for development because they are outside of the WLCSP area. The remaining portions of the study area that are on or immediately adjacent to conservation areas incorporate urban edge design features to minimize potential development impacts to wildlands. This includes development that would occur adjacent to the SJWA in the study area. These design features include potential impacts associated with lighting, stormwater run-off, and noise.

Based on the most recent assessment of jurisdictional limits regarding the drainage features within the study area, the drainage features do not have direct hydrologic connectivity to any Relatively Permanent Water (RPW) or Traditional Navigable Water (TNW), necessary to be considered jurisdictional by the United States Corps of Engineers (USACE) (MBA 2012). Therefore, the features onsite are considered isolated and no regulatory permits under the Clean Water Act (CWA)

will be required. Portions of the drainage features on site are likely under California Department of Fish and Game (CDFG) jurisdiction and therefore will require a streambed alteration agreement under Section 1600 of the CDFG Code. Permits from the Regional Water Quality Control Board under the Porter-Cologne Act will also likely be required. In addition, due to the large area of development a detailed Storm Water Pollution Prevention Plan (SWPPP) will be required on a project-by-project basis. The SWPPP will specifically address all potentially significant impacts associated with toxic run-off associated with the proposed development.

Two drainage features and one isolated catch basin are considered riparian\riverine areas, as designated by MSHCP. If impacts to any of these areas are anticipated, a Determination of Biologically Equivalent or Superior Preservation (DBESP) will be required to assess the extent of impact and the measures taken to reduce the impact or determine mitigation measures for implementation either on site or through off-site credits.

No United States Fish and Wildlife Service (USFWS) designated Critical Habitat for any species is present within the study area.

Portions of the study area contain suitable nesting habitat for birds protected under the Migratory Bird Treaty Act (MBTA) and CDFG Code. If construction activities occur during the nesting season, early February through the end of August, then MBA recommends conducting pre-construction clearance surveys for nesting birds.

The study area currently contains extensive raptor foraging habitat. Impacts to the large amount of raptor foraging habitat may potentially be a significant impact under California Environmental Quality Act (CEQA). Raptor prey base in the agricultural areas is currently limited due to yearly disking. The raptor foraging areas within the CDFG Conservation Buffer Area would continue to be viable after implementation of the proposed action.

The World Logistics Center may have a potentially significant impact associated with diesel fuel emissions and nitrogen deposition at the Urban-Wildlands Interface. These air quality impacts will require air quality modeling to determine if impacts associated with diesel emissions and nitrogen deposition are considered significant on a project-by-project basis in areas at the Urban-Wildlands Interface along the eastern and southern margins of the WLCSP.

SECTION 2: INTRODUCTION

At the request of Highland Fairview Operating Company, MBA conducted a Habitat Assessment, MSHCP Consistency Analysis, and HANS Review to comply with the Western Riverside County MSHCP. This report contains the results of a habitat assessment for burrowing owl, Los Angeles pocket mouse, sensitive plants, and riparian areas. This report also includes an analysis of all applicable MSHCP requirements and constraints, and a HANS review for the study area.

2.1 - Project Location

The study area is located within the Reche Canyon/Badlands Area Plan of the MSHCP in the City of Moreno Valley, Riverside County, California. It is generally located north of the SR-74, south of SR-60, east of Interstate (I) 215, and west of SR-79 (Exhibit 1). Specifically, the study area is located in Sections 1, 2, 10, 11, 12, 13, and 14 of Township 3 South, Range 2 West; and Sections 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, and 21 of Township 3 South, Range 3 West as depicted on the Sunnymead and El Casco, California, United States Geological Survey (USGS) 7.5-minute topographic maps (Exhibit 2). The study area is specifically located north of Air Forbes Road, south of SR-60, east of Redlands Boulevard, and west of Gilman Springs Road (Exhibit 3). The study area encompasses several contiguous lots totaling approximately 6,041 acres including potential offsite improvements on the eastern, northern, and western margins of the study area and the buffer to assess indirect impacts to "wildlands areas". Within the study area, Highland Fairview Operating Company is proposing the WLCSP for 2,710 acres of the northern portions of the study area (Exhibit 2 and Exhibit 3).

The study area consists of the Assessor's Parcel Numbers (APNs) listed in Appendix H.

Agricultural fields including dry-land grain farming dominate the study area including the CDFG Conservation area with the exception of approximately 160 acres in the extreme southwestern portion of the study that consists of non-native grassland that had been in agricultural production until recently. Some rural residences are located in the center of the study area along Theodore Street, and areas of open space are located throughout the southern and northeastern portions of study area. General land use in the vicinity of the study area includes agricultural lands and scattered rural residences to the north and west, the SJWA and the Lake Perris State Recreation Area (LPSRA) to the south and southwest respectively, undeveloped foothills to the east, and the Norton Younglove Reserve to the northeast. Additionally, a 15-acre natural gas compressor station is located north of the CDFG Conservation Buffer area in the southern portion of the study area.

2.2 - Project Description

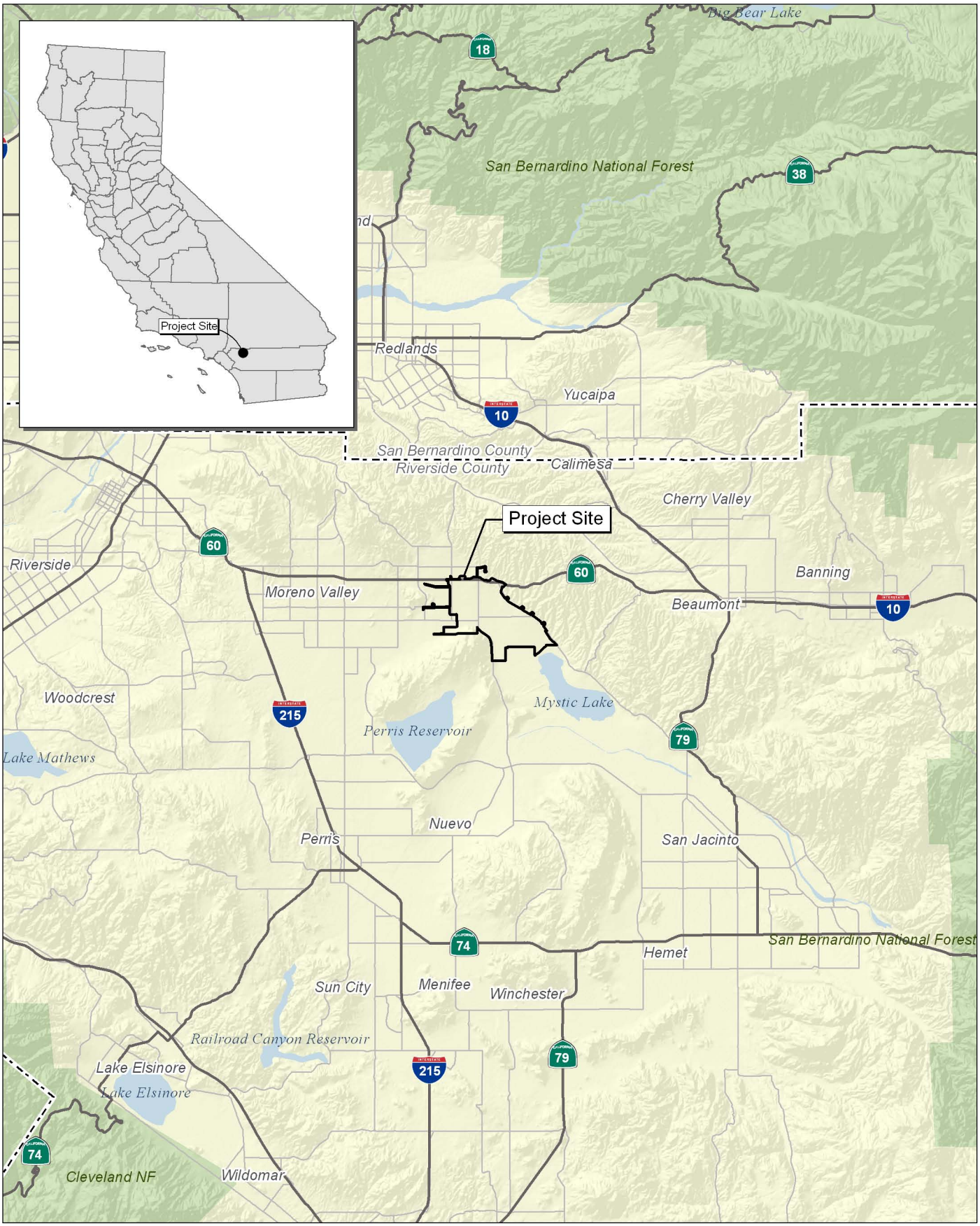
The World Logistics Center study area encompasses approximately 3,814 acres of land in eastern Moreno Valley. The proposed General Plan Amendment and Zone Change covers the entire study

area, deleting the current residential mixed-use land uses (the Moreno Highlands Specific Plan) and replacing them with job-producing land uses (the WLCSP) in the development areas. "Open space" and "public" uses will be provided in the undeveloped areas. The northerly 70 percent of the study area is within the proposed WLCSP, which will function as the development regulations for the World Logistics Center, a 2,710-acre master-planned logistics complex. The most southerly 30 percent of the study area (1,104 acres) will not be in the Specific Plan and will be designated for "open space" and "public" uses by the General Plan Amendment and Zone Change. The remaining acres include 590 acres of Offsite Facilities and a 1,636-acre buffer to cover potential indirect impacts associated with the San Jacinto Wildlife Area and Core H of the MSHCP and the lands associated with the eastern side of Gilman Springs Road and proposed Core 3.

Offsite environmental impacts are associated with roadway and utility improvements. These include a new detention basin near Sinclair Street, north of SR-60, and a series detention basins in various canyons along the north side of Gilman Springs Road. Potential water reservoirs and an access road are proposed for a hilly area west of Moreno Beach Drive/north of Cottonwood and on a hillside west of Theodore Street/south of Ironwood Avenue. Sewer improvements are planned for Redlands Boulevard, Gilman Springs Road, Bay Avenue, Merwin Street, Brodiaea Avenue, and Quincy Street. Water supply improvements are planned for Cottonwood Avenue, Eucalyptus Avenue, Merwin Street, Redlands Boulevard, and Gilman Springs Road. Roadway improvements are planned for Redlands Boulevard and Gilman Springs Road. SR-60 shall be improved with modifications to on- and off-ramps: these projects will be undertaken by CALTRANS and covered under separate environmental documents.

Finally, this biological resources assessment examines potential indirect impacts associated with both construction and operations of the proposed facilities on the WLCSP lands, as well as those in the study area. Studies on indirect impacts are based on a combination of literature reviews, aerial photograph interpretation, and projects completed in some of the areas or adjacent areas.

For the purposes of this report, the study area has been divided into three sections. The first includes the WLCSP area and associated offsite facilities and will be referred to as the WLC Specific Plan Areas. The second section includes the CDFG conservation area as well as the SDG&E lands and will be referred to as the CDFG Conservation Buffer. The third includes the 1,000-foot buffer area surrounding the study area and will be referred to as the San Jacinto Wildlife Refuge and Adjacent Areas.



Source: Census 2000 Data, The CaSIL, MBA GIS 2012.

Michael Brandman Associates

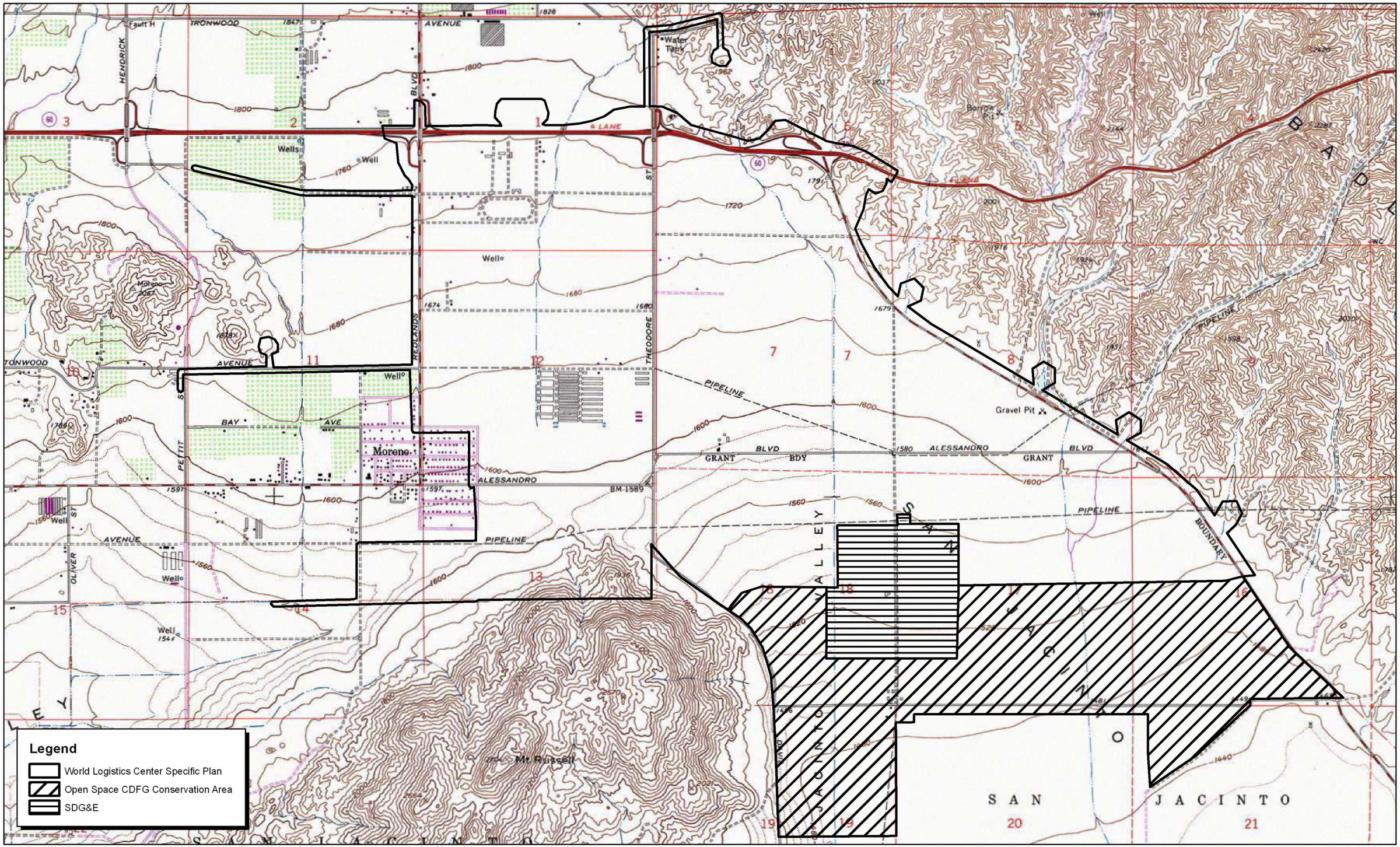
NORTH

5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

26100025 • 07/2012 | 1_regional.mxd

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN
HABITAT ASSESSMENT, MSHCP CONSISTENCY ANALYSIS, AND HANS REVIEW



Source: TOPO! USGS Sunnymead, CA (1978) and El Casco (1976) 7.5' DRG.

NORTH

2,000 1,000 0 2,000 Feet

Michael Brandman Associates

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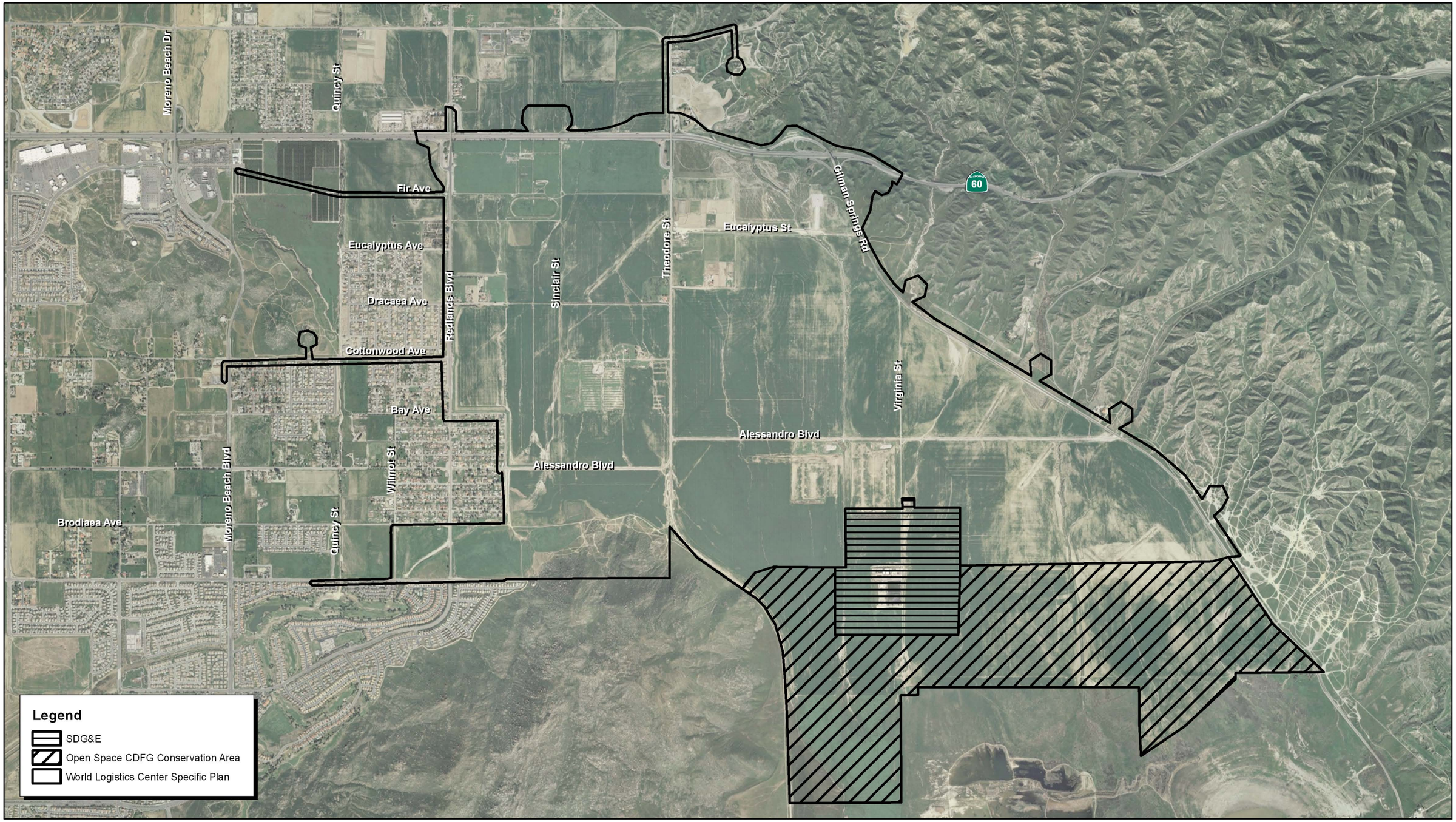
Exhibit 2
Local Vicinity Map
Topographic Base



Source: ESRI Aerial Imagery. MBA Field Survey and GIS Data, 2012.

NORTH

2,200 1,100 0 2,200 Feet

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26100025 • 08/2012 | 3_local_aerial.mxd

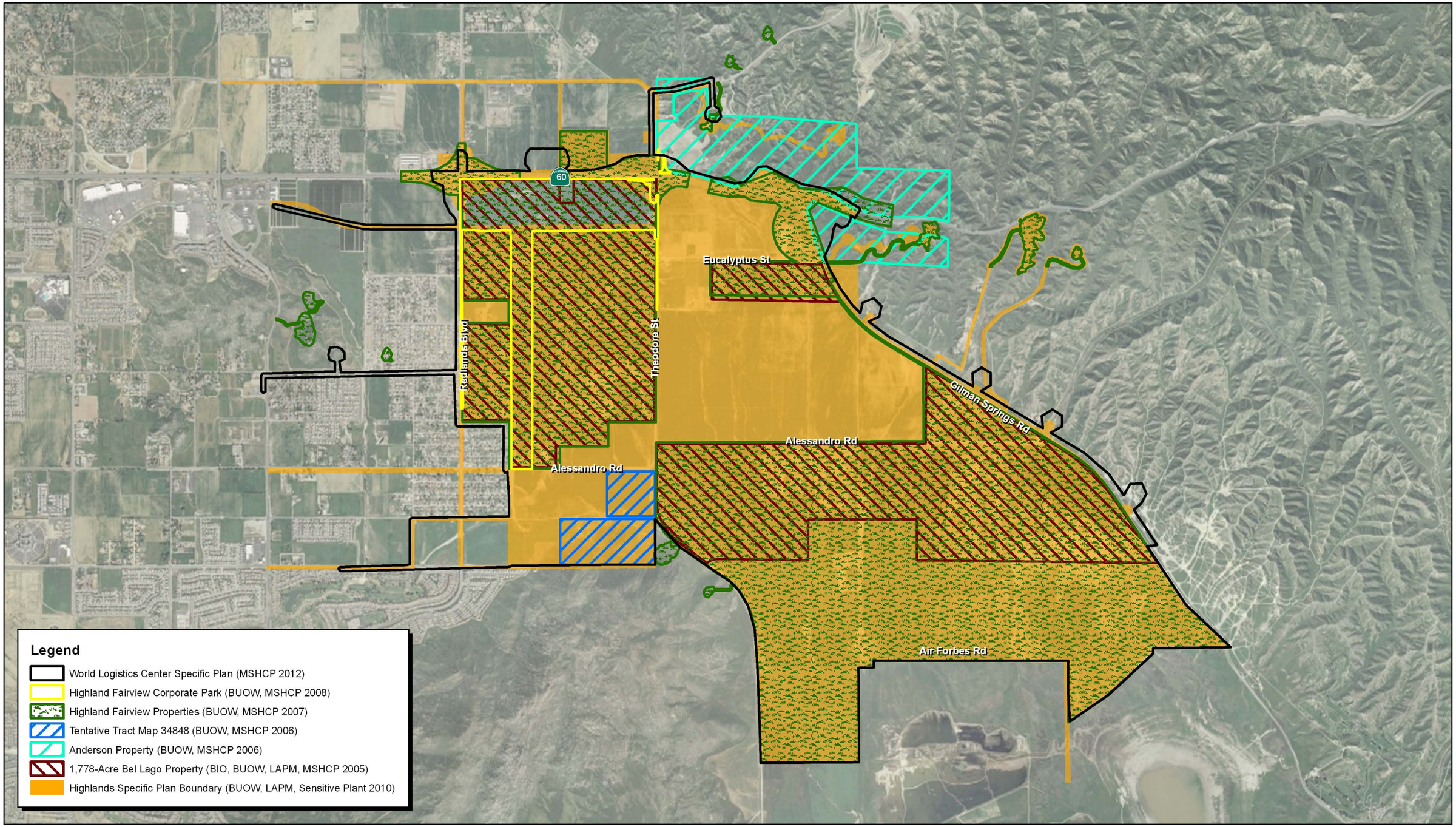
Exhibit 3
Local Vicinity Map
Aerial Base

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN
HABITAT ASSESSMENT, MSHCP CONSISTENCY ANALYSIS, AND HANS REVIEW

2.2.1 - Project History

The information presented herein encompasses 7 years of biological studies conducted by MBA on various portions of the study area. Thus, the results presented encompass not only the current conditions, but also represent the history of the area based on knowledge of the region resulting from studies conducted over a variety of years with varying climatic conditions, seasonal variations, and observations by a multitude of biologists. Therefore, this comprehensive study provides a basis for interpretation far more detailed than a single year of studies.

Exhibit 4 graphically provides representation of the studies conducted over the last 7 years. It indicates areas where repeated surveys were conducted and provides full coverage of the study area. Table 1 in Section 4.1, Survey Dates, provides further documentation of the studies conducted by MBA staff over the 7-year period.



Source: ESRI Aerial Imagery. MBA Field Survey and GIS Data, 2012.

NORTH

2,500 1,250 0 2,500 Feet

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26100025 • 07/2012 | 4_project_history_map.mxd

Exhibit 4
Project History Map

SECTION 3: METHODOLOGY

3.1 - Western Riverside County MSHCP Consistency Analysis

The study area was assessed to determine consistency with the requirements set forth in the Western Riverside County MSHCP. The Western Riverside County MSHCP is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on conservation of species and their associated habitats in Western Riverside County. The MSHCP allows Riverside County and its Cities to better control local land-use decisions and maintain a strong economic climate in the region while addressing the requirements of the state and federal Endangered Species Acts.

The overall goal of the MSHCP is to enhance and maintain biological diversity and ecosystem processes while allowing future economic growth. The MSHCP will result in an MSHCP Conservation Area in excess of 500,000 acres and focuses on conservation of 146 species including amphibians, reptiles, birds, mammals, invertebrates, and plants. The MSHCP Conservation Area includes approximately 347,000 acres on existing Public/Quasi-Public Lands and approximately 153,000 acres of Additional Reserve Land.

The MSHCP Plan Area encompasses approximately 1.26 million acres (1,966 square miles); it includes all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line, as well as the jurisdictional areas of the Cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, San Jacinto and recently added Eastvale, Menifee, Wildomar and Jurupa Valley. It provides a coordinated MSHCP Conservation Area and implementation program to preserve biological diversity and maintain the region's quality of life.

The MSHCP serves as a HCP pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act of 1973 (FESA), as well as a Natural Communities Conservation Plan (NCCP) under the NCCP Act of 2001. The MSHCP allows the City of Moreno Valley as well as other signatories of the Plan to authorize “Take” of plant and wildlife species identified within the Plan Area. The United States Fish and Wildlife Service (USFWS) and CDFG have authority to regulate the Take of Threatened, Endangered, and rare Species. Under the MSHCP, the FWS and CDFG can grant "Take Authorization" for otherwise lawful actions—such as public and private Development that may incidentally Take or harm individual species or their Habitat outside of the MSHCP Conservation Area—in exchange for the assembly and management of a coordinated MSHCP Conservation Area.

Of the 1.26 million acres covered by the MSHCP, 500,000 acres have been designated for preservation: 347,000 acres are already conserved as public or quasi-public land and another 45,270 acres have been acquired as habitat by the Regional Conservation Authority (RCA). According to the most recent RCA - MSHCP Annual Report (2010), the City of Moreno Valley has a high-end goal of

conserving 130 acres within their sphere of influence of the MSHCP; the City has already conserved 1030 acres (RCA Annual Report 2011, Table 3). Altogether, Riverside County has reached 77 percent of the goal in the MSHCP.

3.2 - Literature Review

The Riverside County Integrated Project (RCIP) Conservation Summary Report was queried to determine habitat assessment and potential survey requirements for the study area (Appendix G, Riverside County Integrated Project (RCIP) Conservation Summary Report and Attachment). Geographic Information Systems (GIS) software was used to map the site in relation to MSHCP areas including Criteria Cells; conservation areas and linkages; Criteria Area Species Survey Areas for plant, bird, mammal, and amphibian species; Narrow Endemic Plants Survey Area; and survey requirements for inadequately covered species.

Prior to the field visit, a literature review to determine environmental conditions occurring on the study area and the surrounding area was conducted. The primary objective of the review is to evaluate the potential for suitable habitat for sensitive plant and wildlife species, as well as to determine the applicability of other MSHCP and CEQA requirements as they pertain to the proposed project. A compilation of sensitive plant and wildlife species recorded in the vicinity of the study area was derived from the CDFG's California Natural Diversity Database (CDFG 2012), a sensitive species and plant community account database. Additional recorded occurrences of plant species found on or near the study area were derived from the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California database. The CNDDB and CNPS search was based on the Lakeview, Sunnymead, and El Casco, California USGS 7.5-minute topographic quadrangles, encompassing 126 square miles. Additional recorded occurrences of these species found on or near the study area were derived from biota studies conducted for the MSHCP as well as studies conducted by MBA biologists for other projects over the years.

The MSHCP and CEQA also require an assessment to determine the potentially significant effects of the project on riparian/riverine areas and vernal pools. According to the MSHCP, the documentation for the assessment shall include mapping and a description of the functions and values of the mapped areas with respect to the species listed in the MSHCP's Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools. This assessment is independent from considerations given to waters of the US and waters of the State under the CWA and CDFG Code. This assessment has been completed for all of the study area but not in the zone of potentially indirect effects.

As part of the MSHCP requirements, an Urban/Wildlands Interface Analysis is required to address the indirect effects associated with locating proposed development in proximity to MSHCP conservation areas. The development may result in edge effects, which could potentially affect

biological resources within the MSHCP Conservation Area. According to the MSHCP, the analysis should include an assessment of the potential indirect project impacts that may result from drainage features, toxics, noise, invasive species, barriers, access, and grading/development, as listed and described in the MSHCP's Section 6.1.4, Guidelines Pertaining to Urban/Wildlands Interface. For this study, the Urban/Wildlands Interface Analysis was extended eastward to include indirect effects adjacent to Gilman Springs Road.

3.2.1 - Habitat Assessment Survey

MBA originally assessed the study area in 2005 and has conducted additional surveys since then, as summarized below in Section 4.1, Survey Dates (Table 1) and graphically presented in Exhibit 4. The study area, including the offsite facilities and the CDFG Conservation buffer were surveyed to determine the plant communities present, the suitability for Narrow Endemic and Criteria Area plant species, the presence of riparian areas, and the presence of suitable habitat for burrowing owl and Los Angeles pocket mouse. The San Jacinto Wildlife Refuge and Adjacent Areas were not physically surveyed on the ground; data are based on literature review, aerial photography and vegetation interpretation, soils maps and reconnaissance from adjacent areas. In limited areas, MBA had conducted surveys for non-related projects and included that information in the assessment. Parameters assessed included soil conditions, presence of indicator species, slope, aspect, and hydrology.

3.2.2 - Plant Communities

Plant communities were mapped using 7.5-minute USGS topographic base maps and aerial photography. The plant communities within the study area were classified according to CDFG's List of Terrestrial Natural Communities (2003) and cross-referenced to descriptions provided in Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986) and Oberbauer's Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions (1996).

3.2.3 - Plants

Common plant species observed during reconnaissance-level surveys in the study area were identified by visual characteristics and morphology in the field and recorded in a field notebook. Uncommon and less familiar plants were identified offsite using taxonomical guides. A list of all species observed on the study area was compiled from the survey data, shown in Appendix A, Floral and Faunal Compendia. Taxonomic nomenclature used in this study follows Hickman (1993). Common plant names, when not available from Hickman (1993), were taken from other regionally specific references. In this report, scientific names are provided immediately following common names of plant species for the first reference only.

3.2.4 - Wildlife

Wildlife species detected during field surveys in the study area by sight, calls, tracks, scat, or other sign were recorded during surveys in a field notebook by all biologists working on the project. Field guides were used to assist with identification of species during surveys. Although common names of wildlife species are fairly well standardized, scientific names are used in this report and are provided in Appendix A, Floral and Faunal Compendia.

3.2.5 - Riparian/Riverine and Vernal Pool Habitat

Aerial photography was reviewed prior to conducting general surveys to identify any potential natural drainage features and water bodies that may qualify as riparian/riverine. In general, the surface drainage features indicated as blue-line streams on USGS topographic quadrangle maps that were observed or expected to exhibit evidence of flow, as they can potentially support riparian/riverine areas. The study area was evaluated for any riparian/riverine and vernal pool habitat in 2005, 2007, 2011, and 2012 as shown in Section 4, Existing Conditions, Table 1.

SECTION 4: EXISTING CONDITIONS

The study area contains significant evidence of previous human disturbance. The majority of the study area has been actively cultivated for decades. Various portions of the study area also contain abandoned structures associated with previous agricultural activities, including concrete pads, fences, and discarded equipment. Many of the offsite facilities such as water and sewer lines and access to potential water reservoirs are proposed along existing rights-of-way in the City of Moreno Valley. Debris basins are proposed along the eastern side of Gilman Springs Road to prevent debris and sediment from the Badlands from disrupting traffic on Gilman Springs Road after significant storm events. There is a small portion of relatively undisturbed habitat located in the northern portion of the study area and is associated with the lands owned and operated by Metropolitan Water District and in the extreme southwestern portion of the study area associated with rocky hills south of Alessandro Road and west of Theodore Street.

The CDFG Conservation Buffer area south of the WLCSP is very similar in history and conditions. The 1,104-acre area has been plowed for decades and portions of it are still tilled and actively farmed. The southwestern most portion of the Conservation Buffer currently contains non-native grasslands rather than active agriculture, although aerial photographs shows the area intermittently tilled over the last 80 years.

4.1 - Survey Dates

In support of the MSHCP and CEQA consistency analyses, MBA biologists conducted habitat assessment field surveys over the entire study area focusing on sensitive habitats and any areas with the potential to support sensitive flora or fauna species. In addition, MBA biologists conducted focused surveys for burrowing owl and Los Angeles pocket mouse, and conducted a comprehensive sensitive plant survey. Table 1 below summarizes the survey dates, the type of survey, and MBA lead staff. Information on where the surveys were performed as the project evolved through time are presented in Exhibit 4.

Table 1: Summary of Survey Types, Dates, Locations, and Staff

Report Year	Field Survey Date(s)	Survey	Parcel Name	MBA Staff
2005	May 10, 20, 23 Aug 29	Biological Resource Assessment Survey	Bel Lago	S. Crawford
2005	May 10	MSHCP Habitat Assessment	Bel Lago	S. Crawford
2005	May 10, 20, 23 Aug 29	Burrowing Owl Focused Surveys	Bel Lago	S. Crawford
2005	May 10, Aug 29	Jurisdictional Delineation Riparian/Riverine and Vernal Pool Habitat	Bel Lago	S. Crawford
2005	August 21 through 26	Los Angeles Pocket Mouse Focused Surveys	Bel Lago	K. Rios
2006	August 16, 26	MSHCP Habitat Assessment	Tentative Tract Map 34848 (Bel Lago South)	M. Romich J. Hickman S. Hongola
2006	August 16, 17, 19, 22	Burrowing Owl Focused Surveys	Tentative Tract Map 34848 (Bel Lago South)	M. Romich J. Hickman S. Hongola
2007	May 1, 2, 3, 4	Burrowing Owl Focused Surveys	Highland Fairview Corporate Park Property	S. Crawford K. Workman S. Hongola K. Osmundson
2007	May 10	Jurisdictional Delineation Riparian/Riverine and Vernal Pool Habitat	Highland Fairview Corporate Park Property - Logistics Building Area	K. Osmundson
2007	September 18	Jurisdictional Delineation Riparian/Riverine and Vernal Pool Habitat	Highland Fairview Corporate Park Property	T. Mullen
2007	May 15 July 19	MSHCP Habitat Assessment	Highland Fairview Corporate Park Properties	K. Lord

Table 1 (cont.): Summary of Survey Types, Dates, Locations, and Staff

Report Year	Field Survey Date(s)	Survey	Parcel Name	MBA Staff
2007	May 15-18, 22-24, 30-31, June 1, 5-7, 12-14, 19-20, 26, July 3, 6, 11, 12	Burrowing Owl Focused Surveys	Highland Fairview Properties	S. Crawford
2007	September 27 2006	MSHCP Habitat Assessment	398-Acre Anderson Property	K. Workman S. Hongola
2007	August 15, 16, 22, 23 2006	Burrowing Owl Focused Survey	398-Acre Anderson Property	K. Workman K. Osmundson
2008	January 10	MSHCP Habitat Assessment	Highland Fairview Properties	K. Lord
2010	June 9, 10, 11, 16, 22, 23, 24	Sensitive Plant Surveys	Highland Specific Plan	S. Crawford
2010	June 9 through 24	Burrowing Owl Focused Surveys	Highland Specific Plan	S. Crawford
2010	June 27, 28, 29, 30, Jul 1, 2	Los Angeles Pocket Mouse Focused Surveys	Highland Specific Plan	K. Rios
2011	October 24	MSHCP Habitat Assessment	Highland Specific Plan	S. Crawford D. Hameister
2012	March 16	Delineation of Jurisdictional Waters and Wetlands	World Logistics Center Specific Plan	S. Crawford
2012	June 28, July 5, 6 and 9	Burrowing Owl Focused Surveys	World Logistics Center Specific Plan	T. Molioo D. Lloyd D. Hameister
2012	July 1-6	Los Angeles Pocket Mouse Focused Surveys	World Logistics Center Specific Plan	K. Rios

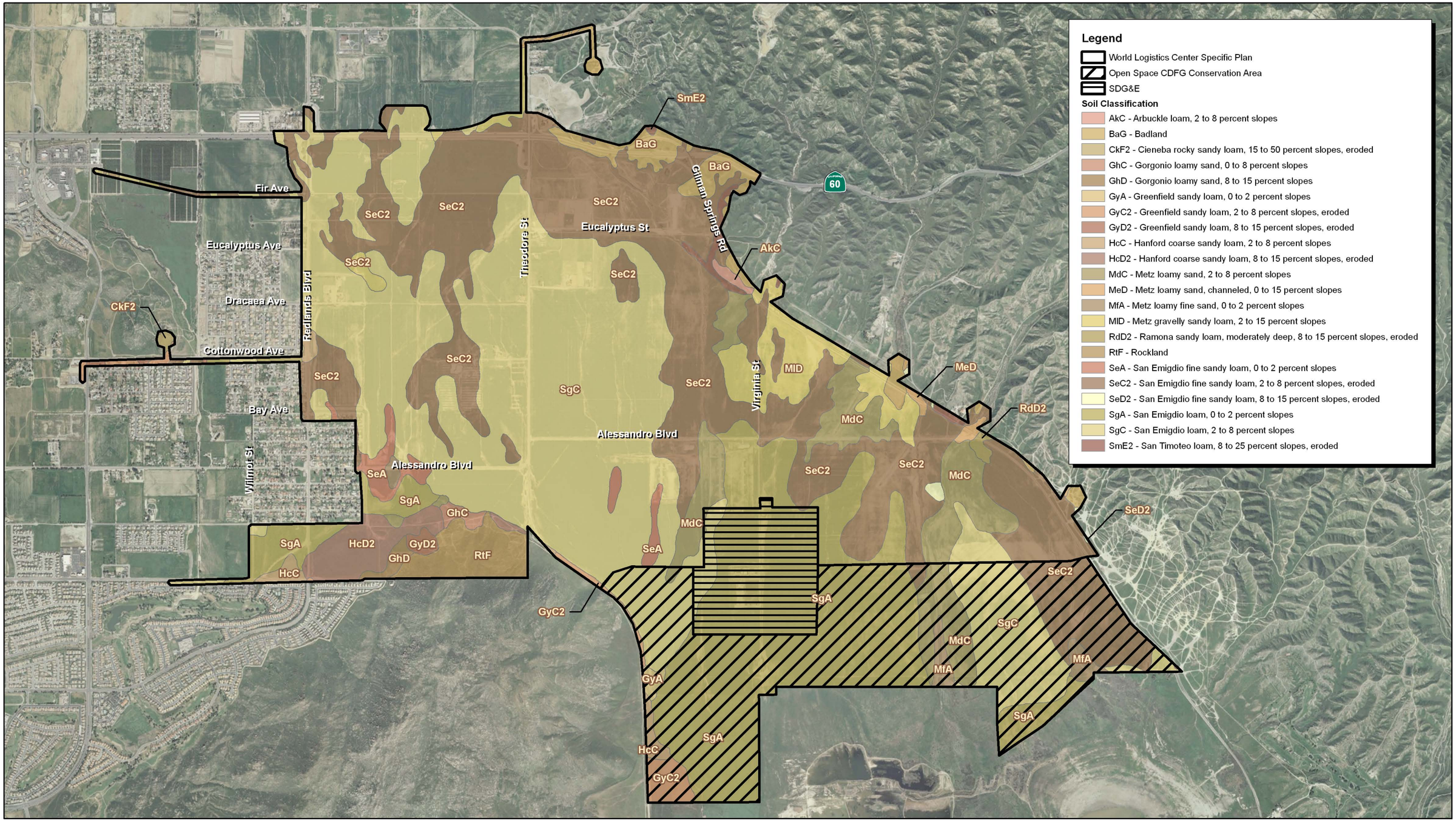
4.2 - Topographic Features

The study area is located at the northern extent of the San Jacinto and Moreno Valleys, northeast of Mount Russell, and southwest of the Badlands. A natural depression lake (Mystic Lake, highly modified in modern times) is located south of the study area and LPSRA lies directly to the west. The study area is relatively flat with minimal topographic relief, and a slight slope to the south. It has an elevation range of approximately 1,440 to 1,800 feet above sea level.

The runoff onsite generally flows south. The southwestern corner of the study area (Redlands Boulevard and Alessandro Boulevard) drains to the western side of Mount Russell. The rest of the study area flows on the east side of Mount Russell towards Mystic Lake.

4.3 - Soils

The study area contains 22 different soil-mapping units belonging to 10 different soil series (Exhibit 5). A soil series is a group of soils with similar profiles. These profiles include major horizons with similar thickness, arrangement, and other distinct characteristics. The study area is dominated by San Emigdio loam (SgA and SgC) and San Emigdio fine sandy loam (SeC2), with smaller inclusions of Arbuckle loam (AkC), Badland (BaG), Gorgonio loamy sand (GhC), Greenfield sandy loam (GyA, GyC2, GyD2), Hanford coarse sandy loam (HcC and HcD2), Metz loamy sand (MdC and MeD), Metz loamy fine sand (MfA), Metz gravelly sandy loam (MID), Ramona sandy loam (RdD2), Rockland (RtF), San Emigdio fine sandy loam (SeA and SeD2), and San Timoteo loam (SmE2). Hydric soil conditions were not observed during the field evaluations.



Source: ESRI Aerial Imagery. USDA Soils Data.

NORTH

2,200 1,100 0 2,200 Feet

Michael Brandman Associates

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Exhibit 5
USDA Soils Map

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN
HABITAT ASSESSMENT, MSHCP CONSISTENCY ANALYSIS, AND HANS REVIEW

4.4 - Plant Communities

4.4.1 - WLCSP and Offsite Facilities

Ten plant communities/land use types occur within the 3,300-acre Specific Plan area and proposed Offsite Facilities : disturbed, extensive agriculture (e.g., dry land farming), mulefat scrub, non-native grassland, non-vegetated channel, northern mixed chaparral, Riversidean sage scrub, southern willow scrub, ornamental, and urban/developed (Exhibit 7). The names and definitions of plant communities are discussed below based on the Holland (1986), Oberbauer (1996), the MSHCP, and MBA. The Holland and Oberbauer classification codes and acreages for each plant community are included in the discussions of the plant communities.

The study area also contains evidence of land that has been previously disturbed as a result of development. Limited portions of the study area consist of existing rural residences, abandoned foundations and structures associated with previous agricultural practices, and disturbed access roads and land routinely impacted by human-related activities. These portions constitute marginal habitat and are addressed in this report as urban/developed areas. A complete list of all plant and wildlife species observed during the habitat assessment for the study area is provided in Appendix A, Floral and Faunal Compendia.

Disturbed (72.5 Acres)

These areas are characterized by a lack of significant vegetative cover, as the result of previous human disturbance or significant natural disturbance. Although such areas may exhibit patches of sparse ruderal vegetation and an occasional scattering of native plant specimens, this type of “habitat” is not a plant community and is considered to be of little or no value to wildlife. This land use type does not have a Holland Classification Code.

Disturbed areas include an area in the northern portion of the study area associated with the adjacent rural residences. These areas have been cleared of vegetation. Within the study area, 72.5 acres are classified as disturbed.

Extensive Agriculture (2,452.2 Acres)

Extensive agriculture includes areas where vegetative cover comprises less than 10 percent of the surface area and where there is evidence of intense soil surface disturbance associated with agricultural uses. Vegetation within disturbed land will have a high predominance of non-native or weedy species that are indicators of heavy, soil disturbance, such as horse nettle (*Solanum elaeagnifolium*), bindweed (*Convolvulus arvensis*), and short-pod mustard (*Hirschfeldia incana*). The Holland classification code is 18300. The extensive agriculture community in the study area also contains various interstitial ditches that are excluded from regular heavy-agricultural equipment disturbances, such as disking. These areas are less frequently disturbed and contain larger, more established, ruderal vegetation, such as tree tobacco (*Nicotiana glauca*) and tree of heaven (*Ailanthus*

altissima), in addition to the fast growing Russian thistle (*Salsola tragus*), telegraph weed (*Heterotheca grandiflora*), lamb's quarters (*Chenopodium album*), sow thistle (*Sonchus oleraceus*), and short-pod mustard. The interstitial ditch areas do not occupy enough acreage nor are they continuous enough to constitute a separate plant community; therefore, they are considered part of the extensive agricultural plant community.

The majority of the study area, 2452.2 acres, is occupied by extensive agriculture. These areas include recently disked areas used for dry land farming. Extensive agriculture in the study area appears to be disked at least once each year and planted with winter wheat.

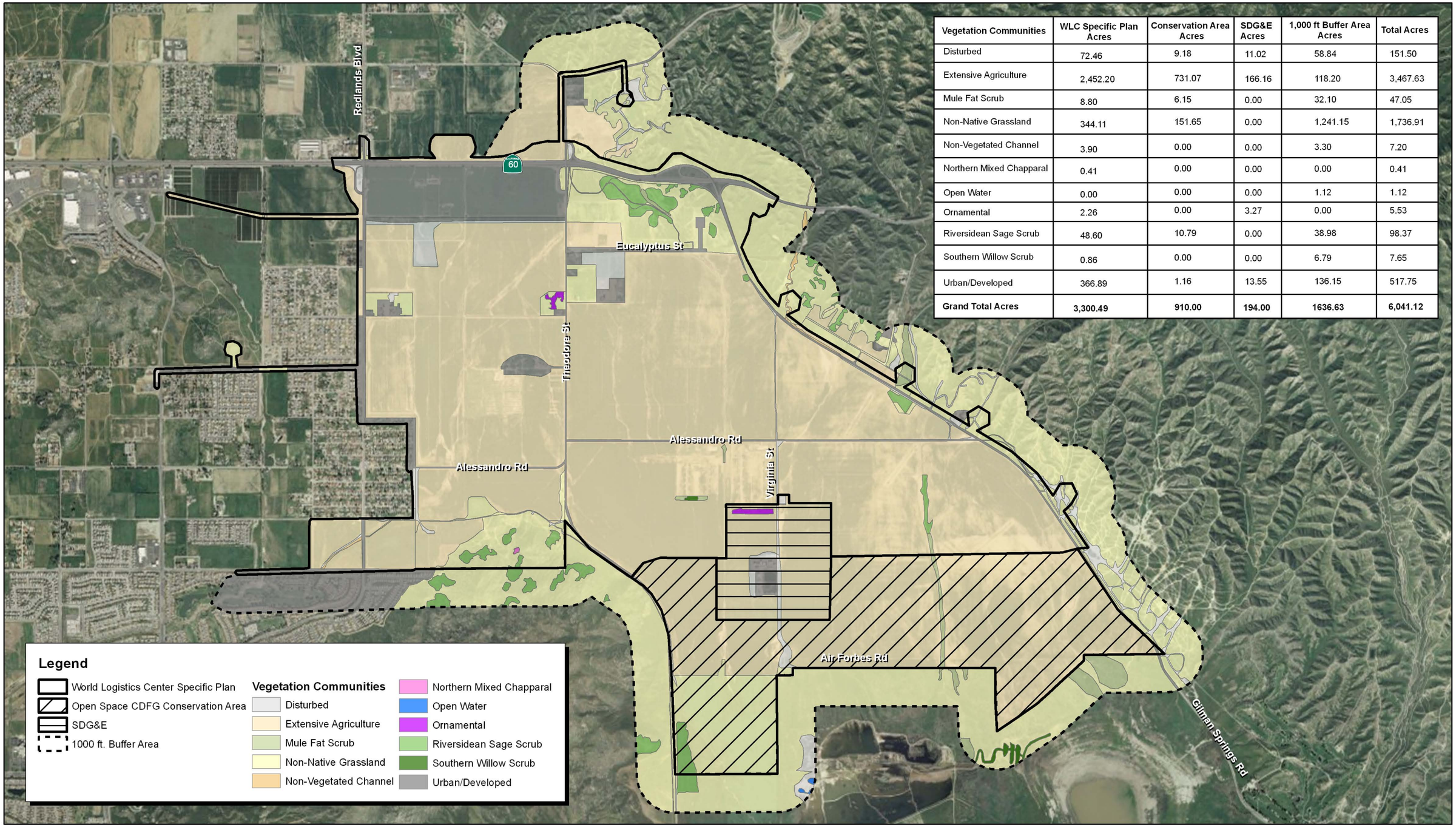
Mule Fat Scrub (8.8 Acres)

Mule fat scrub is a riparian scrub community that is strongly dominated by mulefat and is typically associated with intermittent stream channels and moderate depth to the water table. Mule fat scrub is a widespread natural community throughout California and usually occurs below 2,000 feet. The Holland classification code is 63310.

Mule fat scrub occupies approximately 8.8 acres of the WLCSP within a portion of Drainage Feature 9 south of Alessandro Boulevard and north of the CDFG Conservation Buffer Area and either side of the southern willow scrub habitat in the central portion of the study area (Exhibit 6 and Exhibit 7). The mule fat scrub on the study area is generally characterized by dense stand of mule fat with various shrubs, weeds, and non-native grasses sparsely intermixed.

All areas of mule fat scrub within the drainage features onsite are relatively undisturbed and contain little trash dumping, agricultural activities, or the presence of domesticated animals. The mule fat scrub plant community on the study area provides moderate quality habitat for a number of common wildlife species.

The dominant species observed within the mule fat scrub community were mule fat and tree tobacco. Other species observed include cheeseweed (*Malva parviflora*), wild radish (*Raphanus raphanistrum*), Russian thistle, common sunflower (*Helianthus annuus*), and short-pod mustard, in addition to non-native grasses such as ripgut brome (*Bromus diandrus*), slender oats (*Avena barbata*), and red brome (*Bromus rubens*). Drainage Feature 9 also contains scattered occurrences of scale broom (*Lepidospartum squamatum*) and four-winged saltbush (*Atriplex canescens)*.



Vegetation Communities	WLC Specific Plan Acres	Conservation Area Acres	SDG&E Acres	1,000 ft Buffer Area Acres	Total Acres
Disturbed	72.46	9.18	11.02	58.84	151.50
Extensive Agriculture	2,452.20	731.07	166.16	118.20	3,467.63
Mule Fat Scrub	8.80	6.15	0.00	32.10	47.05
Non-Native Grassland	344.11	151.65	0.00	1,241.15	1,736.91
Non-Vegetated Channel	3.90	0.00	0.00	3.30	7.20
Northern Mixed Chapparal	0.41	0.00	0.00	0.00	0.41
Open Water	0.00	0.00	0.00	1.12	1.12
Ornamental	2.26	0.00	3.27	0.00	5.53
Riversidean Sage Scrub	48.60	10.79	0.00	38.98	98.37
Southern Willow Scrub	0.86	0.00	0.00	6.79	7.65
Urban/Developed	366.89	1.16	13.55	136.15	517.75
Grand Total Acres	**3,300.49**	**910.00**	**194.00**	**1636.63**	**6,041.12**

Source: ESRI Aerial Imagery. MBA Field Survey and GIS Data.

NORTH

2,400 1,200 0 2,400 Feet

Michael Brandman Associates

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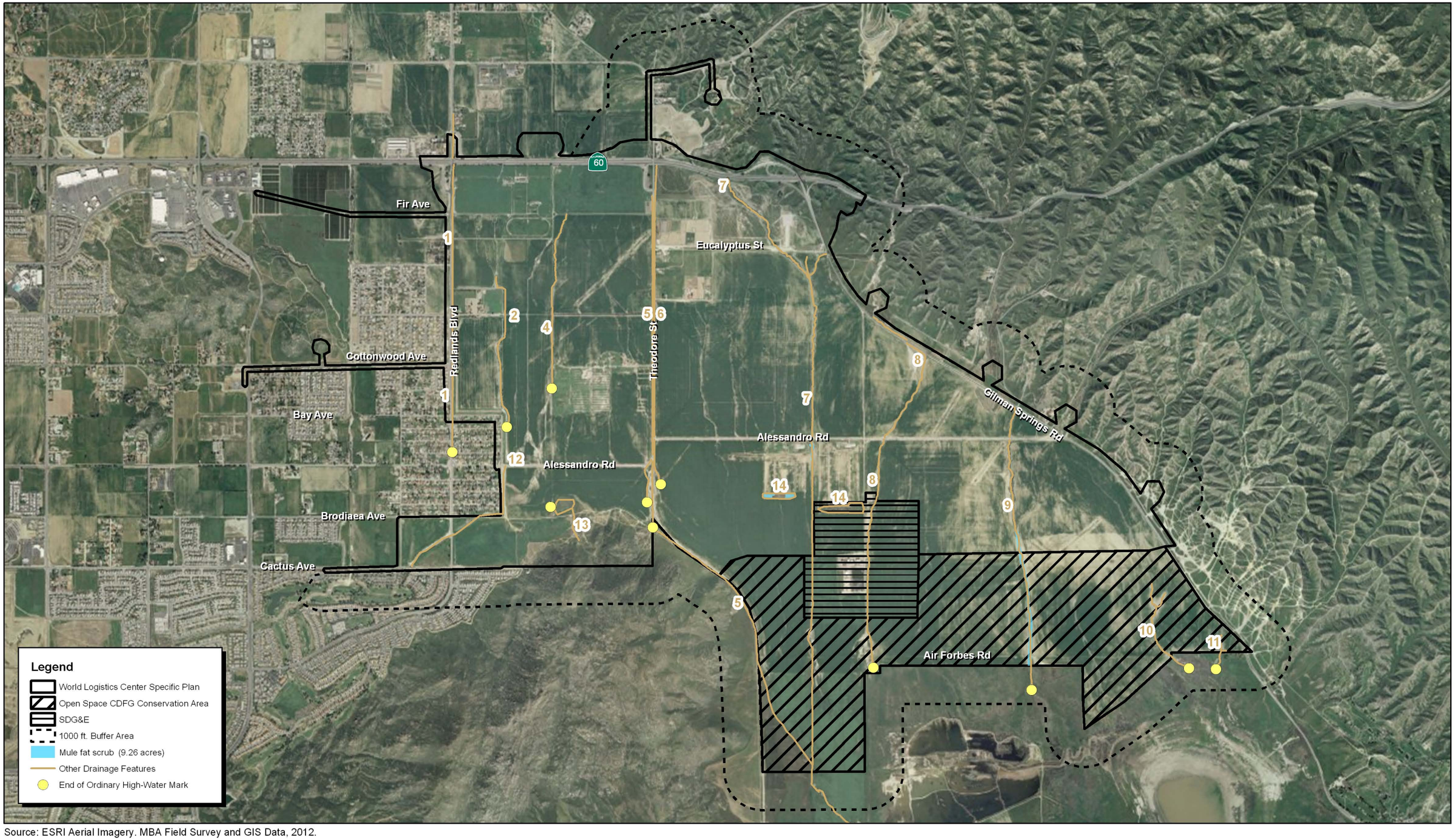
Exhibit 6
Vegetation Communities



Source: ESRI Aerial Imagery. MBA Field Survey and GIS Data, 2012.

NORTH

2,200 1,100 0 2,200 Feet

Michael Brandman Associates

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Exhibit 7

Riparian/Riverine and Drainage Feature Map

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN
HABITAT ASSESSMENT, MSHCP CONSISTENCY ANALYSIS, AND HANS REVIEW

Non-Native Grassland (344.1 Acres)

Non-native grassland is characterized by a dense to sparse cover of non-native annual grasses often associated with numerous weedy species and native annual forbs (wildflowers), especially in years with plentiful rain. Seed germination occurs with the onset of winter rains. Some plant growth occurs in winter, but most growth and flowering occurs in the spring. Plants then die in the summer, and persist as seeds in the uppermost layers of soil until the next rainy season. Dominant plant genera typically found within non-native grasslands include brome (*Bromus* spp.), wild oat (*Avena* spp.), fescue (*Vulpia* sp.), and barley (*Hordeum* sp.). The Holland classification code is 42200.

Non-native grassland occupies approximately 344.1 scattered throughout the WLCSP area, with denser stands in the northeast along SR-60 and Gilman Springs Road, in the southwest between Theodore Street and Redlands Boulevard, and south of Alessandro Boulevard located north of the LPSRA (Exhibit 7). Plant species observed within the non-native grassland community on the study area include non-native grasses such as ripgut brome, slender oats, and red brome, and weedy species such as shortpod mustard, Jimson weed (*Datura stramonium*), and common sunflower.

Non-Vegetated Channel (3.9 Acres)

Non-vegetated channel occurs within the southwestern corner of the WLCSP, west of Theodore Street and south of Alessandro Road and accounts for 3.9 acres of habitat within the biological survey area. This habitat contains mainly cobbles and boulders along the channel bottom and banks. The substrate contains sparse sandy deposits with limited vegetative cover and therefore provides low quality habitat for sensitive plant and wildlife species.

Northern Mixed Chaparral (0.4 Acre)

Northern mixed chaparral is characterized by broad-leaved shrubs forming dense, often nearly impenetrable vegetation dominated by scrub oak (*Quercus dumosa*), chamise (*Adenostoma fasciculatum*), and any one of several species of manzanitas (*Arctostaphylos)* and lilacs (*Ceanothus*). Plants are typically deep-rooted and little or no understory vegetation is present. This vegetation community is adapted to repeated fires, to which many species respond by stump sprouting. A dense cover of annual herbs may appear during the first growing season after a fire, followed in subsequent years by perennial herbs, short-lived shrubs, and re-establishment of dominance by the original shrub species. The Holland Classification Code is 37110.

There is 0.4 acre of northern mixed chaparral limited to the WLCSP area only. This vegetation community is located on a north-facing slope of the hills at the southwestern corner of the study area.

Ornamental (2.3 Acres)

The ornamental area includes a dense stand of olives (*Olea europaea*). This vegetation community is associated with previous rural residential development within the study area. The Holland classification code is 11000 and this land use type comprises approximately 2.3 acres of the study

area. The vegetation in these areas in the study area is artificially irrigated and likely planted several decades ago.

The ornamental area is not associated with any native vegetation and provides only limited habitat value, primarily as cover, nesting, and perching opportunities for birds and common terrestrial wildlife that have adapted to urban, agricultural, or other disturbed areas associated with development.

Riversidean Sage Scrub (48.6 Acres)

Riversidean sage scrub is a native plant community that is widespread throughout Riverside County. Vegetation typically consists of low-growing, drought deciduous and evergreen shrubs that occur on steep and/or gentle sloping topography. This community may be found on xeric sites with severely drained soils, or clays that release stored soil moisture slowly. Stands of Riversidean sage scrub range from fairly open to dense, and are typically dominated by California sagebrush, and California buckwheat, and are often found integrated with chaparral, scrub, grassland and ruderal type plant communities (Holland 1986). The Holland classification code is 32720.

There are 3 areas within the WLCSP area that contain Riversidean sage scrub. The smallest area is located within Drainage Feature 9 on the eastern side of the study area (Exhibit 7). The quality of habitat within Riversidean sage scrub in the study area can generally be considered moderate based upon vegetation characteristics such as plant density, diversity of species, and level of disturbance. The stand within Drainage Feature 9 is of low quality due to high levels of disturbance, low density of native species, and sparse coverage. There are additional patches of Riversidean sage scrub in the northeastern and southwestern corners of the study area. These areas are also relatively disturbed and have an open canopy.

The dominant species observed within the Riversidean sage scrub plant community in the study area include native shrubs such as brittlebush (*Encelia farinosa*), California buckwheat, black sage (*Salvia mellifera*), and coastal goldenbush (*Isocoma menziesii*). Other species observed include four-winged saltbush, scale broom, and California aster (*Lessingia filaginifolia*), in addition to non-native grasses such as ripgut brome, slender oats, red brome, and non-native ruderal species such as short-pod mustard.

Southern Willow Scrub (0.9 Acre)

Southern willow scrub plant communities are characterized by dense, broad-leafed, winter-deciduous riparian thickets of vegetation, and are dominated by several species of willow tree. Scattered emergent Fremont cottonwood (*Populus fremontii*) and California sycamore (*Platanus racemosa*) associate within this community. Most stands are too dense to allow much understory development. Southern willow scrub is typically found on loose, sandy, or fine gravelly alluvium deposits near stream channels during flood flows. This plant community requires repeated flooding to prevent conversion to a more mature Southern Cottonwood-Sycamore Riparian Forest plant community.

Southern willow scrub is listed as a sensitive plant community by CDFG; the Holland classification code is 63320.

There is a single patch of southern willow scrub that comprises approximately 0.9 acre within the WLCSP. This community is composed of a single isolated stand within a human-made, catch basin that occurs south of Alessandro Boulevard and west of Virginia Street (Exhibit 7). This stand was a direct result of nuisance flow and agricultural runoff from concrete cattle containment areas adjacent to the catch basin.

Southern willow scrub stands are generally characterized by relatively dense canopy covers with little understory vegetation. The concrete cattle containment areas have been removed and the catch basin facilities no longer function as water quality basins. Due to the small size of the stand and the geographic isolation from any other riparian habitat in the study area, the plant community onsite provides limited staging habitat for migrating avian species, and only poor quality habitat for species commonly occurring in riparian-type habitats.

Plant species identified within the community include sandbar willow (*Salix exigua*), black willow (*Salix goodingii*), mule fat (*Baccharis salicifolia*), Freemont's cottonwood, Mexican fan palm (*Washingtonia robusta*), olive (*Olea europea*), phacelia (*Phacelia sp.*), and common sunflower.

Urban/Developed (366.9 Acres)

The urban/developed area includes any form of human disturbance associated with the development of rural residences that has resulted in permanent impacts to natural communities. The Holland classification code is 12000 and this land use type comprises approximately 366.9 acres of the study area. By definition, rural residential areas include roads, buildings and structures, pavement, concrete, landscape vegetation, and windrow vegetation.

The isolated occurrences of the urban/developed community occur throughout the WLCSP area. The urban/developed area is not associated with any native vegetation and provides only limited habitat value, primarily as cover, nesting, and perching opportunities for birds and common terrestrial wildlife that have adapted to urban, agricultural, or other disturbed areas associated with development. The majority of the urban/developed is associated with the recently constructed Highland Fairview Corporate Park (Skechers Distribution Facility)in the northeast portion of the study area and a residential development in the southwestern portion of the study area. There is also several proposed offsite facilities along existing streets associated with the water and sewer lines.

4.4.2 - CDFG Conservation Buffer

Seven plant communities/land use types occur within the 1,104-acre CDFG Conservation Buffer Area (including the SDGE Area): disturbed, extensive agriculture (e.g., dry land farming), mulefat scrub, non-native grassland, Riversidean sage scrub and urban/developed (Exhibit 7).

The CDFG Conservation Buffer consists of the 910 acres of land that was placed into conservation in 2001 and the 194 acres SDG&E facility. The Buffer area has been used for agricultural pursuits over many years, but the areas that have been left fallow have begun to return to non-native grassland and Riversidean sage scrub.

Disturbed (20.2 Acres)

Disturbed areas are characterized by a lack of significant vegetative cover, as the result of previous human disturbance or significant natural disturbance. Although such areas may exhibit patches of sparse ruderal vegetation and an occasional scattering of native plant specimens, this type of "habitat" is not a plant community and is considered to be of little or no value to wildlife. This land use type does not have a Holland Classification Code.

Disturbed areas within the CDFG conservation buffer are associated with dirt access roads and the area surrounding the existing natural gas compressor station. Within the CDFG Conservation Buffer, 20.2 acres are classified as disturbed, with 11.0 acres within the SDG&E lands and the remaining 9.2 acres in the CDFG conservation area.

Extensive Agriculture (897.2 Acres)

Extensive agriculture includes areas where vegetative cover comprises less than 10 percent of the surface area and where there is evidence of intense soil surface disturbance associated with agricultural uses. Vegetation within disturbed land will have a high predominance of non-native or weedy species that are indicators of heavy, soil disturbance, such as horse nettle (*Solanum elaeagnifolium*), bindweed (*Convolvulus arvensis*), and short-pod mustard (*Hirschfeldia incana*). The Holland classification code is 18300. The extensive agriculture community in the study area also contains various interstitial ditches that are excluded from regular heavy-agricultural equipment disturbances, such as disking. These areas are less frequently disturbed and contain larger, more established, ruderal vegetation, such as tree tobacco (*Nicotiana glauca*) and tree of heaven (*Ailanthus altissima*), in addition to the fast growing Russian thistle (*Salsola tragus*), telegraph weed (*Heterotheca grandiflora*), lamb's quarters (*Chenopodium album*), sow thistle (*Sonchus oleraceus*), and short-pod mustard. The interstitial ditch areas do not occupy enough acreage nor are they continuous enough to constitute a separate plant community; therefore, they are considered part of the extensive agricultural plant community.

The majority of the CDFG Conservation buffer area, 897.2 acres, is occupied by extensive agriculture. These areas include recently disked areas used for dry land farming. Extensive agriculture in this area appears to be disked at least once each year and planted with winter wheat.

Mule Fat Scrub (6.1 Acres)

Mule fat scrub is a riparian scrub community that is strongly dominated by mulefat and is typically associated with intermittent stream channels and moderate depth to the water table. Mule fat scrub is

a widespread natural community throughout California and usually occurs below 2,000 feet. The Holland classification code is 63310.

Mule fat scrub occupies approximately 6.1 acres of the CDFG Conservation Buffer Area within a portion of Drainage Feature 9 south of Alessandro Boulevard (Exhibit 6 and Exhibit 7). The mule fat scrub on the study area is generally characterized by dense stand of mule fat with various shrubs, weeds, and non-native grasses sparsely intermixed.

All areas of mule fat scrub within the drainage features onsite are relatively undisturbed and contain little trash dumping, agricultural activities, or the presence of domesticated animals. The mule fat scrub plant community on the study area provides moderate quality habitat for a number of common wildlife species.

The dominant species observed within the mule fat scrub community were mule fat and tree tobacco. Other species observed include cheeseweed (*Malva parviflora*), wild radish (*Raphanus raphanistrum*), Russian thistle, common sunflower (*Helianthus annuus*), and short-pod mustard, in addition to non-native grasses such as ripgut brome (*Bromus diandrus*), slender oats (*Avena barbata*), and red brome (*Bromus rubens*). Drainage Feature 9 also contains scattered occurrences of scale broom (*Lepidospartum squamatum*) and four-winged saltbush (*Atriplex canescens)*.

Non-Native Grassland (151.7 Acres)

Non-native grassland is characterized by a dense to sparse cover of non-native annual grasses often associated with numerous weedy species and native annual forbs (wildflowers), especially in years with plentiful rain. Seed germination occurs with the onset of winter rains. Some plant growth occurs in winter, but most growth and flowering occurs in the spring. Plants then die in the summer, and persist as seeds in the uppermost layers of soil until the next rainy season. Dominant plant genera typically found within non-native grasslands include brome (*Bromus* spp.), wild oat (*Avena* spp.), fescue (*Vulpia* sp.), and barley (*Hordeum* sp.). The Holland classification code is 42200.

Non-native grassland occupies approximately 151.7 acres of the southwestern most portion of the CDFG Conservation Buffer Area northwest of the SJWA (Exhibit 7). Plant species observed within the non-native grassland community on the study area include non-native grasses such as ripgut brome, slender oats, and red brome, and weedy species such as shortpod mustard, Jimson weed (*Datura stramonium*), and common sunflower.

Ornamental (3.3 Acres)

The ornamental area includes a dense stand of salt cedar (*Tamarisk* sp.). This vegetation community is found within one of two catch basins within the study area. The Holland classification code is 11000 and this land use type comprises approximately 3.3 acres of the study area. The vegetation in catch basin is likely naturally occurring and likely began growing several decades ago.

The ornamental area is not associated with any native vegetation and provides only limited habitat value, primarily as cover, nesting, and perching opportunities for birds and common terrestrial wildlife that have adapted to urban, agricultural, or other disturbed areas associated with development.

Riversidean Sage Scrub (10.8 Acres)

Riversidean sage scrub is a native plant community that is widespread throughout Riverside County. Vegetation typically consists of low-growing, drought deciduous and evergreen shrubs that occur on steep and/or gentle sloping topography. This community may be found on xeric sites with severely drained soils, or clays that release stored soil moisture slowly. Stands of Riversidean sage scrub range from fairly open to dense, and are typically dominated by California sagebrush, and California buckwheat, and are often found integrated with chaparral, scrub, grassland and ruderal type plant communities (Holland 1986). The Holland classification code is 32720.

There is one area within the CDFG Conservation Buffer that contains Riversidean sage scrub. This is located in the extreme southwestern corner of the CDFG Buffer area along Davis Road (Exhibit 7). The dominant species observed within the Riversidean sage scrub plant community in the study area include native shrubs such as brittlebush (*Encelia farinosa*), California buckwheat, black sage (*Salvia mellifera*), and coastal goldenbush (*Isocoma menziesii*). Other species observed include four-winged saltbush, scale broom, and California aster (*Lessingia filaginifolia*), in addition to non-native grasses such as ripgut brome, slender oats, red brome, and non-native ruderal species such as short-pod mustard.

Urban/Developed (14.7 Acres)

The urban/developed area includes any form of human disturbance associated with the development of rural residences and industrial development that has resulted in permanent impacts to natural communities. The Holland classification code is 12000 and this land use type comprises approximately 14.7 acres of the study area. By definition, rural residential areas include roads, buildings and structures, pavement, concrete, landscape vegetation, and windrow vegetation.

The urban/developed community within the CDFG Conservation Buffer is directly associated with the SDG&E compressor station area and associated paved access roads.

4.4.3 - San Jacinto Wildlife Refuge and Adjacent Lands (Offsite Analysis Zone)

Nine plant communities/land use types occur within the 1,636-acre offsite analysis zone. This area was added as an additional 1,000-foot study area beyond the boundaries of the WLCSP and the CDFG Conservation Buffer Area to account for potential offsite impacts associated with noise, light, water quality, and air quality concerns beyond the boundary of the actual construction disturbance and facility operations. Only the northern mixed chaparral community is not represented.

The study area contains evidence of land that has been previously disturbed as a result of development or unauthorized use such as off-road vehicle trails, minor portions of the Duck Club Ponds and non-native grassland covered hills.

Disturbed (58.8 Acres)

Disturbed areas are characterized by a lack of significant vegetative cover, as the result of previous human disturbance or significant natural disturbance. Although such areas may exhibit patches of sparse ruderal vegetation and an occasional scattering of native plant specimens, this type of "habitat" is not a plant community and is considered to be of little or no value to wildlife. Disturbed areas within the buffer are associated with dirt access roads and off-road vehicle trails on the east side of Gilman Springs Road (Exhibit 7).

Extensive Agriculture (118.2 Acres)

A limited amount of extensive agriculture is present within the buffer. It is located along the central portion of Gilman Springs Road, just south of the Eucalyptus Street intersection (Exhibit 7).

Mule Fat Scrub (32.1 Acres)

Mule fat scrub occupies approximately 32.1 acres of the buffer area. It is found associated with a drainage west of Gilman Springs Road and south of the CDFG Conservation Buffer and just north of the margins of Mystic Lake.

Non-Native Grassland (1,241.1 Acres)

Non-native grassland occupies approximately 1241.1 of the buffer area and is the dominant vegetation type (Exhibit 7). Plant species observed within the non-native grassland community on the study area include non-native grasses such as ripgut brome, slender oats, and red brome, and weedy species such as shortpod mustard, Jimson weed (*Datura stramonium*), and common sunflower.

Non-Vegetated Channel (3.3 Acres)

Non-vegetated channel occurs within the northeastern corner of the buffer area north of Gilman Springs Road and accounts for 3.3 acres of habitat.

Open Water (1.1 Acres)

Open water occurs in the southern portion of the buffer area south of the SDG&E area. These areas are specifically associated with the artificially created duck ponds located within the open space CDFG conservation area. These areas are characterized by open water with little to no vegetative cover and occupies 1.1 acres of the buffer area.

Riversidean Sage Scrub (40.0 Acres)

Riversidean sage scrub is scattered throughout the buffer. Small patches are present on the east side of Gilman Springs Road and patches are present in the buffer area associated with the LPSRA.

Southern Willow Scrub (6.8 Acres)

There is a single patch of southern willow scrub that comprises approximately 6.8 acres within the buffer. It is associated with a channel between the main portion of Mystic Lake and the Duck Ponds in the extreme southern portion of the buffer (Exhibit 7). .

Urban/Developed (136.1 Acres)

The urban/developed area includes any form of human disturbance associated with the development of rural residences that has resulted in permanent impacts to natural communities. It is scattered throughout the buffer with associated with the residential community south of Cactus Avenue in the extreme southwestern portion of the buffer.

4.5 - Wildlife

Wildlife activity within the study area was moderate and typical for the times of year the habitat assessments were conducted. In general, the study area provides relatively low habitat value for wildlife species that may occur in the region. Wildlife species that are expected to occur in the study area are limited primarily to common species that frequent disturbed habitats and urbanized settings. Common species may include reptilian species such as side-blotched lizard (*Uta stansburiana*) and western fence lizard (*Sceloporus occidentalis*), and avian species such as red-tailed hawk (*Buteo jamaicensis*), American crow (*Corvus brachyrhynchos*), house finch (*Carpodacus mexicanus*), and Say's phoebe (*Sayornis saya*). Mammalian species observed within the survey area include desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Otospermophilus beecheyi*), and coyote (*Canis latrans*). A complete list of wildlife species observed within the site during the field survey is provided in Appendix A, Floral and Faunal Compendia.

4.5.1 - WLCSP and Offsite Facilities

Wildlife in the WLCSP and the offsite facilities is generally consistent with the general discussion above. Due to the amount of agricultural activities over the past 70 years, there is a limited number of species that are present although many species discussed above occur along the margins of the agricultural fields and along the limited drainage areas. In addition to the more common species discussed above, the San Diego gopher snake (*Pituophis cantenifer annectens*), white-tailed kite (*Elanus leucurus*), barn owl (*Tyto alba*), loggerhead shrike (*Lanius ludovicianus*), and Botta's pocket gopher (*Thomomys bottae*) were recorded to occur within the WLCSP and the offsite facility areas. There is a robust passerine bird population at the site with a severely limited number of mammals, largely due to the extensive agricultural activities.

4.5.2 - CDFG Conservation Buffer

Based on extensive surveys of the WLCSP and the CDFG Conservation Buffer area (See Exhibit 4), similar wildlife species are present in the CDFG Conservation Buffer. The number of passerine birds is high and probably represent both year round species and transitory birds associated with the SJWA. There is a limited number of mammals probably due to the extensive agricultural pursuits of the past.

4.5.3 - San Jacinto Wildlife Refuge and Adjacent Lands (Offsite Analysis Zone)

Actual surveys of the San Jacinto Wildlife Refuge and adjacent areas were not performed; however, based on literature reviews, aerial photography interpretation and information from studies performed on adjacent areas, the following species distribution can be inferred. The area adjacent to Gilman Springs Road on the south end of the study area was examined by MBA biologists in 2007 (unpublished Burrowing Owl Survey Report, MBA). In general the distribution of wildlife species at this adjacent 1,636-acre area was similar to the WLCSP and the CDFG Conservation Buffer area, with a very limited distribution of mammals (primarily burrowing mammals) and a high incidence of passerine birds.

Additional Information on SJWA

The SJWA is 9,000 acres of restored wetlands and open water ponds and is the first state wildlife area to utilize reclaimed water to enhance its wetlands. It is located south of the WLCSP and beyond the CDFG Conservation Buffer Area. The SJWA contains several habitat areas, including wetlands, restored riparian habitat, grasslands, sage scrub, and marshes and provides habitat for the several threatened and endangered wildlife species including Stephens' kangaroo rat, Swainson's hawk, and the bald eagle. The SJWA contains an important inland wetland, which provides habitat for many wetland plant species and wildlife species including aquatic birds, amphibians, and fish.

Mystic Lake, a large crescent-shaped, intermittent water body within the reserve area, serves as a significant wetland habitat for numerous birds including migratory waterfowl such as ducks, grebes and occasional geese. Seasonal upland game hunting is allowed within the SJWA and Lake Perris State Recreation Area, and other uses of the SJWA include wildlife observation, nature study, fishing, hiking, photography, field trials, hunting dog training classes, and conservation of wildlife and wildlife habitat. Birds species commonly found at certain times of the year in the SJWA include a wide variety of ducks, shore birds and gulls, upland game species, and a variety of passerine birds including those found in the WLCSP and CDFG Conservation Buffer Areas.

SECTION 5: WESTERN RIVERSIDE COUNTY MSHCP CONSISTENCY ANALYSIS

5.1 - Overview

The MSHCP is a comprehensive, multi-jurisdictional HCP focusing on conservation of species and their associated habitats in western Riverside County. The goal of the MSHCP is to maintain biological and ecological diversity within a rapidly urbanizing region.

The approval of the MSHCP and execution of the Implementing Agreement (IA) by the wildlife agencies allows signatories of the IA to issue "take" authorizations for all species covered by the MSHCP, including state- and federal-listed species as well as other identified sensitive species and/or their habitats. Each city or local jurisdiction will impose a Development Mitigation Fee for projects within their jurisdiction. With payment of the mitigation fee to the County and compliance with the survey requirements of the MSHCP where required, full mitigation in compliance with the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), CESA, and FESA will be granted.

The Development Mitigation Fee varies according to project size and project description. The fee for commercial warehouse development is based on a price per square foot. Payment of the mitigation fee and compliance with the requirements of Section 6.0 of the MSHCP are intended to provide full mitigation under CEQA, NEPA, CESA, and FESA for impacts to the species and habitats covered by the MSHCP pursuant to agreements with the USFWS, the CDFG, and/or any other appropriate participating regulatory agencies and as set forth in the IA for the MSHCP.

The MSHCP has been subdivided into 16 Area Plans with 59 subunits with the Area Plans. Within each of the Area Plans and their subunits are Criteria Cells and Cell Groups, each with a proposed conservation requirement for appropriate species. USGS quarter sections (i.e., approximate 160-acre Cells) were then overlain on the Conceptual Reserve Design such that each Cell is an area in real space with a legal description but without being tied to a specific County assessor's legal parcel. Cells were then either aggregated into a Cell Group or retained as individual Cells depending upon the level of conservation and configuration of the particular Cell or Cell Group. Variable target acreage ranges, planning species and biological issues and considerations were identified for each Area Plan Subunit. The variable target acreage ranges were generally based on the difference between the area of the Criteria Area for the particular Subunit and the area of the Conceptual Reserve Design for the particular Subunit.

The MSHCP Conservation Area is comprised of a variety of existing and proposed Cores, Extensions of Existing Cores, Linkages, Constrained Linkages and Non-contiguous Habitat Blocks. These features are generally referenced as Cores and Linkages. The following definitions apply:

Core A block of Habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species.

Extension of Existing Core A block of Habitat contiguous with an existing Core Area, which serves to provide additional Habitat for species in the adjacent existing Core and to reduce exposed edge.

Non-contiguous Habitat A block of Habitat not connected to other Habitat areas via a Linkage Block or Constrained Linkage.

Constrained Linkage A constricted connection expected to provide for movement of identified Planning Species between Core Areas, where options for assembly of the connection are limited due to existing patterns of use.

Linkage A connection between Core Areas with adequate size, configuration and vegetation characteristics to generally provide for "Live-In" Habitat and/or provide for genetic flow for identified Planning Species. Areas identified as Linkages in MSHCP may provide movement Habitat but not Live-In Habitat for some species, thereby functioning more as movement corridors.

The study area, inclusive of the additional buffer occurs within the Reche Canyon/Badlands Area Plan and falls within both the Badlands North Area Plan Subunit and the San Jacinto Wildlife Area/Mystic Lake Area Plan Subunit. Proposed Core 3 is located to the north and east of the study area and Existing Core H is located to the south. Small portions of the study area fall within both Core Areas (Exhibit 9). No existing or proposed linkages, or constrained linkage areas are in the near vicinity. The closest is Proposed Constrained Linkage 20 south of Mystic Lake. The study area falls within 12 Criteria Cells; however, only 3 Criteria Cells are within the WLCSP Area. None of the proposed offsite facilities encroach on any of the Criteria Cells (Exhibit 10).

The CDFG Conservation Buffer is within 10 Criteria Cells (Exhibit 10). The cells were specifically created as a part of the MSHCP to coincide with the lands sold in 2001 to act as a buffer between the SJWA and future development to the north. The indirect buffer zone encroaches on 11 Criteria Cells.

Proposed Core 3 (Badlands/Potrero) is located in the northeast region of the MSHCP. This Core consists mainly of private lands but also contains a few Public/Quasi-Public parcels including DeAnza Cycle Park. The Core is connected to Proposed Linkage 12 (north San Timoteo Creek), Proposed Linkage 4 (Reche Canyon), Proposed Constrained Linkage 22 (east San Timoteo Creek), Existing Core H (Lake Perris), Existing Core K (San Jacinto Mountains), Proposed Linkage 11 (Soboba/Gilman Springs), and Proposed Constrained Linkage 21.

Proposed Core 3 also functions as a Linkage, connecting the San Bernardino National Forest to the southwest with San Bernardino County and other conserved areas to the north of the Core. With a total acreage of approximately 24,920 acres, Proposed Core 3 is one of the largest MSHCP Core Areas. In addition, the Core is contiguous with Existing Core H (Lake Perris/Mystic Lake) and Existing Core K (San Jacinto Mountains), thus greatly enlarging the functional area of the Core. The Core has both a large proportion of its area unaffected by edge (approximately 23,420 acres of the total 24,940 acres) and is only partially constrained by existing agricultural use.

Existing Core H is comprised of Lake Perris State Recreation Area, San Jacinto Wildlife Area, private lands and lands with pre-existing conservation agreements. It provides Live-In Habitat for certain species, contains soils suitable for some Narrow Endemic Plant Species, supports vernal pool complexes, and may provide a connection to Core Areas in the Badlands and the middle reach of the San Jacinto River. Maintenance of habitat quality, floodplain process along the San Jacinto River, and conservation of vernal pool complexes are important for these species. This Core Area likely provides for Live-In Habitat for small rodents and common mammals, including bobcat and San Diego black-tailed jackrabbit.

5.2 - Specific Plan Area and Offsite Facilities Habitat Assessment Results

The WLCSP habitat assessment focuses on the sensitive biological resources that could potentially occur on the WLCSP and offsite facilities, as indicated in the Riverside County Assessor's Parcel Report (Appendix G, Riverside County Integrated Project (RCIP) Conservation Summary Report and Attachment). These resources include burrowing owl, Los Angeles pocket mouse, 10 Criteria Area plant species and 6 Narrow Endemic plant species. MBA conducted focused surveys for burrowing owl on the portions of the WLCSP and offsite facilities that contain potentially suitable habitat in 2005, 2006, 2007, 2010, and 2012. MBA also conducted focused surveys for Los Angeles pocket mouse in suitable habitat areas in 2005, 2010, and 2012. None of the Criteria Area or Narrow Endemic plant species have a moderate or high potential to occur in the WLCSP and offsite facilities based on surveys conducted in 2010 (MBA 2010).

The habitat assessment also addresses the presence/absence of riparian/riverine areas and vernal pools in the WLCSP and offsite facilities, identifies any migratory corridors and linkages on or in the vicinity of the WLCSP and offsite facilities, and includes an urban/wildlands interface analysis.

5.2.1 - Burrowing Owl

The burrowing owl is an avian species of special concern that is protected by the MBTA and CDFG Code Section 3503. This species typically occurs in grassland and scrub habitats characterized by low-growing vegetation with an abundance of small mammal burrows, including the California ground squirrel. It often prefers areas with moderate disturbance and/or berms or drainage features.

Reasons for burrowing owl population decline include habitat destruction, insecticide poisoning, rodenticide (particularly squirrel eradication), and shooting.

The WLCSP and offsite facilities contain potentially suitable habitat for burrowing owl, such as flat, open, valley floor plains occupied by non-native grasslands, fallow fields, and agricultural lands. Details of the methodologies for the focused surveys are discussed in Appendix D, Burrowing Owl Focused Surveys. Details for these focused surveys for burrowing owl may not match exactly with the WLCSP and Offsite area as the project boundaries and the various studies conducted evolved through time. The 2012 studies for burrowing owl encompassed the 3,300 acres of the WLCSP and the associated offsite areas. Approximately 103 acres in five survey areas were considered for the 4 survey protocol based on habitat quality and the presence of suitable burrows.

Focused surveys for burrowing owl conducted in June-July 2012 did not locate any owls (MBA 2012b). During focused surveys conducted by MBA in 2005 (approximately 1,778-acres), a single breeding pair of burrowing owls was observed within an ephemeral drainage feature (Drainage 4) that longitudinally traverses the western portion of the survey area. The owls were observed perching and in flight along the western bank of the drainage feature, immediately south of its intersection with Dracaea Avenue. Conditions in this area changed over the 6-year period and this was no longer habitat due to changes in land use. In addition focused burrow and burrowing owl surveys conducted by MBA in 2006 (750 acres), 2007 (2,904 acres), and 2010 (3,814 acres) had negative findings (Appendix D, Burrowing Owl Focused Surveys). Burrowing owls were recorded to occur in 2008 (246 acres), just south of the Highland Fairview Corporate Park (Skecher's Logistic Center) (Fierro, pers. comm.). A single burrowing owl was observed within the temporary detention basin located south of the Highland Fairview Corporate Park during a March 2012 site visit associated with the Jurisdictional Delineation.

The disked and fallow fields within the WLCSP continues to provide suitable foraging habitat for burrowing owl. The WLCSP and some of the offsite facilities contain numerous California ground squirrel and desert cottontail burrows, which are potentially suitable for burrowing and nesting by the owls. Therefore, this species appears to be present within selective portions of the WLCSP and offsite facilities. It has been intermittently observed within the CDFG Conservation Buffer area and is not considered a permanent resident within the entire study area.

5.2.2 - Mammalian Species

Los Angeles Pocket Mouse

Los Angeles pocket mouse is a California species of special concern that inhabits lower elevation grasslands and scrub communities within Los Angeles, San Bernardino, and Riverside counties. Los Angeles pocket mouse is the smallest of the pocket mice subspecies and is adapted for arid or semi-arid environments and nocturnal activity. The primary habitat requirement for the subspecies is a suitable burrowing substrate of fine sandy soils. Los Angeles pocket mouse is commonly found in

low elevation open grasslands, coastal sage scrub, and alluvial fan sage scrub. The subspecies is recorded to have been observed approximately 2 miles southeast of the study area (CDFG 2012).

The majority of the WLCSP and offsite facilities does not contain suitable habitat for Los Angeles pocket mouse due to regular disturbance associated with agriculture, and the absence of fine sand soils. Drainage Feature 9 and a small portion of Drainage Feature 7, however, are not subject to regular agricultural disturbance and contain Riversidean sage scrub and appropriate soils; therefore, these drainage features within the WLCSP contains marginally suitable habitat for Los Angeles pocket mouse. No areas of the offsite facilities or CDFG Conservation Buffer contains suitable habitat for LAPM.

MBA has conducted surveys for LAPM in 2005, 2010, and 2012. In 2005, MBA conducted focused trapping surveys for Los Angeles pocket mouse in the Bel Lago portion of the Specific Plan. A total of 121 traps were set throughout the drainage features. In 2010, MBA conducted focused trapping surveys in the same location as in 2005 and in 2 additional drainage features within the WLCSP. A total of 122 traps were set among the 3 drainage features. Only Drainage Feature 9 has suitable Riversidean sage scrub and soils, and the other 2 drainage features only contained suitable soils. The 2012 trapping effort was conducted in the Drainage Feature 7 and 9 similar to the areas in 2010. No LAPM were trapped. No Los Angeles pocket mice were trapped during the focused surveys in any of the three trapping sessions (2005, 2010, and 2012) therefore, this species is absent from the WLCSP and offsite facilities (Appendix C, Los Angeles Pocket Mouse Focused Surveys).

5.2.3 - Criteria Area Species

Criteria Area Plant species are those plant species that require a habitat assessment and/or focused plant surveys under the MSHCP for each individual Criteria Cell, as opposed to all 106 special status plant species listed under the MSHCP. The following 10 Criteria Area Species were assessed for their potential to occur on the WLCSP and offsite facilities as well as the CDFG Conservation Buffer Area:

- Mud nama (*Nama stenocarpum*)
- Little mousetail (*Myosurus minimus apus*)
- Coulter's goldfields (*Lasthenia glabrata* sub. *coulteri*)
- Thread-leafed brodiaea (*Brodiaea filifolia*)
- Davidson's saltscale (*Atriplex serenana davidsonii*)
- Parish's brittlescale (*Atriplex parishii*)
- San Jacinto valley crownscale (*Atriplex coronata notatior*)
- Round-leafed filaree (*Erodium macrophyllum*)
- Smooth tarplant (*Hemizonia pungens laevis*)
- Nevin's Barberry (*Mahonia nevinii*)

Mud Nama

Mud nama is a small annual herb that is confined to the western US. This species grows on the muddy embankments of ponds and lakes and is also reported to use river embankments. It typically occurs between 5 and 500 meters in elevation.

No ponds, lakes, or regularly muddy embankments occur within the WLCSP and offsite facilities. Therefore, mud nama is not likely to occur on the WLCSP and associated offsite areas.

Little Mousetail

Little mousetail is distributed in scattered areas from Orange and San Bernardino County, south to coastal San Diego County from sea level to 1,500 meters in elevation. In southern California, little mousetail occurs in association with vernal pools and within the alkali vernal pools and alkali annual grassland components of alkali vernal plains. Little mousetail is found in areas that have semi-regular inundation.

No vernal pools, vernal pool conditions, or alkaline conditions occur within the WLCSP and offsite facilities. Therefore, little mousetail is not likely to occur on the WLCSP and associated offsite areas.

Coulter's Goldfields

Coulter's goldfields is distributed from coastal San Luis Obispo County south through coastal Santa Barbara County, Ventura County, Los Angeles to San Diego County and northwestern Baja California, from sea level to about 1,000 meters in elevation. Coulter's goldfields are associated with low-lying alkali habitats along the coast and in inland valleys. The majority of the populations are associated with coastal salt marsh. In Riverside County, Coulter's goldfields occur primarily in highly alkaline, silty-clay soils in association with the Traver-Domino-Willows soil association. Most Riverside County populations are associated with the Willows soil series. Coulter's goldfields occur primarily in the alkali vernal plains community. These are floodplains dominated by alkali scrub, alkali playas, vernal pools, and, alkali grasslands. These habitats form mosaics that are largely dependent on salinity and micro-elevational differences.

No vernal pools, vernal pool conditions, or alkaline conditions occur within the WLCSP and offsite facilities. Therefore, Coulter's goldfields are not likely to occur in the WLCSP and associated offsite areas.

Thread-leafed Brodiaea

Thread-leaved brodiaea is endemic to southwestern cismontane California, ranging from the foothills of the San Gabriel Mountains at Glendora (Los Angeles County), east to Arrowhead Hot Springs in the western foothills of the San Bernardino Mountains (San Bernardino County), and south through eastern Orange and western Riverside Counties to Carlsbad and just south of Lake Hodges in northwestern San Diego County. This species occurs from near sea level to 600 meters in elevation. The species typically occurs on gentle hillsides, valleys, and floodplains in semi-alkaline mudflats,

vernal pools, mesic southern needlegrass grassland, mixed native-nonnative grassland, and alkali grassland plant communities in association with clay, loamy sand, or alkaline silty-clay soils. In Orange County and San Diego County, the distribution of thread-leaved brodiaea is highly correlated with specific clay soil series.

No vernal pools, vernal pool conditions, or alkaline conditions occur within the WLCSP and offsite facilities. Therefore, thread-leafed brodiaea is not likely to occur on the WLCSP and associated offsite areas.

Davidson's Saltscale

Davidson's saltscale is known to occur in cismontane habitat in southwestern California: Ventura County, and western Orange County into western Riverside County. Historically, this species has also been reported in coastal Santa Barbara County, Los Angeles County, and possibly in San Diego County. In Riverside County, Davidson's saltscale is found in the Domino-Willows-Traver Soils series in association with the alkali vernal pools, alkali annual grassland, alkali playa, and alkali scrub components of alkali vernal plains.

No vernal pools, vernal pool conditions, or alkaline conditions occur within the WLCSP and offsite facilities. Therefore, Davidson's saltscale is not likely to occur on the WLCSP and associated offsite areas.

Parish's Brittlescale

Parish's brittlescale is currently known to occur only in western Riverside County. Historically, Parish's brittlescale was distributed sporadically in cismontane southern California from the Los Angeles Basin (Los Angeles and Orange Counties), and Riverside County. Parish's brittlescale is found in alkaline habitats. In western Riverside County it is found primarily along the San Jacinto River and at Salt Creek within the Domino-Willows-Tracer Soils series in association with the alkali vernal pools, alkali annual grassland, alkali playa, and alkali scrub components of alkali vernal plains

No vernal pools, vernal pool conditions, or alkaline conditions occur within the WLCSP and offsite facilities. Therefore, Parish's brittlescale is not likely to occur on the WLCSP and associated offsite areas.

San Jacinto Valley Crownscale

San Jacinto Valley crownscale is endemic to western Riverside County and is restricted to the San Jacinto, Perris, Menifee and Elsinore Valleys. San Jacinto Valley crownscale occurs primarily in floodplains dominated by alkali scrub, alkali playas, vernal pools, and, to a lesser extent, alkali grasslands. San Jacinto Valley crownscale is restricted to highly alkaline, silty-clay soils in association with the Traver-Domino-Willows soil association; the majority of the populations being associated with the Willows soil series.

No vernal pools, vernal pool conditions, or alkaline conditions occur within the WLCSP and offsite facilities. Therefore, San Jacinto Valley crownscale is not likely to occur on the WLCSP and associated offsite areas.

Round-Leafed Filaree

The round-leafed filaree is an annual that typically grows in valley and foothill grasslands in open habitat on friable clay soils. Round-leafed filaree (also known as large-leafed filaree) is apparently well distributed in central and northern California, but is very rare in Southern California. The species is presumed to be declining in Southern California due to loss of its friable clay microhabitat. All populations in Southern California are recommended for protection despite the sizeable populations to the north. Oftentimes the distinctive clay soils where this species can occur include other sensitive species such as small-flowered morning glory (*Convolvulus simulans*). The very crumbly clay soil is itself quite rare in the region and undoubtedly accounts for the rarity of several species restricted to this substrate.

No friable clay soils occur within the WLCSP and offsite facilities. Therefore, round-leafed filaree is not likely to occur in the WLCSP and associated offsite areas.

Smooth Tarplant

Smooth tarplant is found in southwestern California and northwestern Baja California, Mexico. It occurs in Los Angeles, San Bernardino, Riverside, and San Diego Counties. Smooth tarplant occurs in a variety of habitats including alkali scrub, alkali playas, riparian woodland, watercourses, and grasslands with alkaline affinities. The majority of the populations in western Riverside County are associated with alkali vernal plains.

No vernal pools, vernal pool conditions, or alkaline conditions occur within the WLCSP and offsite facilities. Therefore, smooth tarplant is not likely to occur on the WLCSP and associated offsite areas.

Nevin's Barberry

Nevin's barberry (*Mahonia nevinii*) is endemic to southwestern cismontane southern California. It occurs in restricted localized populations from the interior foothills of the San Gabriel Mountains of Los Angeles County and San Bernardino County southeast to near the foothills of the Agua Tibia Mountains of southwestern Riverside County, from 300 and 659 meters in elevation. Scattered naturalized populations have been established outside this range. Nevin's barberry is found in coarse soils and rocky slopes in chaparral and gravelly wash margins in alluvial scrub.

No alluvial scrub or rocky chaparral slopes occur within the WLCSP and offsite facilities. Therefore, Nevin's barberry is not likely to occur in the WLCSP and associated offsite areas.

5.2.4 - Narrow Endemic Plant Species

A narrow endemic is a species that is confined to a specific geographic region, soil type, and/or habitat. There are a total of 14 narrow endemic plant species throughout the MSHCP that require additional assessment top determine their presence or absence. The following 6 Narrow Endemic Plant Species were assessed for their potential to occur on the WLCSP and offsite facilities and the CDFG Conservation Buffer Area:

- San Diego ambrosia (*Ambrosia pumila*)
- Wright's trichocoronis (*Trichocoronis wrightii wrightii*)
- California orcutt grass (*Orcuttia californica*)
- Spreading navarretia (*Navarretia fossalis*)
- Many-stemmed dudleya (*Dudleya multicaulis*)
- Munz's onion (*Allium munzii*)

San Diego Ambrosia

San Diego ambrosia is a federally endangered species. It occurs in open habitats in coarse substrates near drainage features, and in upland areas on clay slopes or on the dry margins of vernal pools. This species occurs in a variety of associations that are dominated by sparse grasslands or marginal wetland habitats such as river terraces, pools, and alkali playas. In Riverside County, San Diego ambrosia is associated with open, gently sloped grasslands and is generally associated with alkaline soils. Three populations of San Diego ambrosia have been mapped in Riverside County. The species is threatened by habitat loss due to urbanization, fragmentation, isolation, and associated impacts from non-native species competition. While it is considered to be tenacious in appropriate habitat, it is thought to be a weak competitor with invasive herbaceous and non-native grass species.

No vernal pools, vernal pool conditions, or alkaline conditions occur within the WLCSP and offsite facilities. Therefore, San Diego ambrosia is not likely to occur on the WLCSP and associated offsite areas.

Wright's Trichocoronis

The historic range of Wright's trichocoronis (*Trichocoronis wrightii*) includes the Great Valley of central California, western Riverside County, and the Edwards Plateau of central Texas and adjacent Mexico. Wright's trichocoronis appears to be extirpated from central California. California plants may represent a distinct species from the plants of Texas and north central Mexico. In western Riverside County, Wright's trichocoronis is found in the alkali vernal plains and associated with alkali playa, alkali annual grassland, and alkali vernal pool habitats. This species occupies the more mesic portions of these habitats.

No vernal pools, vernal pool conditions, or alkaline conditions occur within the WLCSP and offsite facilities. Therefore, Wright's trichocoronis is not likely to occur in the WLCSP and offsite facilities.

California Orcutt Grass

California Orcutt grass occurs in southwestern California from eastern Ventura County east through Los Angeles County to Riverside County, and south to San Diego County from near sea level to 625 meters in elevation. All known Californica Orcutt grass localities are associated with vernal pools. In Riverside County, this species is found in southern basaltic claypan vernal pools at the Santa Rosa Plateau, and alkaline vernal pools as at Skunk Hollow and at Salt Creek west of Hemet.

No vernal pools, vernal pool conditions, or alkaline conditions occur within the WLCSP and offsite facilities. Therefore, California Orcutt grass is not likely to occur on the WLCSP and associated offsite areas.

Spreading Navarretia

Spreading navarretia occurs from northwestern Los Angeles County and western Riverside County, south through coastal San Diego County to San Quintin in northwestern Baja California, Mexico, from near sea level to 1,300 meters. The primary habitat this species is associated with is vernal pools, depressions, and ditches in areas that once supported vernal pools. In western Riverside County, spreading navarretia has been found in relatively undisturbed and moderately disturbed vernal pools, within a larger vernal floodplains dominated by annual alkali grassland or alkali playa. The alkali vernal playa/pool habitat found in the Hemet area contains silty clay soils in the Willows and Travers series. These soils are usually saline-alkaline in nature and reliably pond water for long durations.

No vernal pools, vernal pool conditions, or alkaline conditions occur within the WLCSP and offsite facilities. Therefore, spreading navarretia is not likely to occur on the WLCSP and associated offsite areas.

Many-Stemmed Dudleya

Many-stemmed dudleya is endemic to southwestern California from western Los Angeles County south through extreme southwestern San Bernardino, Orange, and western Riverside Counties south to extreme northern San Diego County. It ranges from near sea level to about 600 meters in elevation. Many-stemmed dudleya is often associated with clay soils in barrens, rocky places, or thinly vegetated openings in chaparral, coastal sage scrub, and southern needlegrass grasslands. The majority of many-stemmed dudleya populations are associated with coastal sage scrub or open coastal sage scrub.

No clay soils occur within the WLCSP and offsite facilities. Therefore, many-stemmed dudleya is not likely to occur in the WLCSP and associated offsite areas.

Munz's Onion

Munz's onion is endemic to southwestern Riverside County. This species is restricted to heavy clay soils which are scattered in a band several miles wide and extending some 40 miles southeast from

Corona through Temescal Canyon and along the Elsinore Fault Zone to the southwestern foothills of the San Jacinto Mountains from 300 to 1,000 meters in elevation. Munz's onion is found in grassy openings in coastal sage scrub, chaparral, juniper woodland, valley and foothill grasslands.

No clay soils occur within the WLCSP and offsite facilities. Therefore, Munz's onion is not likely to occur on the WLCSP and offsite facilities.

Based on the current conditions, there is no suitable or high quality habitat for any of the above-mentioned special status plant species. These plants are not likely to occur within the project and should be considered absent from the WLCSP and associated offsite areas.

5.2.5 - Riparian/Riverine Habitat and Vernal Pools

The WLCSP and offsite facilities contain 2 types of riparian vegetation: mule fat scrub and southern willow scrub. Both plant communities are isolated, disturbed, low in vegetative cover, and generally of poor habitat quality. Three drainage features and 1 catch basin contain riparian/riverine areas (Exhibit 6). One of the drainage features is on the east side of Gilman Springs Road, within one of the proposed debris basins.

The mule fat scrub community onsite occurs intermittently within Drainage Feature 9; a small patch within Drainage Feature 7; and within the debris basin associated with Drainage Feature 8. Drainage Feature 9 and the catch basin are both narrow and bordered on each side by disked agricultural fields. Drainage Feature 7 also contains a narrow band of mule fat scrub, but is bordered by relatively undisturbed Riversidean sage scrub. Over time, the drainage feature has been fragmented and currently contains isolated patches of riparian vegetation. Within the mule fat scrub community, tree tobacco and other non-native plant species, have established in approximately equal quantity as mule fat.

Drainage Feature 8 has a proposed debris basin across Gilman Springs Road. This small drainage has an area of mule fat scrub that is probably surviving based on the blockage of the drainage at the road. The mule fat scrub portions of the WLCSP and the offsite area are poor in habitat quality due to the small size of the stands, the sparse vegetative cover within the communities, the isolation of the individual stands, and the disturbance from the adjacent agricultural uses. Given the above characteristics, riparian wildlife species have a low potential to occur; impacts to any of the mule fat scrub plant communities due to the development are not anticipated to have impacts on least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), or western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). Despite the absence of suitable habitat for federally and State listed threatened or endangered species that commonly occur in riparian habitat, this drainage feature is considered riparian/riverine areas under the MSHCP because of the presence of mulefat and the subsurface connectivity to offsite riparian areas downstream.

Southern willow scrub occurs in a single isolated catch basin in the WLCSP and offsite facilities (Exhibit 6, Drainage Feature 14). The catch basin contains marginal vegetative characteristics and no hydrological characteristics that fit the MSHCP description for riverine/riparian areas. It exists as isolated, human-made, catch basin that receives nuisance flows and agricultural runoff from concrete cattle containment areas adjacent to the basin, which have subsequently been removed. It is located south of Alessandro Road and does not contain any upstream or downstream connection to any other drainage features. There is no evidence of prolonged ponding within Drainage Feature 14 basins and for this reason is not suitable habitat for any of the sensitive fairy shrimp species. Vegetation in the catch basin is comprised of southern willow scrub and includes plant species such as Freemont's cottonwood, black willow, sandbar willow, and mulefat. The plant community is primarily comprised of a moderate density of trees with a few understory plants.

Southern willow scrub is typically considered suitable habitat for a number of wildlife species that commonly occur in riverine/riparian habitats throughout southern California. These wildlife species include sensitive avian species such as least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo. This basin is considered low in habitat quality because it is isolated, small in size, and lacks significant vegetation density. Given these characteristics, riparian wildlife species have a low potential to occur, and impacts to least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo are not anticipated. However, this basin is considered riparian/riverine habitat due to the presence of riparian vegetation and the loss of habitat will have to be evaluated under the MSHCP process.

The other drainages on the site (with the exception of Drainage Feature 12) do not consistently have flows that leave the site (see Exhibit 7 and the Jurisdictional Delineation: Appendix ?). Drainage Feature 12 flows into the Perris Channel and to Canyon Lake. The remaining drainage features begin to sheetflow with the WLCSP (Drainage Features 2, 4, 6, and 13) while Drainage Features 5, 10, and 11do not have a defined bed and bank before reaching any defined riparian areasnor do they have defined riparian areas within their drainages. Based on that state, they do not contribute to either riparian or riverine aspects of the MSHCP and no further analysis is necessary.

MBA also conducted a vernal pool habitat assessment within the WLCSP and offsite facilities. As defined by the MSHCP, vernal pools are "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." No vernal pools or other ephemeral ponds were observed in the WLCSP or any of the offsite areas during the habitat assessment survey. In addition, no suitable habitat for any fairy shrimp species was identified within any of the WLCSP and offsite facilities due to the lack of sufficient ponding lengths.

5.2.6 - Urban/Wildlands Interface Analysis

This section addresses the indirect effects associated with locating development in proximity to MSHCP Conservation Areas. The WLCSP and the proposed offsite facilities are completely bordered to the east by Proposed Core 3 (MSHCP's Section 6.1.1) and to the south by the SJWA and Existing Core H (Exhibit 10). Moreover, portions of the WLCSP fall within the boundaries of all the aforementioned Conservation Areas.

The portions of the WLCSP and offsite facilities that are on or immediately adjacent to conservation areas should incorporate the design features and measures related to drainage features, toxics, lighting, noise, invasive plants, barriers, and grading/land development discussed below. These measures would make the proposed project consistent with the MSHCP, Section 6.1.4, Guidelines Pertaining to the Urban/Wildlands Interface. A detailed description of recommendations pertaining to an urban/wildlands interface is described below.

Drainage Features

Development of the WLCSP and offsite facilities will incorporate a comprehensive system of underground storm drains to handle storm runoff from the proposed project. Flows exiting the WLSCP will mimic existing conditions. There are six watershed areas and associated drainage courses that deliver flow across the study area. The existing capacity of the drainages at the project boundary was determined. Flows in excess of this capacity currently flow overland and sheetflow across the WLCSP project boundary in the current condition. Detention basins and spreading area facilities are proposed to reduce the proposed condition flows to pre-project conditions at the WLCSP project boundary (See EIR Section on hydrology for details). The detention basins are proposed near the WLCSP project boundary. They are designed to capture project runoff and the discharge pipe will be sized so the rate of realease will not exceed pre-project conditions. Since the discharge pipe creates a concentrated point of release, there will be a spreading area or flow dissipating device at the outlet to mimic existing conditions.

The design, operation, and maintenance of a drainage feature system for the proposed project will be adequate to mitigate the potential discharge of water into any MSHCP Conservation Area and will keep existing flows traveling offsite.

The project applicant will be required to obtain a statewide general National Pollutant Discharge Elimination System (NPDES) construction permit for all construction activities associated with the proposed project. Additionally, all development within the WLCSP and offsite facilities will be subject to future requirements adopted by the City of Moreno Valley to implement the NPDES program.

Toxics

Development plans for the WLCSP and offsite facilities will be designed to include Water Quality Best Management Practices (BMPs) such as vegetated earthen channels, storm drain stenciling, street sweeping, and education. Detention basins will be designed to filter potential toxics in the storm water. These BMPs will be implemented as part of the storm water pollution prevention measures for the project, in accordance with all appropriate NPDES requirements.

Development of the WLCSP and offsite facilities would most likely result in the additional use of hazardous materials in limited quantities associated with normal logistics use such as janitorial and cleaning products, solvents, herbicides, and insecticides. However, compliance with regulations, standards, and guidelines established by the Environmental Protection Agency (EPA), State, county, and local agencies relating to the storage, use, and disposal of hazardous waste will reduce the potential risk of hazardous materials exposure to a level that is less than significant.

A Health Risk Assessment (HRA) (MBA 2012) was completed for the project primarily prepared for human health risks associated with airborne hazards. A HRA is a guide that helps to determine if current or future exposure to a chemical or substance could affect the health of a population. The State of California Office of Environmental Health Hazard Assessment (OEHHA) develops methods for conducting health risk assessments. As defined under the Air Toxics "Hotspots" Information and Assessment Act of 1987 ["AB 2588" (Chapter 1252, Statutes of 1987), California Health and Safety Code Section 44306], "A health risk assessment means a detailed comprehensive analysis prepared pursuant to Section 44361 to evaluate and predict the dispersion of hazardous substances in the environment and the potential for exposure of human populations and to assess and quantify both the individual and population-wide health risks associated with those levels of exposure" (Office of Environmental Health Hazard Assessment 1987).

The HRA of toxic air contaminants builds upon the assessment methodology described above but requires one additional step beyond that for assessment of the local pollutants. This step involves applying a risk characterization model to the results from the air dispersion model to estimate potential health risks at each sensitive receptor location.

The Air Quality Section of the EIR and Appendix F on Health Risk Assessments provides a discussion on the air pollutants that could potentially be present as a result of the construction and/or operation of the proposed facilities and the most relevant effects from pollutant exposure to humans. No standards for impacts to wildlife have been established. Since air is not stationary, there is a potential that air quality concerns associated with the project will not be confined to the project site itself and thus would disperse into "wildland" areas. The primary wind direction near the project site is to the southeast, as shown in the wind rose Exhibit 5 in the Air Quality Appendix (MBA 2012). The wind direction would generally send any air hazards towards SU 3 Badlands North Criteria Cells and points to the east across Gilman Springs Road.

Health risks within the context of the EIR's Air Quality Appendix are represented as the increase in human cancer risk associated with exposure to diesel particulate matter emissions from project operations. These diesel particulate matter emissions arise from both exhaust and idling of diesel trucks while operating on and near the project site. The methodology applied in calculating cancer risk for humans from diesel particulate matter has been published by the SCAQMD and the California Office of Environmental Health Hazard Assessment (OEHHA). The Air Quality Appendix (MBA 2012:49-50) discusses alternative views on the validity of the SCAQMD and OEHHA studies.

The SCAQMD methodology basically assumes that a person is exposed continuously to a project's emissions for a period of 350 days per year, 24 hours per day over a 70-year lifetime period. In this regard, cancer risk is expressed as the probability of an individual developing cancer due to exposure to diesel particulate matter emissions at the above-referenced durations from the project, out of a population of 1 million individuals. Thus, a receptor calculated to have a cancer risk of 1 in one million means that this receptor has a probability of 1 in one million of developing cancer from the continuous exposure to diesel particulate matter. The SCAQMD has established a significance threshold of 10 in 1 million for cancer risk attributable to exposure to a project's emissions. No such threshold exists for wildlife and a number of significant factors vary from the criteria established for human populations. The average life of migratory waterfowl ranges from 10 to 20 years. This represents the most long-lived of the species in the vicinity of the project site. These species are not present year round and may spend as little at 100 days in the project area on the SJWA. Based on these factors alone, the validity of the SCQAMD methods may have no validity with regard to wildlife in the region and no realistic threshold of significance can be established.

The dispersion model for HRA in the Highland Fairview - World Logistics Center Specific Plan Air Quality, Greenhouse Gas, and Health Risk Assessment Report (MBA 2012) exceeds the threshold for humans across the entire WLCSP and into the offsite areas. This zone extends into the CDFG Conservation Buffer and across Gilman Springs Road into criteria cells. Impacts to humans are considered significant according to the Air Quality Appendix (MBA 2012) with no mitigation to reduce impacts belwo the significance threshold.

Comparable data on these types of air quality exposures in wildlife is difficult to obtain, although there are a number of studies from Europe that infer that air quality emissions can cause both genetic changes and nutritional stress in birds and mice (Dudley and Stolton, 1995; Gordon et al. 2012; Constantini 2006; Soloman et al. 1998). The results of these studies are not comparable to the exposures at the WLCSP and no scientifically proven statements can be made on the effects to wildlife.

Lighting

The lighting guidelines of the WLCSP are designed to be in compliance with the City of Moreno Valley Municipal Code rules and in compliance with Ordinance 851state that in general lighting must

be low-intensity light fixtures fitted with hooded shields. It should be the minimum intensity needed for a particular purpose (e.g. security), and directed toward the intended use. Outdoor lighting proposed for buildings adjacent to open space areas such as the CDFG Conservation Buffer Area and areas adjacent to the LPSRA and the Gilman Springs Road adjacent areas shall be designed so that all direct beams would be confined to building sites.

- Lighting associated with planned development of the eastern and southern portions of the project area could have various direct and indirect impacts on local wildlife, depending on the species and the nature of light exposure. There is a host of scientific and academic research on the effects of night lighting on various species, but the subject species and lighting conditions vary widely, and it would be difficult to apply research data directly to the relationship of the WLCSP and the SJWA.
- However, available research generally suggests that night lighting can have a wide range of adverse effects on wildlife, including mammals, birds, bats, amphibians, insects, fish, even plants. Effects range from reduced health by upsetting diurnal rhythms, reduced clutch size, egg size, or survival success of nesting birds, to actual mortality from increased predation under higher ambient light levels. Bats and certain insects are also attracted to outdoor night lighting, which may adversely affect their survival or cause them to become dependent on the lighting. Small mammals would also be attracted to these areas, and might suffer increased predation or roadkill crossing streets.
- It will therefore be important for the WLCSP project to adequately shield its lighting, especially along the south sides of the southern-most buildings to be built within the WLCSP. The WLCSP does not specify building lighting in this sensitive area, because no building locations or building designs are planned yet. However, the WLCSP does specify that lighting in this area does meet the requirements of Ordinance 851, which calls for less than 0.25 foot candle of spillover at five feet from any property line.
- The lighting guidelines of the WLCSP state that in general lighting must be low-intensity light fixtures fitted with hooded shields. It should be the minimum intensity needed for a particular purpose (e.g. security), and directed toward the intended use. Outdoor lighting proposed for buildings adjacent to open space areas must be designed so that all direct beams would be confined to building sites. The level of onsite lighting and lighting fixtures must comply with the applicable requirements and policies of City of Moreno Valley Municipal Code and the newly adopted Ordinance 851, which states, “direct project lighting must not intrude into the open space conservation areas.”
- Night lighting should also be minimized or precluded during construction if possible to prevent additional lighting impacts to wildlife.

Streetlights, parking lot lighting, and other project-related illumination sources should be positioned, directed, and shielded to avoid "light spill" into MSHCP conservation areas including those contained within Existing Core H to the south of the project area, and Proposed Core 3 (Section 6.1.1, Proposed Core 3) to the east of the project area. If the lighting is installed according to these guidelines, it will consistent with MSHCP guidelines. However, due to the size of the WLC project and its proximity to the SJWA, additional mitigation is necessary for lighting impacts.

In addition to night lighting issues associated with construction and operation, the proposed facilities are to include photovoltaic panels to provide electricity for the facilities and aide in the sustainability of the project and reduce additional GHG emissions. There is a potential for glare from these panels to confuse migratory birds into attempting to land in the area of the panels. The project design calls for the use of low glare and high solar transmission films to increase solar capacity and prevent unnecessary glare.

Noise

Development within the WLCSP and offsite facilities must incorporate landscape elements including trees, shrubs, and groundcover, which would assist in noise reduction onsite. A noise analysis has been prepared for the project to quantify potential short and long-term noise impacts that could occur as a result of development of the parcel adjacent to open space areas. Based on recent studies (Landrum and Brown 2012) noise contours would exceed 60 dBA (L_{eq}) roughly 1,000 feet into the CDFG Conservation Buffer Area during construction of the southernmost areas of Phase 2. There is no projected change in noise contours associated with the operation of the facility over those of the no project condition. Therefore any noise-related impacts would be temporary in nature and generally limited to construction of Phase 2 facilities along the southern boundary of the WLC.

Invasive Species

The project will incorporate special edge treatments designed to separate development areas from open space areas. Landscape buffers must be incorporated into the project design to minimize the intrusion of non-native plant species into natural areas. Furthermore, none of the plant species listed in Section 6.1.4 of the MSHCP will be used for landscaping for any proposed project element. All landscape plans should be reviewed by a qualified biologist to ensure invasive weedy species and other harmful non-native plant species are avoided in the landscape plan.

Barriers

The project should incorporate special edge treatments designed to separate development areas from MSHCP open space areas. These areas of native landscaping and fencing will serve to minimize unauthorized public access, domestic animal predation, and illegal trespass and dumping.

Access

The proposed project will be designed to limit public access into all MSHCP conservation areas including those contained within the SJWA and Existing Core H to the south of the WLCSP and offsite facilities, and Proposed Core 3 to the east of the WLCSP and offsite facilities.

Grading/Land Development

The project has been designed to keep all manufactured slopes within the boundaries of the development footprint and not encroach into proposed land for conservation located within Existing Core H to the south of the WLCSP and offsite facilities, and Proposed Core 3 to the east of the WLCSP and offsite facilities.

Fuels Management

Fuels management focuses on hazard reduction for humans and their property (MSHCP, p. 6-72). According to the Fuels Management Guidelines, for new development planned adjacent to all MSHCP conservation areas or other undeveloped areas, brush management shall be incorporated in the development boundaries and shall not encroach into the MSHCP conservation areas (MSHCP, p. 6-72). Any areas planted with fire-resistant, non-invasive plants must not encroach into the MSHCP conservation area. Accordingly, with implementation of these measures, the project will be consistent with the MSHCP Fuels Management Guidelines

5.2.7 - Migratory Corridors/Linkages

The WLCSP and the proposed offsite facilities do not occur within or adjacent to an existing or proposed migratory corridor or linkage area, as designated by the MSHCP. The nearest linkage, proposed linkage or constrained linkage is to the south of Mystic Lake over 2.5 miles to the south-southeast (Exhibit 9). The open agricultural uses that dominate the WLCSP and offsite facilities do not contain substantial native vegetation and have little biological value. The WLCSP and offsite facilities will not directly or indirectly impact migratory corridors.

5.2.8 - Biological Compliance Issues Not Covered by the MSHCP

Background

Protected Plant and Wildlife Species

The material provided in Table 2 and Table 3 analyzes the potential for sensitive, federally listed, and state listed, plant and wildlife species to occur in the WLCSP and offsite facilities. The analysis was based on a compilation of the observations made during the reconnaissance-level surveys and the analyses in the technical studies for the WLCSP and offsite facilities. The list of species analyzed is based on a search of the CDFG California Natural Diversity Database (CNDDB) listings within the Lakeview, Sunnymead, and El Casco California, United States Geological Survey (USGS) topographic quadrangles, in addition to potentially occurring species identified by MBA biologists. The discussion below summarizes the findings of the Table 2 and Table 3 in relation to the State and federal species classifications

Table 2: Special Status Plant Species

Species		Status			Preferred Habitat	Life Form	Bloom Period	MSHCP Coverage	Potential to Occur / Known Occurrence / Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS					
Atriplex coronata var. *notatior*	San Jacinto valley crownscale	FE	—	1B	Occurs in playas, chenopod scrub, grasslands, and vernal pools. Specifically found in dry alkali flats in the San Jacinto River Valley. Elevation limits: 1,200 to 1,500 feet.	Annual herb	Apr - Aug	Covered	**Not Likely to Occur.** No alkali flats occur in the study area. Recorded approximately 2.5 miles southeast of the study area. (CNDDB 2012)
Brodiaea filifolia	Thread-leaved brodiaea	FT	SE	1B	Occurs in coastal scrub, cismontane woodland, grasslands, and vernal pools. Usually associated with annual grassland and vernal pools in clay soils. Elevation limits: 75 to 2,500 feet.	Perennial herb bulbiferous	Mar - Jun	Covered	**Not Likely to Occur.** No clay soils or vernal pools occur in the study area. Recorded approximately 5 miles south of the study area. (CNDDB 2012)
Calochortus plummerae	Plummer's mariposa lily	—	—	1B	Occurs in coastal scrub, chaparral, grasslands, cismontane woodlands, and lower montane coniferous forests. Found in rocky and sandy soils, usually of granitic or alluvial material. Very common after fire. Elevation limits: 300 to 4,500 feet.	Bulbiferous herb	May - Jul	Not Covered	**Moderate Potential to Occur.** The portion of the study area that contains sandy soils and chaparral/RSS along the western border of the project in an area slated as open space. Recorded approximately 2 miles east of the study area. (CNDDB 2012)

Table 2 (cont.): Special Status Plant Species

Species		Status			Preferred Habitat	Life Form	Bloom Period	MSHCP Coverage	Potential to Occur / Known Occurrence / Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS					
Centromadia pungens ssp. *laevis*	Smooth tarplant	—	—	1B	Occurs in grasslands, chenopod scrub, meadows, playas, and riparian woodland. Prefers alkali meadow and alkali scrub. Elevation limits: 0 to 1,500 feet.	Annual herb	Apr - Sep	Covered	**Not Likely to Occur.** No alkali soils occur in the study area. Recorded approximately 3 miles west of the study area. (CNDDB 2012)
Chorizanthe parryi var. *parryi*	Parry's spineflower	—	—	3	Occurs in coastal scrub and chaparral. Found on dry slopes and flats, sometimes at interface of two vegetation types, on dry, sandy soils. Elevation limits: 150 to 5,000 feet.	Annual herb	Apr - Jun	Covered	**Moderate Potential to Occur.** The portion of the study area that contains sandy soils and chaparral/RSS along the western border of the project in an area slated as open space. Recorded approximately 4.5 miles northwest of study area. (CNDDB 2012)

Table 2 (cont.): Special Status Plant Species

Species		Status			Preferred Habitat	Life Form	Bloom Period	MSHCP Coverage	Potential to Occur / Known Occurrence / Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS					
Dodecahema leptoceras	Slender-horned spineflower	FE	SE	1B	Occurs in chaparral and alluvial fan sage scrub. Prefers flood deposited terraces and washes. Elevation limits: 600 to 2,300 feet.	Annual herb	Apr - Jun	Covered	**Low Potential to Occur.** The study area contains several natural drainages; one contains a mixture of RSS and mule fat scrub. The remaining drainages are generally devoid of vegetation. Recorded approximately 7 miles northwest of the study area. (CNDDB 2012)
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	—	—	1B	Occurs in coastal salt marshes, playas, grasslands, and vernal pools. Usually found on alkali soils in playas, sinks, and grasslands. Elevation limits: 1 to 4,500 feet.	Annual herb	Feb - Jun	Covered	**Not Likely to Occur.** No alkali soils, marshes, or vernal pools occur in the study area. Observed approximately 2 miles south of study area. (CNDDB 2012)

Table 2 (cont.): Special Status Plant Species

Species		Status			Preferred Habitat	Life Form	Bloom Period	MSHCP Coverage	Potential to Occur / Known Occurrence / Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS					
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	—	—	1B	Occurs in chaparral and coastal scrub on dry soils. Elevation limits: 1 to 3,000 feet.	Annual herb	Jan - Jul	Not Covered	**Low Potential to Occur.** The portion of the study area that contains sandy soils and chaparral/RSS along the western border of the project in an area slated as open space. Recorded approximately 7 miles northwest of study area. (CNDDB 2012)
Nama stenocarpum	Mud nama	—	—	2	Occurs in marshes, swamps, lakeshores, riverbanks, and intermittently wet areas. Elevation limits: 15 to 1,500 feet.	Annual / perennial herb	Jan - Jul	Covered	**Not Likely to Occur.** No lakes, marshes or riverine areas occur in the study area. The drainage features onsite do not remain wet long enough to be considered suitable habitat. Recorded approximately 2.5 miles southeast of study area. (CNDDB 2012)

Table 2 (cont.): Special Status Plant Species

Species		Status			Preferred Habitat	Life Form	Bloom Period	MSHCP Coverage	Potential to Occur / Known Occurrence / Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS					
Symphyotrichum defoliatum	San Bernardino aster	—	—	1B	Occurs in meadows, seeps, marshes, swamps, coastal scrub, cismontane woodland, lower montane coniferous forest, and grasslands. Found in vernally mesic areas near ditches, streams, and springs. Elevation limits: 6 to 6,000 feet.	Rhizoma-tous herb	Jul - Nov	Not Covered	**Not Likely to Occur.** The ditches and erosion features in the study area are heavily disturbed. Recorded 2.5 miles northeast of the study area. (CNDDB 2012)
Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	—	—	2	Occurs in marshes and swamps, riparian forest, meadows, seeps, and vernal pools. Found in mud flats of vernal lakes, drying riverbeds, and alkali meadows. Elevation limits: 10 to 1,300 feet.	Annual herb	May - Sep	Covered	**Not Likely to Occur.** No marshes, riverine or vernal pool areas occur in the study area. Recorded approximately 4 miles south of the study area. (CNDDB 2012)

U.S. Fish and Wildlife Service
FE Federal Endangered
FT Federal Threatened
PE Proposed Endangered
PT Proposed Threatened
FC Federal Candidate
FSC Species of Concern*
*No longer recognized as a federal designation.

California Department of Fish and Game
CE California Endangered
CT California Threatened
CR California Rare

California Native Plant Society
1A Plants presumed extinct in California.
1B Plants rare, threatened, or endangered in California and elsewhere.
2 Plants rare, threatened, or endangered in California, but more common elsewhere.
3 Plants about which we need more information.
4 Plants of limited distribution.

Table 2 (cont.): Special Status Plant Species

Species		Status			Preferred Habitat	Life Form	Bloom Period	MSHCP Coverage	Potential to Occur / Known Occurrence / Suitable Habitat
Scientific Name	Common Name	USFWS	CDFG	CNPS					

Not Likely to Occur - There are no present or historical records of the species occurring on or in the immediate vicinity (within 3 miles) of the study area and the diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the site.
Low Potential to Occur - There is a historical record of the species in the vicinity of the study area and potentially suitable habitat onsite, but existing conditions (e.g. density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation) substantially reduce the possibility that the species may occur. The site is above or below the recognized elevation limits for this species.
Moderate Potential to Occur - The diagnostic habitats associated with the species occur on or in the immediate vicinity of the study area, but there is not a recorded occurrence of the species within the immediate vicinity (within three miles). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.
High Potential to Occur - There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the study area (within 3 miles).
Species Present - The species was observed in the study area at the time of the survey or during a previous biological survey.

Table 3: Special Status Wildlife Species

Species		Status			Required Habitat	MSHCP Coverage	Potential to Occur / Known Occurrence / Suitable Habitat
Scientific Name	Common Name	Federal	State	Other			
Branchiopods							
Streptocephalus woottoni	Riverside fairy shrimp	FE	—	CDFG: CSC	Occurs in tectonic swales and earth slump basins in grassland and coastal sage scrub. Inhabits seasonally astatic pools filled by winter/spring rains. Hatches in warm water later in the season.	Covered	**Not Likely to Occur.** No vernal pools occur in the study area. Observed farther than 5 miles south of the study area.
Reptiles and Amphibians							
Aspidoscelis hyperythra	Orange-throated whiptail	—	—	CDFG: CSC	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Also near perennial plants where termites, its major food, can be found.	Not Covered	**Low Potential to Occur.** Limited coastal scrub is present in the study area. Woody vegetation onsite is very sparse and is not considered sufficient to support the species. The nearest occurrence of the species was recorded approximately 0.3 miles north of the study area; however, in the eighteen years since the observation, the previous site conditions have changed to become unsuitable habitat. (CNDDB 2012)
Crotalus ruber ruber	Northern red-diamond rattlesnake	—	—	CDFG: CSC	Inhabits chaparral, woodland, grassland, and desert habitats. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks, or surface cover objects.	Covered	**Not Likely to Occur.** No rocky areas and dense native plant communities occur in the study area and the site is regularly disturbed. Recorded approximately 1 mile south of the study area; however, the observation occurred over 80 years ago. (CNDDB 2012)

Table 3 (cont.): Special Status Wildlife Species

Species		Status			Required Habitat	MSHCP Coverage	Potential to Occur / Known Occurrence / Suitable Habitat
Scientific Name	Common Name	Federal	State	Other			
Phrynosoma coronatum blainvillei	Coast horned lizard	—	—	CDFG: CSC	Inhabits coastal sage scrub and chaparral in arid and semi-arid climates. Prefers friable, rocky, or shallow sandy soils.	Covered	**Low Potential to Occur.** The portion of the study area that contains sandy soils or rocky soils and chaparral/RSS along the western border of the project in an area slated as open space. Recorded approximately 4 miles northwest of the study area. (CNDDB 2012)
Spea hammondii	Western spadefoot	—	—	CDFG: CSC	Occurs primarily in grassland habitats, but also found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Covered	**Not Likely to Occur.** No vernal pools or native woodlands occur in the study area. Recorded approximately 2 miles south and west of the study area. (CNDDB 2012)
Birds							
Agelaius tricolor	Tricolored blackbird	—	—	CDFG: CSC	Highly colonial species. Requires open water, protected nesting substrate, and foraging areas with insect prey within a few miles of the colony.	Covered	**Low Potential to Occur.** No open water or protected nesting habitat is located in the study area. Numerous nesting pairs were recorded within the wheat fields on the southeastern portion of the study area in 1995. The wheat has since been removed and no suitable nesting vegetation remains. (CNDDB 2012)
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	—	—	CDFG: CSC	Resident in coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Covered	**Low Potential to Occur.** While sparse RSS and chaparral are present within the study area, no steep slopes are present in the study area. Recorded approximately 4 miles west of the study area. (CNDDB 2012)

Table 3 (cont.): Special Status Wildlife Species

Species		Status			Required Habitat	MSHCP Coverage	Potential to Occur / Known Occurrence / Suitable Habitat
Scientific Name	Common Name	Federal	State	Other			
Amphispiza belli belli	Bell's sage sparrow	—	—	CDFG: CSC	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in southern portion of range. Nests typically located on the ground beneath shrub or in shrub 6 to 18 inches above ground.	Covered	**Not Likely to Occur.** No dense stands chaparral or coastal sage scrub vegetation occurs in the study area. Recorded approximately 4 miles northwest of the study area. (CNDDB 2012)
Athene cunicularia	Burrowing owl	—	—	CDFG: CSC	Occupies burrows in open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.	Covered	**High Potential to Occur.** Despite the heavy disturbance the study area contains flat topography with sparse, low-lying vegetation and various California ground squirrel burrows. Observed approximately within the study area in 2005; however, focused surveys conducted in 2010 and 2012 found the study area and surroundings to be unoccupied. (MBA 2012)
Buteo regalis	Ferruginous hawk	—	—	CDFG: CSC	Winters in open grasslands, sagebrush flats, desert scrub, low foothills, and fringes of pinyon-juniper habitats.	Covered	**Low Potential to Occur.** The study area contains open flat area that is considered marginally suitable foraging habitat, but not suitable nesting habitat. Recorded approximately 1 mile northeast of the study area. (CNDDB 2012)
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	FC	SE	—	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Specifically nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Covered	**Not Likely to Occur.** No riparian plant communities occur in the study area. Recorded approximately 5.5 miles northwest of the study area. (CNDDB 2012)

Table 3 (cont.): Special Status Wildlife Species

Species		Status			Required Habitat	MSHCP Coverage	Potential to Occur / Known Occurrence / Suitable Habitat
Scientific Name	Common Name	Federal	State	Other			
Elanus leucurus	White-tailed kite	—	—	CDFG: FP	Nests in rolling foothills/valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodlands. Prefers open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Covered	**Low Potential to Occur.** The study area contains marginally suitable foraging habitat, but few dense-topped trees occur in the vicinity of the site. Known to occur in the San Jacinto Valley but not recorded within 7 miles of the site. (CNDDB 2012)
Empidonax traillii extimus	Southwestern willow flycatcher	FE	SE	—	Nests in riparian woodlands in southern California.	Covered	**Not Likely to Occur.** No riparian plant communities occur in the study area. Recorded approximately 6.5 miles east of the study area. (CNDDB 2012)
Eremophila alpestris actia	California horned lark	—	—	CDFG: CSC	Inhabits short-grass prairie, bald hills, mountain meadows, open coastal plains, fallow grain fields, and alkali flats.	Covered	**Present.** The study area contains flat, fallow grain fields that constitute suitable nesting habitat. Observed in the study area during the reconnaissance-level surveys. (MBA 2012)
Falco columbarius	Merlin	—	—	CDFG: CSC	Winters in seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms and ranches. Clumps of trees or windbreaks are required for roosting in open country.	Covered	**Low Potential to Occur.** Portions of the study area contain windbreak trees and open farmland. Known to occur in the San Jacinto Valley but not recorded within 7 miles of the site. (CNDDB 2012)
Falco mexicanus	Prairie falcon	—	—	CDFG: CSC	Inhabits dry, open terrain, either flat or hilly. Breeding sites located on cliffs.	Covered	**Low Potential to Occur.** The study area contains marginally suitable foraging habitat but no suitable nesting habitat. Known to occur in the San Jacinto Valley but not recorded within 7 miles of the site. (CNDDB 2012)

Table 3 (cont.): Special Status Wildlife Species

Species		Status			Required Habitat	MSHCP Coverage	Potential to Occur / Known Occurrence / Suitable Habitat
Scientific Name	Common Name	Federal	State	Other			
Falco peregrinus anatum	Peregrine falcon	FD	SE	CDFG: FP	Nests near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds, and human-made structures. Nest consists of a scrape on a depression or ledge in an open site.	Covered	**Low Potential to Occur.** The study area contains marginal nesting habitat. Known to occur in the San Jacinto Valley but not recorded within 7 miles of the site. (CNDDB 2012)
Icteria virens	Yellow-breasted chat	—	—	CDFG: CSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Specifically nests in low, dense riparian vegetation, consisting of willow, blackberry, wild grape. Forages and nests within 10 feet of ground.	Covered	**Not Likely to Occur.** No riparian plant communities occur in the study area. Recorded approximately 5.5 miles northwest of the study area. (CNDDB 2012)
Lanius ludovicianus	Loggerhead shrike	—	—	CDFG: CSC	Inhabits broken woodlands, savannah, pinyon-juniper, Joshua tree and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Covered	**Present.** The study area contains flat, open area that is suitable foraging habitat but not suitable nesting habitat. Observed by MBA during previous surveys, approximately within the study area. (MBA 2012)
Plegadis chihi	White-faced ibis	—	—	CDFG: CSC	Rookery sites include shallow freshwater marshes. Nests in dense tule thickets interspersed with areas of shallow water for foraging.	Covered	**Not Likely to Occur.** No marshes or bodies of water occur in the study area. Recorded approximately 3 miles southeast of the study area. (CNDDB 2012)

Table 3 (cont.): Special Status Wildlife Species

Species		Status			Required Habitat	MSHCP Coverage	Potential to Occur / Known Occurrence / Suitable Habitat
Scientific Name	Common Name	Federal	State	Other			
Polioptila californica californica	Coastal California gnatcatcher	FT	—	CDFG: CSC	Obligate, permanent resident of coastal sage scrub below 2500 feet in southern California. Prefers low coastal sage scrub in arid washes and on mesas and slopes.	Covered	**Low Potential to Occur.** There is limited and sparse coastal sage scrub vegetation occurs in the study area. Recorded approximately 4 miles northwest of the study area. (CNDDB 2012)
Vireo bellii pusillus	Least Bell's vireo	FE	SE	—	Summer resident in low riparian vegetation in the vicinity of water or in dry river bottoms; below 2,000 feet. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, baccharis, and mesquite.	Covered	**Not Likely to Occur.** No riparian plant communities or significant riparian vegetation occur in the study area. Recorded approximately 3 miles northeast of the study area. (CNDDB 2012)
Mammals							
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	—	—	CDFG: CSC	Inhabits coastal scrub, chaparral, and grasslands. Prefers sandy, herbaceous areas, usually in association with rocks or coarse gravel.	Covered	**Low Potential to Occur.** Sandy to loamy soils occur in the study area; however the rocky, course gravel is not present. There are limited areas of RSS and chaparral and herbaceous areas are severely limited due to agricultural activities. Recorded approximately 1 mile north and south of the study area. (CNDDB 2012)
Dipodomys stephensi	Stephens' kangaroo rat	FE	ST	—	Primarily found in annual & perennial grasslands, but also occurs in coastal scrub and sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass, and filaree. Will burrow into firm soil.	Covered under SKRHCP	**Moderate Potential to Occur.** The study area contains areas similar to grasslands with very sparse canopy, but is heavily disturbed. Recorded approximately adjacent to the general study area on the west and south. (CNDDB 2012)

Table 3 (cont.): Special Status Wildlife Species

Species		Status			Required Habitat	MSHCP Coverage	Potential to Occur / Known Occurrence / Suitable Habitat
Scientific Name	Common Name	Federal	State	Other			
Lasiurus xanthinus	Western yellow bat	—	—	CDFG: CSC	Occurs in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats below 1,800 feet. Roosts in trees.	Not Covered	**Not Likely to Occur.** No riparian or native plant communities occur in the study area. Recorded approximately 3.5 miles southwest of the study area. (CNDDB 2012)
Lepus californicus bennettii	San Diego black-tailed jackrabbit	—	—	CDFG: CSC	Inhabits coastal sage scrub habitats. Specifically, intermediate canopy stages of shrub, open shrub, herbaceous and tree, and herbaceous edge habitats.	Covered	**Not Likely to Occur.** No native scrub or shrub vegetation occurs in the study area. Recorded approximately 7 miles east of the study area. (CNDDB 2012)
Onychomys torridus ramona	Southern grasshopper mouse	—	—	CDFG: CSC	Inhabits desert areas, especially scrub habitats with friable soils. Prefers low to moderate shrub cover. Feeds almost exclusively on arthropods, especially scorpions and orthopteran insects.	Not Covered	**Not Likely to Occur.** No shrub or scrub habitat occurs in the study area. Additionally, the site is regularly disturbed by disking. Recorded approximately 4 miles southeast of the study area. (CNDDB 2012)
Perognathus longimembris brevinasus	Los Angeles pocket mouse	—	—	CDFG: CSC	Inhabits lower elevation grasslands and coastal sage communities. Prefers open ground with fine sandy soils.	Covered	**Low Potential to Occur.** The sandy soils that occur in the study area are limited to existing drainages with the proper coastal sage communities. Three years of trapping did not produce any LAPM. Recorded approximately 3 miles south of the study area. (CNDDB 2012)
Taxidea taxus	American badger	—	—	CDFG: CSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats. Needs sufficient food, friable soils, and open, uncultivated ground. Preys on burrowing rodents.	Not covered	**Not Likely to Occur.** The study area contains limited amounts of vegetation and the ground is cultivated. Recorded approximately 8.5 miles northwest of the study area. (CNDDB 2012)

Table 3 (cont.): Special Status Wildlife Species

Species		Status			Required Habitat	MSHCP Coverage	Potential to Occur / Known Occurrence / Suitable Habitat
Scientific Name	Common Name	Federal	State	Other			

Federal
FE Federal Endangered
FT Federal Threatened
FSC Federal Species of Concern
PFT Proposed Federal Threatened
FC Candidate for Federal Listing
FD Delisted

State
SE State Endangered
ST State Threatened

Other
CDFG: CSC California Species of Concern
CDFG: FP Fully Protected Species
CDFG: P Protected Species

Not Likely to Occur - There are no present or historical records of the species occurring on or in the immediate vicinity (within 3 miles) of the study area and the diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the site.
Low Potential to Occur - There is a historical record of the species in the vicinity of the study area and potentially suitable habitat onsite, but existing conditions (e.g. density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation) substantially reduce the possibility that the species may occur. The site is above or below the recognized elevation limits for this species.
Moderate Potential to Occur - The diagnostic habitats associated with the species occur on or in the immediate vicinity of the study area, but there is not a recorded occurrence of the species within the immediate vicinity (within three miles). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.
High Potential to Occur - There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the study area (within 3 miles).
Species Present - The species was observed in the study area at the time of the survey or during a previous biological survey.

Federally Endangered Plant Species

Of the species listed in Table 2, two federally endangered plant species, San Jacinto Valley crownscale and slender-horned spineflower, were analyzed for their potential to occur in the WLCSP and offsite facilities. No evidence of these federally endangered plant species were found in the WLCSP and offsite facilities during reconnaissance-level surveys. In addition, no suitable habitat for this species occurs onsite due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. No additional federally endangered plant species were analyzed for their potential to occur in the WLCSP and offsite facilities because no additional federally endangered plant species are known to occur on or in the vicinity of the site. No suitable habitat was found in the WLCSP and offsite facilities to support other federally endangered plant species. Therefore, federally endangered plant species are not likely to occur in the WLCSP and offsite facilities. No impacts are anticipated.

Federally Endangered Wildlife Species

Four federally endangered wildlife species in Table 3 were analyzed for their potential to occur in the WLCSP and offsite facilities: Riverside fairy shrimp, southwestern willow flycatcher, least Bell's vireo, and Stephens' kangaroo rat. No evidence of any federally endangered wildlife species was found in the WLCSP and offsite facilities. Stephens' kangaroo rat is the only federally listed wildlife species potentially occurring onsite. Although no sign of Stephens' kangaroo rat was identified in the WLCSP and offsite facilities, it was determined that this species may range through the general area. This species is commonly found in ruderal and minimally disturbed areas. Low quality habitat was observed along existing roadsides. Since the WLCSP and offsite facilities is within the known range of this species, and low quality habitat was identified onsite, there is a moderate potential for Stephens' kangaroo rat to occupy some portion of the WLCSP and offsite facilities. There are potential adverse but not significant impacts to Stephens' kangaroo rat, since this species is covered under an existing HCP.

No suitable habitat for Riverside fairy shrimp, southwestern willow flycatcher, and least Bell's vireo, occurs onsite due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. No additional federally endangered wildlife species were analyzed in Table 3 for their potential to occur in the WLCSP and offsite facilities because no additional federally endangered wildlife species are known to occur on or in the vicinity of the site. No impacts are anticipated.

Federally Threatened Plant Species

One federally threatened plant species, thread-leaved brodiaea in Table 2 was analyzed for its potential to occur in the WLCSP and offsite facilities. No evidence of this federally threatened plant species was found in the WLCSP and offsite facilities. In addition, no suitable habitat for this federally threatened plant species occurs onsite due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. No additional

federally threatened plant species in Table 2 were analyzed for their potential to occur in the WLCSP and offsite facilities because no additional federally threatened plant species are known to occur on or in the vicinity of the site. No suitable habitat was found in the WLCSP and offsite facilities to support other federally threatened plant species. Therefore, federally threatened plant species are not likely to occur in the WLCSP and offsite facilities and no impacts are anticipated

Federally Threatened Wildlife Species

Coastal California gnatcatchers are known to occur within moderate to high quality coastal sage scrub in the vicinity of the WLCSP and offsite facilities. Some suitable habitat occurs onsite for coastal California gnatcatcher. There is marginal Riversidean sage scrub in the north near SR 60 and Gilman Springs Road and in the proposed Open Space Area adjacent to the LSSRA south of Brodiaea Avenue, west of Theodore Street and east of Redlands Boulevard. No additional federally threatened wildlife species in Table 3 were analyzed for their potential to occur in the study area. There are potential adverse but not significant impacts to coastal California gnatcatcher.

Federally Proposed Endangered, Proposed Threatened, Federal Candidate, and Federal Species of Concern

The USFWS has also developed several categories for sensitive species not yet determined to have reached endangered or threatened status. Generally, federally proposed endangered or threatened species are species considered unofficially endangered or threatened (i.e., final regulatory action formally listing such species has not yet occurred). Federal candidate species are species who are candidates for becoming listed as endangered or threatened, and federal species of concern are species whose numbers are considered low enough to have approached federal candidate status.

Protected Plant Species

No federal plant species of concern in Table 2 were analyzed for their potential to occur in the WLCSP and offsite facilities . No evidence of any federal plant species of concern was found in the WLCSP and offsite facilities. In addition, no suitable habitat for any federal plant species of concern occurs within the WLCSP and offsite facilities due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. No additional federal plant species of concern were analyzed in Table 2 for their potential to occur in the WLCSP and offsite facilities because no additional federal plant species of concern are known to occur on or in the vicinity of the site. Therefore, federal plant species of concern are not likely to occur in the WLCSP and offsite facilities, and no impacts are anticipated.

Protected Wildlife Species

There were no federal wildlife species of concern analyzed in Table 3 for their potential to occur in the WLCSP and offsite facilities. Only the western yellow-billed cuckoo was identified in Table 3. This species is not likely to occur in the WLCSP and offsite facilities and is also a covered species under the MSHCP.

No other evidence of any federal wildlife species of concern was found in the WLCSP and offsite facilities. In addition, no suitable habitat for any federal wildlife species of concern occurs within the WLCSP and offsite facilities due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. No additional federal wildlife species of concern were analyzed in Table 3 for their potential to occur in the WLCSP and offsite facilities because no additional federal wildlife species of concern are known to occur on or in the vicinity of the site. Therefore, federal wildlife species of concern are not likely to occur in the WLCSP and offsite facilities and there is no potential impact to federal species of concern.

California State Endangered Plant Species

Two California State endangered plant species in Table 2 were analyzed for their potential to occur in the WLCSP and offsite facilities: slender-horned spine-flower and thread-leaved brodiaea. No evidence of these State listed plant species was found in the WLCSP and offsite facilities. In addition, no suitable habitat for these State-listed plant species occurs within the WLCSP and offsite facilities due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. No additional State listed plant species were analyzed in Table 2 for their potential to occur in the WLCSP and offsite facilities because no additional State listed plant species are known to occur on or in the vicinity of the site. No suitable habitat was found in the WLCSP and offsite facilities to support other State listed plant species. Therefore, State listed plant species are not likely to occur in the WLCSP and offsite facilities and no impact would occur.

California State Endangered Wildlife Species

Four California State endangered wildlife species in Table 3 were analyzed for their potential to occur in the WLCSP and offsite facilities: western yellow-billed cuckoo, southwestern willow flycatcher, least Bell's vireo, and American peregrine falcon. No evidence of these California State endangered wildlife species was found in the WLCSP and offsite facilities. In addition, no suitable habitat for these California State endangered wildlife species occurs within the WLCSP and offsite facilities due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. No additional California State endangered wildlife species were analyzed in Table 3 for their potential to occur in the WLCSP and offsite facilities because no additional California State endangered wildlife species are known to occur on or in the vicinity of the site. No suitable habitat was found in the WLCSP and offsite facilities to support other California State endangered wildlife species. Therefore, California State endangered wildlife species are not likely to occur in the WLCSP and offsite facilities and no impact is anticipated.

California State Threatened Plant Species

No California State threatened plant species are known to occur on or in the vicinity of the project site. Additionally, no suitable habitat occurs within the WLCSP and offsite facilities for any California State threatened plant species. Therefore, no California State threatened plant species were

analyzed in Table 2 for their potential to occur in the WLCSP and offsite facilities and no impact is anticipated.

California State Threatened Wildlife Species

A single California State threatened wildlife species in Table 3 was analyzed for its potential to occur in the WLCSP and offsite facilities: Stephens' kangaroo rat. Although no sign of Stephens' kangaroo rat was identified in the WLCSP and offsite facilities, it was determined that this species may range through the general area. This species is commonly found in ruderal and minimally disturbed areas. Marginal habitat was observed along existing roadsides and within active pasture areas. Since the WLCSP and offsite facilities is within the known range of this species, and marginal habitat was identified onsite, there is a moderate potential for Stephens' kangaroo rat to occupy some portion of the WLCSP and offsite facilities.

No additional California State threatened wildlife species were analyzed in Table 3 for their potential to occur in the WLCSP and offsite facilities because no additional California State threatened wildlife species are known to occur on or in the vicinity of the site. No suitable habitat was found in the WLCSP and offsite facilities to support other California State threatened wildlife species. Therefore, except for the Stephens' kangaroo rat, California State threatened wildlife species are not likely to occur in the WLCSP and offsite facilities. Impacts to Stephens' kangaroo rat are not anticipated but any potential impacts would be adverse but not significant.

Special-Status Species

Special-status species are plant and wildlife species that have been afforded legal protection under the FESA, CESA, or any other local regulations, or are considered rare, threatened, or endangered by any other resource agency, or organization in the scientific community. As it pertains to the technical reports prepared by MBA for the project (focused surveys) and the biological resources section of this EIR, the following describes applicable classifications of special-status species not listed above for FESA and CESA.

California State Fully Protected Species

The classification of Fully Protected was California's initial effort in the 1960s to identify and provide additional protection to those animals that were rare or faced possible extinction. The list of fully protected species included fish, mammals, amphibians, reptiles, birds, and mammals. Most fully protected species are currently listed as threatened or endangered species under the more recent endangered species laws and regulations.

Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

California State Fully Protected Wildlife Species

Two California State Fully Protected wildlife species in Table 3 were analyzed for their potential to occur in the WLCSP and offsite facilities: white-tailed kite and American peregrine falcon.

No suitable nesting habitat for white-tailed kite or American peregrine falcon occurs within the WLCSP and offsite facilities due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. However, some marginal quality foraging habitat occurs within the WLCSP and offsite facilities. No additional California State fully protected wildlife species were analyzed in Table 3 for their potential to occur in the WLCSP and offsite facilities because no additional California State fully protected wildlife species are known to occur on or in the vicinity of the site. No suitable habitat was found in the WLCSP and offsite facilities to support other California State fully protected wildlife species. Therefore, California State fully protected wildlife species are not likely to occur in the WLCSP and offsite facilities and no impacts are anticipated.

California Rare Plants and Wildlife Species of Concern

California Species of Concern (CSC) applies to animals not listed under the FESA or CESA, but are declining at a rate that could result in federal or state listing or historically occur in low numbers and known threats to their persistence currently exist.

California Rare Plant Species

No California rare plant species are known to occur on or in the vicinity of the WLCSP and offsite facilities. Additionally, no suitable habitat occurs within the WLCSP and offsite facilities for any California rare plant species. Therefore, no California rare plant species were analyzed in Table 2 for their potential to occur in the WLCSP and offsite facilities. Eleven Special Status plant species were identified as potentially occurring within the WLCSP and offsite facilities. Three of the species (Plummer's mariposa lily, Robinson's pepper-grass, and San Bernardino aster are not covered by the MSHCP. Plummer's mariposa lily and Robinson' pepper-grass have a moderate to low potential to occur based on habitat type and soils requirements. These species were not identified during sensitive plant surveys. The potential habitat for these species is confined to RSS and sandy-rocky soils, which are confined to the proposed conservation area on the southwestern portion of the WLCSP. No impacts would occur to the species.

California Wildlife Species of Concern

Twenty one California Wildlife Species of Concern were analyzed in Table 3 for their potential to occur in the WLCSP and offsite facilities:

- Orange-throated whiptail
- Coast horned lizard
- Tricolored blackbird
- Northern red-diamond rattlesnake
- Western spadefoot
- Southern California rufous-crowned sparrow

- Bell's sage sparrow
- Ferruginous hawk
- Merlin
- Yellow-breasted chat
- White-faced ibis
- Western yellow bat
- Southern grasshopper mouse
- American badger
- Burrowing owl
- California horned lark
- Prairie falcon
- Loggerhead shrike
- Northwestern San Diego pocket mouse
- San Diego black-tailed jackrabbit
- Los Angeles pocket mouse

The WLCSP and offsite facilities contains suitable foraging habitat for loggerhead shrike, ferruginous hawk, merlin, prairie falcon, California horned lark, and burrowing owl. The WLCSP and offsite facilities contains no suitable nesting habitat for ferruginous hawk, merlin, or prairie falcon. Suitable ground-nesting habitat occurs within the WLCSP and offsite facilities for burrowing owl and California horned lark. Although no sign of burrowing owl was identified in the WLCSP and offsite facilities during focused surveys conducted in 2012, it was determined that this species may range through the general area. Several California horned larks and loggerhead shrikes were observed foraging within the WLCSP and offsite facilities.

No suitable habitat for western spadefoot, Bell's sage sparrow, yellow-breasted chat, white-faced ibis, western yellow bat, southern grasshopper mouse, and American badger occurs within the WLCSP and offsite facilities due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. The western yellow bat, southern grasshopper mouse and American badger are not covered under the MSHCP. However, since there is no suitable habitat, no impact is expected to occur. The remaining species are covered under the MSHCP and since there is no suitable habitat and the species are covered under the MSHCP, no impact is anticipated.

There is limited suitable habitat for orange-throated whiptail, northern red-diamond rattlesnake, coast horned lizard, southern rufous-crowned sparrow, northwestern San Diego pocket mouse, San Diego jack rabbit, Los Angeles pocket mouse in the WLCSP and Offsite Facilities. These species are generally associated with coastal sage scrub, which is extremely limited in the WLCSP to the north near SR 60 and Gilman Springs Road and in the proposed Open Space Area adjacent to the LSSRA between Theodore Street and Redlands Boulevard, just south of Brodiaea Avenue. Focused surveys for Los Angeles pocket mouse in 2005, 2010, and 20102 (MBA) were negative. The orange-throated whiptail is not covered under the MSHCP. There is extremely limited habitat for the orange-throated whiptail in an area that is currently proposed for inclusion in an open space area. There is no significant impact to the orange-throated whiptail. The other species mentioned are covered under the MSHCP. There is a low potential for these species to occur and no significant impact is anticipated.

No additional California State wildlife species of concern were analyzed in Table 3 for their potential to occur in the WLCSP and offsite facilities because no additional California Wildlife Species of Concern are known to occur on or in the vicinity of the site. No suitable habitat was found in the WLCSP and offsite facilities to support other California Wildlife Species of Concern. Therefore, except for the burrowing owl, loggerhead shrike and California horned lark, California Wildlife Species of Concern are not likely to occur in the WLCSP and offsite facilities.

California Native Plant Society

The California Native Plant Society (CNPS) is a non-profit organization whose collaborative efforts in research help maintain an inventory of rare and endangered plants that occur throughout California. The CNPS has developed their own classification system in defining the degree of endangerment for sensitive plant species that models that of the FESA and CESA. Plants considered to be rare, threatened, or endangered in California are designated as List 1B or List 2 plant species. Plants for which more information is needed to determine their status are designated List 3 species. Plants with limited distribution are designated as List 4 species.

CNPS Listed Plant Species

Eight CNPS List B plant species in Table 2 were analyzed for potential to occur in the WLCSP and offsite facilities: San Jacinto Valley crownscale, thread-leaved brodiaea, Plummer's mariposa lily, smooth tarplant, slender-horned spineflower, Coulter's goldfields, Robinson's peppergrass, and San Bernardino aster.

Two CNPS List 2 plant species, mud nama and Wright's trichocoronis in Table 2 were analyzed for potential to occur in the WLCSP and offsite facilities.

One CNPS List 3 plant species, Parry's spineflower in Table 2 was also analyzed for potential to occur in the WLCSP and offsite facilities.

No evidence of any CNPS List 1B, List 2, or List 3 plant species were observed in the WLCSP and offsite facilities. In addition, no suitable habitat for any of these species occurs within the WLCSP and offsite facilities due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, low quality non-native vegetation.

No additional CNPS List plant species were analyzed in Table 2 for potential to occur in the WLCSP and offsite facilities because no additional CNPS List plant species are known to occur on or in the vicinity of the site. No suitable habitat was found in the WLCSP and offsite facilities to support other CNPS List plant species. Therefore, CNPS List plant species are not likely to occur in the WLCSP and offsite facilities and no significant impact is anticipated.

Migratory Bird Treaty Act and Section 3503 of the State Fish and Game Code

The WLCSP and offsite facilities contains suitable nesting habitat for ground-nesting birds such as burrowing owl and horned lark. The large trees located adjacent to the remaining rural residential homes within the WLCSP and offsite facilities provide suitable habitat for other migratory birds and will be impacted by construction activities.

Raptor Foraging Habitat

The WLCSP and offsite facilities contains flat, open areas with sparse vegetation, which could be considered foraging habitat for some raptors species. Due to the regular, heavy disturbance associated with the various agricultural activities in the WLCSP and offsite facilities resulting in a rather limited prey base, and the limited size of the site in relation to the expansive foraging habitat in the near vicinity including both the CDFG Conservation Buffer Area and the SJWA, LSSRA and the extensive Badlands to the east, the foraging habitat onsite is considered marginally suitable and an adverse but not significant impact to raptor foraging habitat is anticipated.

Wildlife Movement Corridors

The WLCSP and offsite facilities contains no significant cover of native plant communities and currently experiences heavy disturbance associated with agricultural activities. Additionally, the WLCSP and offsite facilities is adjacent to SR-60 and Gilman Springs Road and is bordered by agricultural and residential development to the west. The nearest linkage area as identified under the MSHCP is Proposed Linkage 5 and is located approximately 3 miles north of the northern boundary of the WLCSP and approximately 3.6 miles south of the WLCSP is Proposed Constrained Link 20 (Exhibit 9). The development of the WLCSP and offsite facilities will not impede the movement of any wildlife; therefore, the proposed project will not impact any wildlife movement corridor.

Jurisdictional Waters

A formal jurisdictional delineation was conducted within the WLCSP and offsite facilities by MBA in September 2007 and March 2012. A total of 14 primary drainage features were identified during these combined surveys. A number of sub-drainages or tributaries were also identified. Jurisdiction for each drainage and/or sub-drainage or tributary was evaluated for jurisdiction under Section 404 and 401 of the CWA as administered by USACE and RWQCB, respectively; Porter Cologne is administered by the RWQCB; and Section 1600 of the Fish and Game Code as administered by CDFG.

Based on 2012 findings, none of the 14 features were determined to be jurisdictional waters of the U.S. under Section 404 and 401 of the CWA. No jurisdictional wetlands were identified. However, the USACE makes all final jurisdictional determinations.

Portions of Drainage 7 and 9 were determined to be jurisdictional under Section 1600 of the Fish and Game Code. There are approximately 8.54 acres of jurisdictional stream bed and bank found within

the WLCSP and offsite facilities. However, the CDFG makes all final Section 1600 jurisdictional determinations

Project components affecting stream bed and bank subject to CDFG jurisdiction, including riparian habitat, would require a Streambed Alteration Agreement (SAA) from CDFG.

The WLCSP also incorporates a number of potential offsite improvements. All offsite improvements east of Redlands Boulevard may potentially impact drainage features likely considered jurisdictional by USACE, RWQCB, and CDFG. Once these offsite improvements have been finalized, a project specific jurisdictional delineation will be required in order to document the existing conditions, potential impacts, and recommended mitigation measures.

Nesting Birds

The extensive agriculture plant communities in the WLCSP and offsite facilities provide suitable nesting habitat for ground-nesting avian species such as western meadowlark (*Sturnella neglecta*) and burrowing owl. Suitable habitat for shrub and tree nesting species such as red-tailed hawk, black phoebe (*Sayornis nigricans*), and house finch occur along the edges of existing development surrounding the WLCSP and offsite facilities as well as isolated, remnant patches of vegetation in undisturbed portions of the WLCSP and offsite facilities. Therefore, portions of the WLCSP and offsite facilities and immediately adjacent to the WLCSP and offsite facilities provide suitable nesting habitat for migratory birds protected under the MBTA and CFG Code

Stephens' Kangaroo Rat

The WLCSP and some offsite facilities border the Core Reserve Area for the Stephens' kangaroo rat Habitat Conservation Plan (HCP) to the south, but the area itself is not located within a core area. However, it is located within the fee area of the HCP. While no trapping for Stephens' kangaroo rat was completed by MBA, no sign of Stephen's kangaroo rat was identified during any of the surveys. No woodrats or kangaroo rats were trapped during the LAPM focused surveys conducted in 2005, 2010 or 2012. The primary species trapped was pocket mouse. With adherence to the SKRHCP's Implementing Agreement (IA) and payment of the County's per-acre mitigation fee, potential impacts are covered under an existing incidental take permit, and no further action is required.

The WLCSP and offsite facilities is located north of Core Reserve Area for Stephens' kangaroo rat but is not a part of the Core Reserve. Although this area will be subject to development, it is not close enough to the Core Reserve Area to be directly impacted and is not close enough to have any indirect impacts as well.

USFWS Designated Critical Habitat

No USFWS designated Critical Habitat for any species is present within the WLCSP and offsite facilities (Exhibit 8).

5.3 - CDFG Conservation Buffer Habitat Assessment Results

5.3.1 - Burrowing Owl

The CDFG Conservation Buffer area and surrounding land contains potentially suitable habitat for burrowing owl, such as flat, open, valley floor plains occupied by non-native grasslands, fallow fields, and agricultural lands. A focused burrow survey was completed in June 2012 and it was determined that no suitable burrows, coupled with suitable habit was present with the CDFG Conservation Buffer. No further surveys were conducted as no suitable nesting habitat was present.

The disked and fallow fields within the CDFG Buffer Area continues to provide suitable foraging habitat for burrowing owl. Therefore, this species is potentially present within selective portions of the CDFG Conservation Buffer area.

5.3.2 - Mammalian Species

Los Angeles Pocket Mouse

The CDFG Conservation Buffer does not contain suitable habitat for Los Angeles pocket mouse due to regular disturbance associated with agriculture, and the absence of fine sand soils coupled with suitable vegetation. Drainage Feature 9, which contains habitat for LAPM in the WLCSP with Riversidean sage scrub, changes to mule fat scrub at roughly the transition to the CDFG Conservation Buffer at Alessandro Road. This mule fat scrub habitat is not suitable for LAPM due to vegetation density. Based on this assessment and the fact the LAPM does not appear in areas with suitable habitat immediately north of the CDFG Conservation Buffer, this species is absent from the study area (Appendix C, Los Angeles Pocket Mouse Focused Surveys) and no impact is expected.

5.3.3 - Criteria Area Species

As with the WLCSP and Offsite Facilities, there is no potential for any of the Criteria Area Plant species to occur in the CDFG Conservation Buffer area and no impact is anticipated. This is further strengthened by the fact that no development or ground disturbance would occur in this portion of the project as a result of the WLCSP proposed actions.

- Mud nama (*Nama stenocarpum*)
- Little mousetail (*Myosurus minimus apus*)
- Coulter's goldfields (*Lasthenia glabrata* sub. *coulteri*)
- Thread-leafed brodiaea (*Brodiaea filifolia*)
- Davidson's saltscale (*Atriplex serenana davidsonii*)
- Parish's brittlescale (*Atriplex parishii*)
- San Jacinto valley crownscale (*Atriplex coronata notatior*)
- Round-leafed filaree (*Erodium macrophyllum*)
- Smooth tarplant (*Hemizonia pungens laevis*)
- Nevin's Barberry (*Mahonia nevinii*)

5.3.4 - Narrow Endemic Plant Species

An evaluation of the 6 Narrow Endemic Plant Species were listed below were assessed for their potential to occur on the CDFG Conservation Buffer area and it was determined that no suitable habitat existed and no ground disturbing activities are proposed. There will be no impact as a result of the project.

- San Diego ambrosia (*Ambrosia pumila*)
- Wright's trichocoronis (*Trichocoronis wrightii wrightii*)
- California orcutt grass (*Orcuttia californica*)
- Spreading navarretia (*Navarretia fossalis*)
- Many-stemmed dudleya (*Dudleya multicaulis*)
- Munz's onion (*Allium munzii*)

5.3.5 - Riparian/Riverine Habitat and Vernal Pools

The CDFG Conservation Buffer Area contains only mule fat scrub in the riparian/riverine plant community type. The mule fat scrub is isolated, disturbed, low in vegetative cover, and generally of poor habitat quality. It is associated with Drainage 9 exclusively. The mule fat scrub portions of the CDFG Conservation Buffer are poor in habitat quality due to the small size of the stands, the sparse vegetative cover within the communities, the isolation of the individual stands, and the disturbance from the adjacent agricultural uses. Given the above characteristics, riparian wildlife species have a low potential to occur; impacts to any of the mule fat scrub plant communities due to the development are not anticipated to have impacts on least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), or western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). Despite the absence of suitable habitat for federally and State listed threatened or endangered species that commonly occur in riparian habitat, this drainage feature is considered riparian/riverine areas under the MSHCP because of the presence of mulefat and the subsurface connectivity to offsite riparian areas downstream. Since no alterations to Drainage 9 are proposed no impact is anticipated to the riparian/riverine qualities of the drainage.

MBA also conducted a vernal pool habitat assessment of the CDFG Conservation Buffer area. As defined by the MSHCP, vernal pools are "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." No vernal pools or ephemeral ponds were observed in the CDFG Conservation Buffer area. In addition, no suitable habitat for any fairy shrimp species was identified within any of the CDFG Conservation Buffer area. No impacts are anticipated.

5.3.6 - Urban/Wildlands Interface Analysis

This section addresses the indirect effects associated with locating development in proximity to MSHCP Conservation Areas. The CDFG Conservation Buffer lies within a portion of Core Area H as a part of existing Public/Quasi Public Land within the SJWA (Exhibit 9). Most of the CDFG Conservation Buffer Area is currently disked and periodically planted in grain crops over the winter but are owned and operated as conservation land by the CDFG and SJWA. Approximately 194 acres within the CDFG Conservation Buffer area is a part of the SDG&E easement and lies outside of the existing core and outside of the SJWA. As with the CDFG lands, there are no proposed developments anticipated in SDG&E lands as this area as it lies outside of the WLCSP. Since the CDFG Conservation Buffer Area and SDG&E easement will not be subject to development by any action associated with the WLCSP, no separate analysis for the Urban/Wildlands will occur. Indirect impacts to the CDFG Buffer are discussed in Section 5.2.6.

5.3.7 - Migratory Corridors/Linkages

The CDFG Conservation Buffer area does not occur within or adjacent to an existing or proposed migratory corridor or linkage area, as designated by the MSHCP. The open agricultural uses that dominate the CDFG Conservation Buffer area do not contain substantial native vegetation and have little biological value. Since no development would occur within the buffer area, no potential impacts to migratory corridors within the CDFG Conservation Buffer would occur.

5.3.8 - Biological Compliance Issues Not Covered by the MSHCP

Background

Protected Plant and Wildlife Species

The material provided in Table 2 and Table 3 analyzes the potential for sensitive, federally listed, and state listed, plant and wildlife species to occur in the CDFG Conservation Buffer area as well as the WLCSP and Offsite Areas. The analysis was based on a compilation of the observations made during the reconnaissance-level surveys and the analyses in the technical studies for the CDFG Conservation Buffer area. The list of species analyzed is based on a search of the CDFG California Natural Diversity Database (CNDDB) listings within the Lakeview, Sunnymead, and El Casco, California, United States Geological Survey (USGS) topographic quadrangles, in addition to potentially occurring species identified by MBA biologists. The discussion below summarizes the findings of the Table 2 and Table 3 in relation to the State and federal species classifications.

Federally Endangered Plant Species

Of the species listed in the Table 2, two federally endangered plant species, San Jacinto Valley crownscale and slender-horned spineflower, were analyzed for their potential to occur in the CDFG Conservation Buffer Area. No evidence of these federally endangered plant species were found in the CDFG Conservation Buffer area during reconnaissance-level surveys or during focused sensitive plant surveys that occurred in 2005 and 2010 and no impact is anticipated.

Federally Endangered Wildlife Species

Four federally endangered wildlife species in Table 3 were analyzed for their potential to occur in the CDFG Conservation Buffer area: Riverside fairy shrimp, southwestern willow flycatcher, least Bell's vireo, Stephens' kangaroo rat. No evidence of any federally endangered wildlife species was found in the CDFG Conservation Buffer Area. Stephens' kangaroo rat is the only federally listed wildlife species potentially occurring onsite. Although no sign of Stephens' kangaroo rat was identified, it was determined that this species may range through the general area. This species is commonly found in ruderal and minimally disturbed areas such as the extreme southwestern corner of the CDFG Conservation Buffer Area. Low quality habitat was observed along existing roadsides. Since the CDFG Conservation Buffer area is within the known range of this species, and low quality habitat was identified onsite, there is a moderate potential for Stephens' kangaroo rat to occupy some portion of the CDFG Conservation Buffer area. Since there are no proposed activities proposed within the CDFG Conservation Buffer Area, no direct impacts are anticipated.

No suitable habitat for Riverside fairy shrimp, southwestern willow flycatcher, and least Bell's vireo, occurs onsite due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. No additional federally endangered wildlife species were analyzed in Table 3 for their potential to occur in the CDFG Conservation Buffer area because no additional federally endangered wildlife species are known to occur on or in the vicinity of the site and no impacts are anticipated.

Federally Threatened Plant Species

One federally threatened plant species, thread-leaved brodiaea in Table 2 was analyzed for its potential to occur in the CDFG Conservation Buffer Area. No evidence of this federally threatened plant species was found. No suitable habitat for this federally threatened plant species occurs onsite due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. No suitable habitat was found in the CDFG Conservation Buffer area to support other federally threatened plant species. Therefore, federally threatened plant species are not likely to occur in the CDFG Conservation Buffer Area and no impacts are anticipated.

Federally Threatened Wildlife Species

Coastal California gnatcatchers are known to occur within moderate to high quality coastal sage scrub in the vicinity of the CDFG Conservation Buffer Area. Limited suitable habitat occurs onsite for coastal California gnatcatcher, or any other federally threatened wildlife species. There is marginal Riversidean sage scrub along Davis Road in the extreme southwestern portion of the CDFG Conservation Buffer Area just to the west. No additional federally threatened wildlife species were analyzed in Table 3 for their potential to occur in the CDFG Conservation Buffer area. Since there are no proposed activities proposed within the CDFG Conservation Buffer Area, no direct impacts are anticipated.

Federally Proposed Endangered, Proposed Threatened, Federal Candidate, and Federal Species of Concern

The USFWS has also developed several categories for sensitive species not yet determined to have reached endangered or threatened status. Generally, federally proposed endangered or threatened species are species considered unofficially endangered or threatened (i.e., final regulatory action formally listing such species has not yet occurred). Federal candidate species are species who are candidates for becoming listed as endangered or threatened, and federal species of concern are species whose numbers are considered low enough to have approached federal candidate status.

Protected Plant Species

No federal plant species of concern in Table 2 have the potential to occur in the CDFG Conservation Buffer Area. No evidence of any federal plant species of concern was found in the CDFG Conservation Buffer Area. In addition, no suitable habitat for any federal plant species of concern occurs onsite due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. Therefore, federal plant species of concern are not likely to occur in the CDFG Conservation Buffer Area and no impacts are anticipated.

Protected Wildlife Species

No evidence of any federal wildlife species of concern was found in the CDFG Conservation Buffer Area. In addition, no suitable habitat for any federal wildlife species of concern occurs onsite due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. No additional federal wildlife species of concern were analyzed in Table 3 for their potential to occur because no additional federal wildlife species of concern are known to occur on or in the vicinity of the site. Therefore, federal wildlife species of concern are not likely to occur in the CDFG Conservation Buffer area and no impacts are anticipated.

California State Endangered Plant Species

Two California State endangered plant species were analyzed in Table 2 for their potential to occur in the CDFG Conservation Buffer Area: slender-horned spine-flower and thread-leaved brodiaea. No evidence of these State listed plant species was found. In addition, no suitable habitat for these State-listed plant species occurs due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. No additional State listed plant species were analyzed in Table 2 for their potential to occur because no additional State listed plant species are known to occur on or in the vicinity of the site. No suitable habitat was found in the CDFG Conservation Buffer area to support other State listed plant species. Therefore, State listed plant species are not likely to occur in the CDFG Conservation Buffer Area. Since there are no proposed activities proposed within the CDFG Conservation Buffer Area, no direct impacts are anticipated.

California State Endangered Wildlife Species

Four California State endangered wildlife species were analyzed in Table 3 for their potential to occur in the CDFG Conservation Buffer Area: western yellow-billed cuckoo, southwestern willow

flycatcher, least Bell's vireo, and American peregrine falcon. No evidence of these California State endangered wildlife species was found during the surveys. In addition, no suitable habitat for these California State endangered wildlife species occurs onsite due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. No suitable habitat was found in the area to support other California State endangered wildlife species. Therefore, California State endangered wildlife species are not likely to occur in the CDFG Conservation Buffer Area. Since there are no activities proposed within the CDFG Conservation Buffer Area, no direct impacts are anticipated.

California State Threatened Plant Species

No California State threatened plant species are known to occur on or in the vicinity of the CDFG Conservation Buffer Area. Additionally, no suitable habitat occurs onsite for any California State threatened plant species. Therefore, no California State threatened plant species were analyzed in Table 3 for their potential to occur in the CDFG Conservation Buffer area and no impacts are anticipated.

California State Threatened Wildlife Species

A single California State threatened wildlife species was analyzed in Table 3 for its potential to occur in the area: Stephens' kangaroo rat. Although no sign of Stephens' kangaroo rat was identified in the CDFG Conservation Buffer Area, it was determined that this species may range through the general area. This species is commonly found in ruderal and minimally disturbed areas. Marginal habitat was observed along existing roadsides and in the extreme southwestern portions of the CDFG Conservation Buffer Area. Since the area is within the known range of this species, and marginal habitat was identified onsite, there is a moderate potential for Stephens' kangaroo rat to occupy some portion of the CDFG Conservation Buffer area. Since there are no activities proposed within the CDFG Conservation Buffer Area associated with the WLCSP, no direct impacts are anticipated.

No additional California State threatened wildlife species were analyzed in Table 3 for their potential to occur area because no additional California State threatened wildlife species are known to occur on or in the vicinity of the site. No suitable habitat was found to support other California State threatened wildlife species. Therefore, except for the Stephens' kangaroo rat, California State threatened wildlife species are not likely to occur in the CDFG Conservation Buffer Area and no impacts are anticipated.

Special-Status Species

As discussed above, special-status species are plant and wildlife species that have been afforded legal protection under the FESA, CESA, or any other local regulations, or are considered rare, threatened, or endangered by any other resource agency, or organization in the scientific community. As it pertains to the technical reports prepared by MBA for the project (focused surveys) and the biological

resources section of this EIR, the following describes applicable classifications of special-status species not listed above for FESA and CESA.

California State Fully Protected Species

Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

California State Fully Protected Wildlife Species

Two California State Fully Protected wildlife species in Table 3 were analyzed for their potential to occur in the CDFG Conservation Buffer Area: white-tailed kite and American peregrine falcon.

No suitable nesting habitat for white-tailed kite or American peregrine falcon occurs onsite due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation. However, some marginal quality foraging habitat occurs onsite. Since no ground disturbing activities are proposed in the CDFG Conservation Buffer Area no loss of nesting habitat or foraging habitat will occur and no impact is anticipated.

California Rare Plants and Wildlife Species of Concern

California Species of Concern (CSC) applies to animals not listed under the FESA or CESA, but are declining at a rate that could result in federal or state listing or historically occur in low numbers and known threats to their persistence currently exist.

California Rare Plant Species

No California rare plant species are known to occur on or in the vicinity of the CDFG Conservation Buffer Area based on MBA's sensitive plant surveys. No impacts are anticipated since no disturbance is proposed.

California Wildlife Species of Concern

Twenty one California Wildlife Species of Concern were analyzed in Table 3 for their potential to occur in the CDFG Conservation Buffer area:

- Orange-throated whiptail
- Coast horned lizard
- Tricolored blackbird
- Bell's sage sparrow
- Ferruginous hawk
- Merlin
- Yellow-breasted chat
- White-faced ibis
- Northern red-diamond rattlesnake
- Western spadefoot
- Southern California rufous-crowned sparrow
- Burrowing owl
- California horned lark
- Prairie falcon
- Loggerhead shrike
- Northwestern San Diego pocket mouse

- Western yellow bat
- Southern grasshopper mouse
- American badger
- San Diego black-tailed jackrabbit
- Los Angeles pocket mouse

Like the WLCSP, the CDFG Conservation Buffer Area contains suitable foraging habitat for loggerhead shrike, ferruginous hawk, merlin, prairie falcon, California horned lark, and burrowing owl. The CDFG Conservation Buffer area contains no suitable nesting habitat for ferruginous hawk, merlin, and prairie falcon. Suitable ground-nesting habitat occurs onsite for burrowing owl and California horned lark. Although no sign of burrowing owl was identified during repeated focused surveys in the CDFG Conservation Buffer Area, it was determined that this species may range through the general area. Several California horned larks and loggerhead shrikes were observed foraging within the immediate vicinity of the CDFG Conservation Buffer Area. No suitable habitat for orange-throated whiptail, northern red-diamond rattlesnake, western spadefoot, Bell's sage sparrow, yellow-breasted chat, white-faced ibis, western yellow bat, southern grasshopper mouse, and American badger occurs onsite due to historic agricultural activities, recent periodic disking of the site, and dominance of sparse, non-native low-quality vegetation.

There is limited suitable habitat for coast horned lizard, southern rufous-crowned sparrow, northwestern San Diego pocket mouse, and San and Diego jack rabbit in the CDFG Conservation Buffer Area. These species are generally associated with coastal scrub, which is extremely limited in the Buffer Area to the extreme southwestern portion near Davis Road.

No additional California State wildlife species of concern were analyzed in Table 3 for their potential to occur in the CDFG Conservation Buffer area because no additional California Wildlife Species of Concern are known to occur on or in the vicinity of the site. No suitable habitat was found in the CDFG Conservation Buffer area to support other California Wildlife Species of Concern. Therefore, except for the burrowing owl, loggerhead shrike and California horned lark, California Wildlife Species of Concern are not likely to occur in the CDFG Conservation Buffer Area. No impacts are anticipated since no ground disturbance is proposed within the CDFG Conservation Buffer Area.

California Native Plant Society

As discussed above, the California Native Plant Society (CNPS) is a non-profit organization whose collaborative efforts in research help maintain an inventory of rare and endangered plants that occur throughout California. The CNPS has developed their own classification system in defining the degree of endangerment for sensitive plant species that models that of the FESA and CESA.

CNPS Listed Plant Species

Eight CNPS List B plant species were analyzed in Table 2 for potential to occur in the CDFG Conservation Buffer area: San Jacinto Valley crownscale, thread-leaved brodiaea, Plummer's

mariposa lily, smooth tarplant, slender-horned spineflower, Coulter's goldfields, Robinson's peppergrass, and San Bernardino aster.

Two CNPS List 2 plant species, mud nama and Wright's trichocoronis, were analyzed in Table 2 for potential to occur in the CDFG Conservation Buffer area.

One CNPS List 3 plant species, Parry's spineflower, was also analyzed in Table 2 for potential to occur in the CDFG Conservation Buffer area.

No evidence of any CNPS List 1B, List 2, or List 3 plant species were observed in the CDFG Conservation Buffer Area. Since no ground disturbing activities are proposed, no impacts are anticipated.

Migratory Bird Treaty Act and Section 3503 of the State Fish and Game Code

The CDFG Conservation Buffer area contains suitable nesting habitat for ground-nesting birds such as burrowing owl and horned lark. The large trees located adjacent to the SDG&E compressor facility provide suitable habitat for other migratory birds but these trees will not be impacted by construction activities or operational activities. The CDFG Conservation Buffer Area does fall within the 300 foot buffer for passerine birds and the 500 foot buffer raptors. The nesting bird surveys required for the WLCSP to comply with the MBTA and Section 3503 of the CFG Code would include those portions of the Conservation Buffer and any avoidance of species would encompass this area. With completion of the required surveys and associated avoidance measures, no significant impacts would occur.

Raptor Foraging Habitat

The CDFG Conservation Buffer Area contains flat, open areas with sparse vegetation, which could be considered foraging habitat for some raptors species. Although regular, heavy disturbance associated with the various agricultural activities has occurred in the past, the foraging habitat onsite is considered marginally suitable, but will not be impacted by the proposed action and could be enhanced as forage if agricultural disking ceases. No impact is anticipated and long-term changes to agricultural activities in the area could result in a beneficial impact.

Wildlife Movement Corridors

The CDFG Conservation Buffer Area contains very limited native plant communities and currently experiences heavy disturbance associated with agricultural activities. The Buffer area is adjacent Gilman Springs Road and is currently bordered by agricultural to the north and the SJWA and LPSRA to the south and west respectively. The nearest linkage area as identified under the MSHCP is Proposed Linkage 5 and is located approximately 4 miles north of the southern boundary of the WLCSP and approximately 3.0 miles south of the WLCSP is Proposed Constrained Link 20. Since there will be no development within the CDFG Conservation Buffer Area it will not impede the

movement of any wildlife; therefore, the proposed project will not impact any wildlife movement corridor and could maintain any movement of wildlife between the Badlands, LPSRA and SJWA.

Jurisdictional Waters

A formal jurisdictional delineation was conducted onsite by MBA in September 2007 and March 2012. A total of 6 primary drainage features were identified during these combined surveys that traverse the CDFG Conservation Buffer Area. Jurisdiction for each drainage and/or sub-drainage or tributary was evaluated for jurisdiction under Section 404 and 401 of the CWA as administered by USACE and RWQCB, respectively; Porter Cologne is administered by the RWQCB; and Section 1600 of the Fish and Game Code as administered by CDFG.

Based on 2012 findings, none of the 6 features were determined to be jurisdictional waters of the U.S. under Section 404 and 401 of the CWA. No jurisdictional wetlands were identified. Since there are no proposed actions in the CDFG Conservation Buffer Area under this proposal, no further jurisdictional determinations are necessary and no impact is expected.

Portions of Drainage 7 and 9 were determined to be jurisdictional under Section 1600 of the Fish and Game Code. Again, since there are no proposed developments within the CDFG Conservation Buffer Area no further jurisdictional determinations are required and no impact is expected.

Nesting Birds

The extensive agriculture plant communities in the CDFG Conservation Buffer Area provides suitable nesting habitat for ground-nesting avian species such as western meadowlark (*Sturnella neglecta*) and burrowing owl. Suitable habitat for shrub and tree nesting species such as red-tailed hawk, black phoebe (*Sayornis nigricans*), and house finch occur are limited with the CDFG Conservation Buffer Area. There is some potential at the SDG&E compressor facility and there are some isolated, remnant patches of vegetation in undisturbed portions of the CDFG Conservation Buffer area. Therefore, portions of the CDFG Conservation Buffer area and immediately adjacent to the CDFG Conservation Buffer area provide suitable nesting habitat for migratory birds protected under the MBTA and CFG Code. The CDFG Conservation Buffer Area does fall within the 300 foot buffer for passerine birds and the 500 foot buffer raptors. The nesting bird surveys required for the WLCSP to comply with the MBTA and Section 3503 of the CFG Code would include those portions of the Conservation Buffer and any avoidance of species would encompass this area. With completion of the required surveys and associated avoidance measures, no significant impacts would occur.

Stephens' Kangaroo Rat

The CDFG Conservation Buffer Area borders the Core Reserve Area for the Stephens' kangaroo rat Habitat Conservation Plan (HCP) to the south, but the area itself is not located within a core area. However, it is located within the fee area of the HCP. While no trapping for Stephens' kangaroo rat occurred and no sign of Stephen's kangaroo rat was identified during any of the reconnaissance

surveys conducted over the years. No woodrats or kangaroo mice were trapped during the LAPM focused surveys conducted in 2005, 2010 or 2012, which were conducted immediately to the north. The primary species trapped was pocket mouse. With adherence to the HCP's Implementing Agreement (IA) and payment of the County's per-acre mitigation fee, potential impacts are covered under an existing incidental take permit, and no further action is required.

The CDFG Conservation Buffer area is located immediately north of Core Reserve Area for Stephens' kangaroo rat but is not a part of the Core Reserve. This area will not be subjected to development because of its location in the SJWA and will serve as an additional buffer to the SKR Core Reserve. No impact is anticipated.

USFWS Designated Critical Habitat

No USFWS designated Critical Habitat for any species is present within the CDFG Conservation Buffer area (Exhibit 8).

5.4 - Offsite Analysis Zone Habitat Assessment Results

This habitat assessment examines potential indirect impacts associated with both construction and operations of the proposed facilities on the WLCSP lands. These studies are based on the potential for indirect impacts to the topics discussed below through a combination of literature reviews, aerial photograph interpretation and projects completed in some of the areas or adjacent areas. This portion of the survey effort is described as the 1,000-ft. buffer surrounding the survey area and is designated as the San Jacinto Wildlife Refuge and adjacent lands.

5.4.1 - Burrowing Owl

The SJWA and adjacent lands contains potentially suitable habitat for burrowing owl, with flat, open, valley floor plains occupied by non-native grasslands, fallow fields, and agricultural lands. While there is a possibility that nesting owls could be present, since suitable burrows are present and suitable habitat is present. Since these lands will not be directly impacted, no further studies to determine the presence of owls was completed. No impacts to either nesting or foraging habitat within the SJWA is anticipated.

5.4.2 - Mammalian Species

Los Angeles Pocket Mouse

Based on conditions in the WLCSP and the CDFG Conservation Buffer area, it is unlikely that LAPM would be present in the adjacent lands. The possibility has not been confirmed through trapping, however, since there would be no direct impacts to either habitat or species since no portion of the project would involve ground disturbance, no impacts to LAPM are expected. The SJWA proper is approximately 3,000 feet from the nearest location of the WLCSP development envelope.

5.4.3 - Criteria Area Species

As with the WLCSP and Offsite Facilities, there is no potential for any of the Criteria Area Plant species discussed earlier to occur on the adjacent lands within 1000 feet of the WLCSP or the CDFG Conservation Buffer area and since there would be no ground disturbance to these buffer area, no impacts are projected from construction of the proposed facilities.

Nitrogen deposition is the input of nitrogen oxide (NO_x) and ammonia (NH_3) derived pollutants, primarily nitric acid (HNO_3), from the atmosphere to the biosphere. Mechanisms by which nitrogen deposition can lead to impacts on sensitive species include direct toxicity, changes in species composition among native plants, and enhancement of invasive species (Fenn et al. 2003; Weiss 2006a). The increased dominance and growth of invasive annual grasses is especially prevalent in low-biomass vegetation communities that are naturally nitrogen-limited, such vegetation communities that occur in the project vicinity include coastal sage scrub and vernal pools (Weiss 2006a).

Vernal pools were identified by Weiss (2006a) as a California ecosystem that may be sensitive to nitrogen deposition. Nitrogen deposition in vernal pools stimulates plant growth (including non-native species in adjacent uplands) and is rapidly assimilated by plants and invertebrates within the pools to organic forms (biomass and dissolved organic nitrogen) (Hobson and Dahlgren 1998). Although non-native plant invasions have impacted the vernal pools in the region, invasions generally occur in years when precipitation is sparse. In wetter years, the number of non-native plants is reduced as the non-native upland species are intolerant of inundation and the invasion cycle may be reset in some cases. Therefore, it is anticipated that nitrogen deposition effects in the vernal pools and the surrounding vegetation are negligible based on concentrations and distance from the sources. Impacts to Criteria Area Species are considered adverse, but less than significant.

5.4.4 - Narrow Endemic Plant Species

As with the WLCSP and Offsite Facilities, there is no potential for any of the Criteria Area Plant species discussed earlier to occur on the adjacent lands within 1000 feet of the WLCSP or the CDFG Conservation Buffer area and since there would be no ground disturbance to these buffer area, no impacts are projected from construction or operation of the proposed facility. Impacts from nitrogen deposition on Narrow Endemic Plant Species are considered adverse, but less than significant.

5.4.5 - Riparian/Riverine Habitat and Vernal Pools

The SJWA and other adjacent areas contains 2 types of riparian vegetation: mule fat scrub and southern willow scrub. Both plant communities are isolated, disturbed, low in vegetative cover, and generally of poor habitat quality. Three drainage features and a small portion of one of the Duck Ponds lies within this indirect zone (Exhibit 6). One of the drainage features is on the east side of Gilman Springs Road within one of the proposed debris basins.

The mule fat scrub community in the adjacent area occurs intermittently within Drainage Feature 9 and upstream of a proposed debris basin associated with Drainage Feature 8. There is also a two small lobes of mule fat scrub in the extreme southeast of the CDFG Conservation Buffer and just north of Mystic Lake. These areas represent a total of 32.1 acres of mule fat scrub. The areas will not be disturbed and thus no impacts or disturbances are anticipated. The mule fat scrub portions are poor in habitat quality due to the small size of the stands, the sparse vegetative cover within the communities, the isolation of the individual stands, and the disturbance from the adjacent agricultural uses. Given the above characteristics, riparian wildlife species have a low potential to occur; impacts to any of the mule fat scrub plant communities due to the development are not anticipated to have impacts on least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), or western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). Despite the absence of suitable habitat for federally and State listed threatened or endangered species that commonly occur in riparian habitat, these drainage feature is considered riparian/riverine areas under the MSHCP because of the presence of mulefat and the subsurface connectivity to offsite riparian areas downstream.

Southern willow scrub occurs in a single isolated area that was artificially created to connect Mystic Lake to the Duck Ponds. This small, 6.8 acre, area is primarily comprised of a moderate density of trees with a few understory plants.

Southern willow scrub is typically considered suitable habitat for a number of wildlife species that commonly occur in riverine/riparian habitats throughout southern California. These wildlife species include sensitive avian species such as least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo. This basin is considered low in habitat quality because it is isolated, small in size, and lacks significant vegetation density. Given these characteristics, riparian wildlife species have a low potential to occur, and impacts to least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo are not anticipated. However, this basin is considered riparian/riverine habitat due to the presence of riparian vegetation and the loss of habitat may have to be evaluated.

MBA did not conduct a vernal pool habitat assessment of the SJWA and adjacent area. The only area that would potential be considered vernal pool is the area around the margin of the Duck Pond and the northern edge of Mystic Lake that occurs within the buffer. Potential impacts from nitrogen deposition would be adverse, but not significant due to concentrations and dispersal distance.

5.4.6 - Urban/Wildlands Interface Analysis

This section addresses the indirect effects associated with locating development in proximity to MSHCP Conservation Areas. The SJWA and LPSRA are within Core Area H as a part of existing Public/Quasi Public Land within the SJWA. The lands east of Gilman Springs Road are within Proposed Core 3. No development is anticipated in this area as it lies outside of the WLCSP. Since these areas will not be subject to development by any action, no separate analysis for the

Urban/Wildlands will occur. Impacts discussed for Toxics, particularly associated with air quality and health risks for wildlife were considered and represent an adverse, but less than significant impact based primarily on the distance of over 3,000 feet to the nearest portions of the SJWA and general wind directions that tend to blow the air to the southeast away from both the LPSRA and SJWA. Impacts to Proposed Core 3 adjacent to Gilman Springs Road would potentially be more severe with less distance between the plume and the fact that wind directions are more directly over the area.

Migratory Corridors/Linkages

The San Jacinto Wildlife Refuge and adjacent lands does not occur within or adjacent to an existing or proposed migratory corridor or linkage area, as designated by the MSHCP. The SJWA and the Proposed Core 3 would not be impacted by WLCSP activities and movement between the Badlands and LPSRA would not be impeded. Potential impacts to migratory corridors within the San Jacinto Wildlife Refuge and adjacent lands are not significant.

5.4.7 - Biological Compliance Issues Not Covered by the MSHCP

Nesting Birds

The extensive non-native grassland communities in the SJWA, LPSRA and the lands adjacent to Gilman Springs Road provide suitable nesting habitat for ground-nesting avian species such as western meadowlark (*Sturnella neglecta*) and burrowing owl. Suitable habitat for CSS, mule fat scrub and southern Willow shrub occurs scattered along the margins of the 1000 foot analytical area of the SJWA, LPSRA and Gilman Spring Road. These areas could support a number of nesting species such as red-tailed hawk, black phoebe (*Sayornis nigricans*), and house finch. Portions of the areas provide suitable nesting habitat for migratory birds protected under the MBTA and CFG Code; however, no changes to the existing condition is anticipated and no significant impacts are anticipated.

Stephens' Kangaroo Rat

The SJWA, and LPSRA are within the Core Reserve Area for Stephens' kangaroo rat. Based on the fact that no activities will occur in the SJWA or in LPSRA and there is the CDFG Conservation Buffer Area as further protection, no impacts are anticipated.

USFWS Designated Critical Habitat

No USFWS designated Critical Habitat for any species is present within the San Jacinto Wildlife Refuge and adjacent lands (Exhibit 8).

SECTION 6: HANS REVIEW

6.1 - The Relationship of the Project to the MSHCP Conservation Criteria

The HANS Process applies to property that may be needed for inclusion in the MSHCP Conservation Area or subjected to other MSHCP Criteria and shall be implemented by the County and those cities that have agreed to implement the HANS process. Under the MSHCP program, the Western Riverside County Regional Conservation Authority (RCA), the County, cities, or various State and Federal Agencies may obtain interests in property needed to implement the MSHCP over time (interest may be obtained in fee, conservation easement, deed restriction, land exchange, flood control easement or other type of interest acceptable to the RCA, the County, cities, acquiring State and/or Federal Agency, and property owner). If it is determined that all or a portion of property is needed for inclusion in the MSHCP Conservation Area, various incentives may be available to the property owner in lieu of or in addition to monetary compensation in exchange for the conveyance of a property interest. These incentives may include, but shall not be limited to, the waiver and/or reduction of certain development fees, monetary compensation for entering into an option agreement, fast track processing, density bonuses, clustering, density transfers (and property reassessment and tax credits if determined to be feasible). The incentives are intended to provide a form of compensation to property owners who convey their property. As a property interest is obtained, it will become part of the MSHCP Conservation Area.

The establishment of Criteria Area boundaries is intended to facilitate the process by which the County or cities will evaluate property that may be needed for inclusion in the MSHCP Conservation Area. The Criteria Area is an area significantly larger than what will be the MSHCP Conservation Area, within which property will be evaluated using MSHCP Conservation Criteria.

The Criteria Area is an analytical tool that assists in determining which properties to evaluate for acquisition and Conservation under the MSHCP and does not impose land use restrictions. The process ensures that an early determination will be made of what properties are needed for the MSHCP Conservation Area, that the owners of property needed for the MSHCP Conservation Area are compensated, and that owners of land not needed for the MSHCP Conservation Area shall receive Take Authorization for Covered Species Adequately Conserved through the Permits issued to the County and cities pursuant to the MSHCP.

Development of property outside of the MSHCP Conservation Area (both within and outside of the Criteria Area) shall receive Take Authorization for Covered Species Adequately Conserved provided payment of a mitigation fee is made (or any credit for land conveyed is obtained) and compliance with the MSHCP occurs. Payment of the mitigation fee and compliance with the requirements of the MSHCP are intended to provide full mitigation under CEQA, National Environmental Policy Act (NEPA), Federal Endangered Species Act, and California Endangered Species Act for impacts to the

species and habitats covered by the MSHCP pursuant to agreements with the US Fish and Wildlife Service, the California Department of Fish and Game and/or any other appropriate participating regulatory agencies and as set forth in the Implementing Agreement for the MSHCP.

The study area occurs within the Reche Canyon/Badlands Area Plan and falls within both the Badlands North Area Plan Subunit and the SJWA/Mystic Lake Area Plan Subunit. No existing or proposed linkage, or constrained linkage areas are in the near vicinity (Exhibit 9). Proposed Core 3 is located to the north and east of the study area and Existing Core H is located to the south. As shown in Table 4, portions of the study area fall within 12 Criteria Cells (Exhibit 10) all associated with existing or proposed core areas. Only three of the Criteria Cells fall within the boundaries of the WLCSP or proposed off site facility areas (1204, 1297, and 1364).

Ten Criteria Cells are within the CDFG Conservation Buffer Area (1297, 1364, 1370, 1377, 1386, 1389, 1390, 1477, 1483, and 1577) and would not be impacted by the WLCSP. They would be further protected by the General Plan Amendment and permanently set aside as openspace. The San Jacinto Wildlife Refuge and adjacent lands analysed for indirect impacts only and would not have any direct impacts that would be calculated in the HANS process.

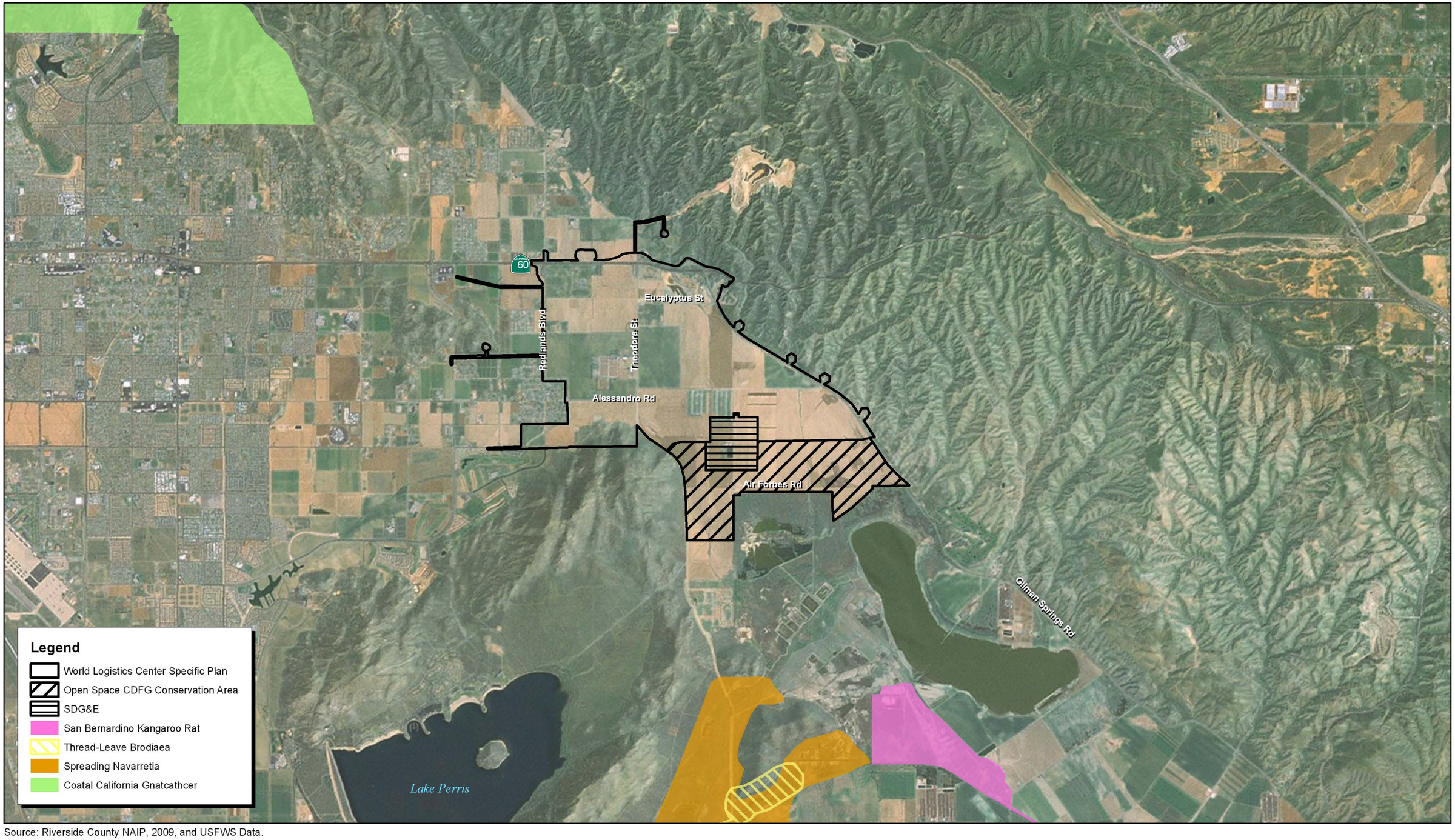
Table 4: Area Plan Subunit, Cell Group, and Criteria Cells within WLCSP, Offsite Facilities and the CDFG Conservation Buffer

Area Plan Subunit	Cell Group	Criteria Cells
Badlands North Area Plan Subunit 3	Cell Group E	1390
	Cell Group X	1297
		1204
San Jacinto Wildlife Area/Mystic Lake Area Plan Subunit 4	Cell Group D	1364
		1370
		1377
		1386
		1389
		1482
		1483
		1477
		1577

The portions of the study area within Cell Group D are within the SJWA/Mystic Lake Area Plan Subunit 4 and outside of the WLCSP boundary. This Cell Group supports Existing Core H. Approximately 929 acres of the study area occur within Cell Group D (Table 4). This portion within Cell Group D is located within the extended boundaries of the SJWA. This area is currently owned

by the State of California through a sale by Highland Fairview in 2001 and is now protected as Public/Quasi-Public Conserved Land under the MSHCP (Exhibit 9). Although this land cannot be used as MSHCP compensation for the proposed development, it was intended as and does provide a buffer area between the WLCSP area and the existing SJWA. The General Plan Amendment formalizes this situation.

The portions of the study area in Cell Groups E and X are within the Badlands North Area Plan Subunit 3. These Cell Groups support Proposed Core 3. Approximately 51 acres of the study area occurs within Cell Group E, a total of 1,108.5 acres occurs in Cell Group D and approximately 99.9 acres is within Cell Group X Table 4. Development of the WLCSP has the potential to impact 4.75 acres in Cell Group D and 99.9 acres in Cell Group X. No development would occur in Cell Group E. Any development adjacent to any of the cells and within the SJWA must incorporate measures to minimize edge effects. These areas and others along Gilman Springs Road and in the adjacent Lake Perris State Recreation Area will also be addressed under both MSHCP requirements under the Urban/Wildlands Interface and in a detailed indirect impacts discussion in Section 7.4.



Source: Riverside County NAIP, 2009, and USFWS Data.

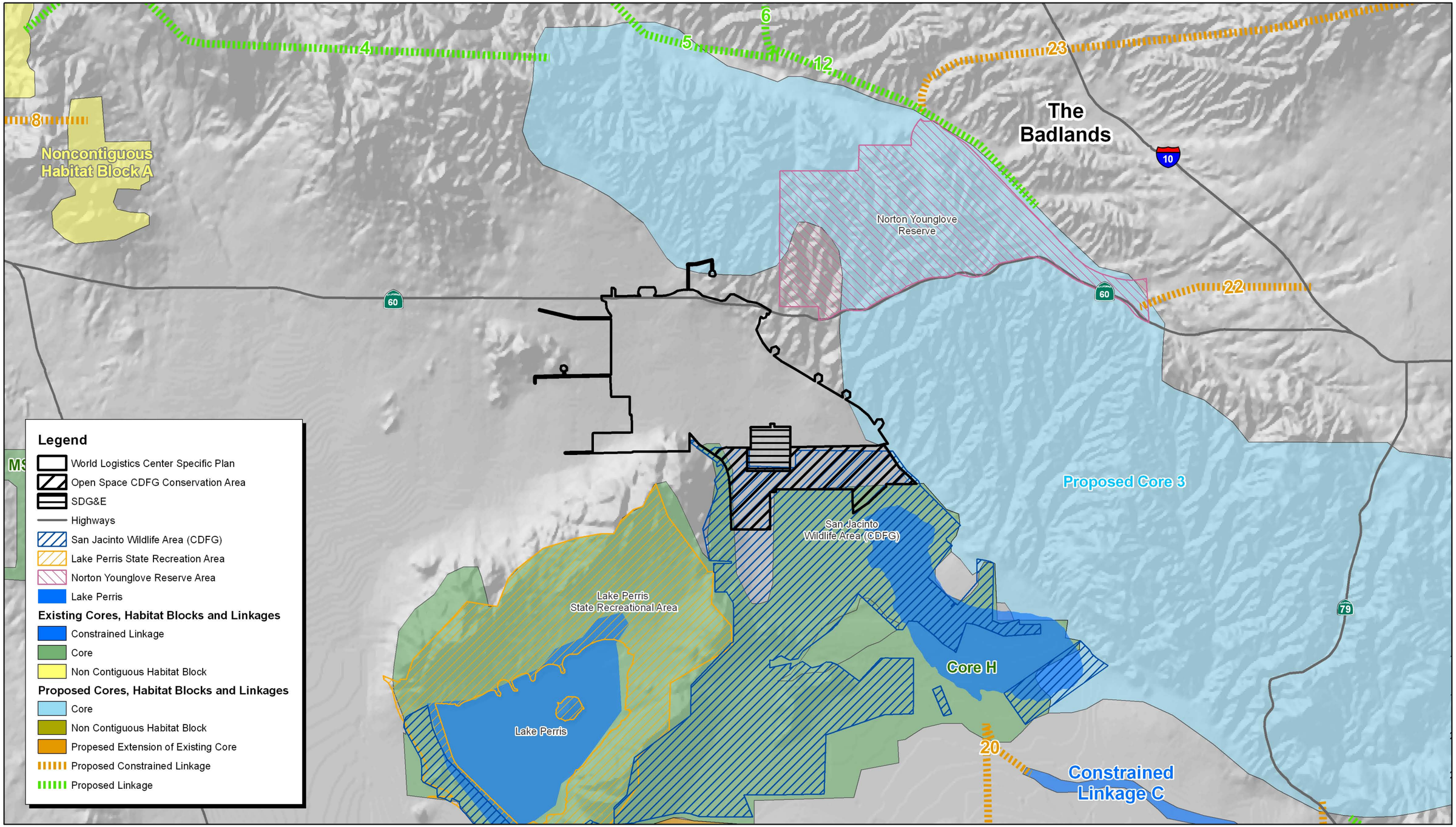
NORTH

1 0.5 0 1 Miles

Michael Brandman Associates

26100025 • 07/2012 | 8_critical_habitat.mxd

Exhibit 8
Critical Habitat Map



Source: USGS NED, Riverside County MSHCP, California Dept. of Fish and Game, Census 2000 data.

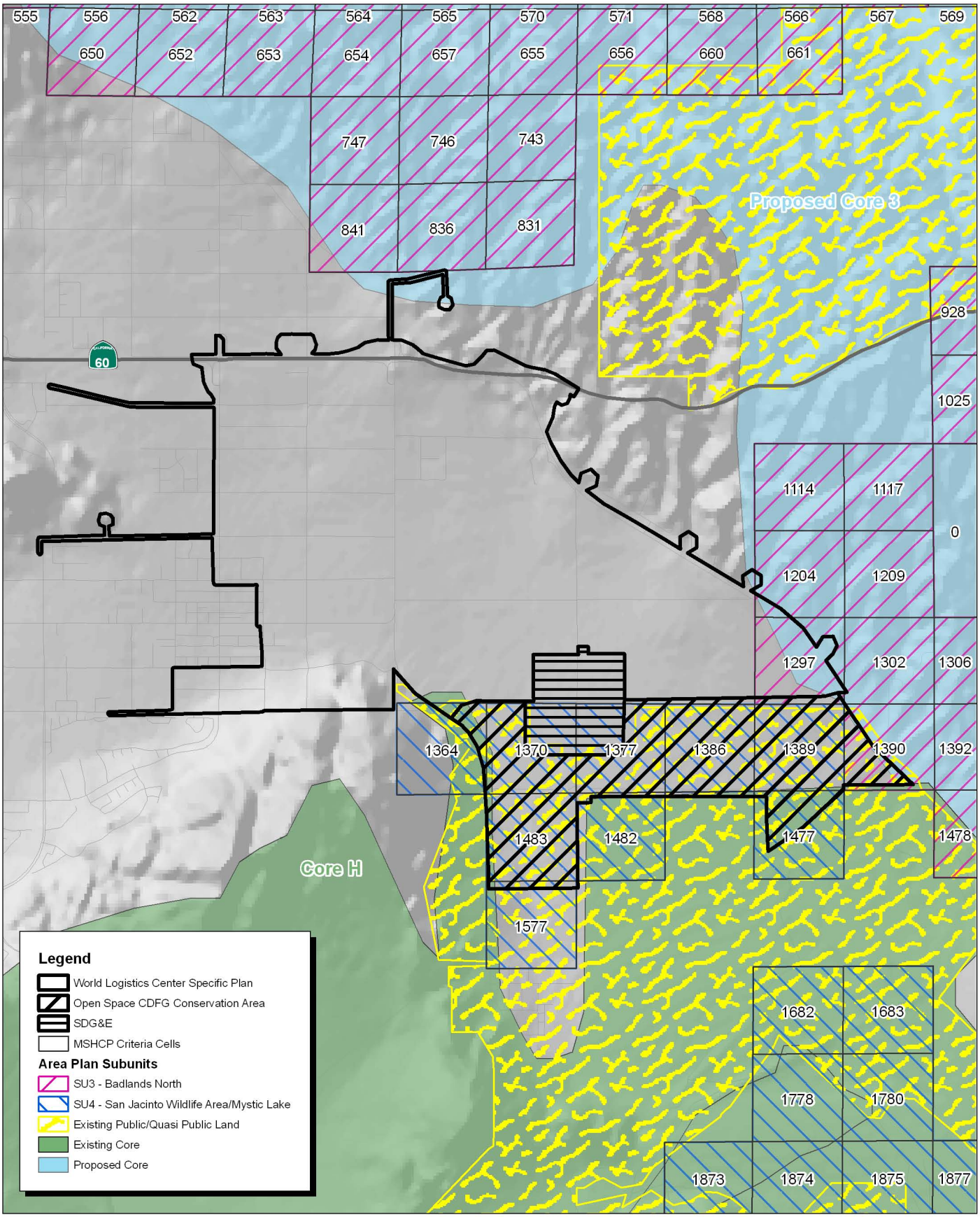
Michael Brandman Associates

NORTH

1.2 0.6 0 1.2 Miles

26100025 • 07/2012 | 9_regional_linkage.mxd

Exhibit 9
Regional Linkages Map



Source: USGS NED, Riverside County MSHCP, Census 2000 data.

Michael Brandman Associates

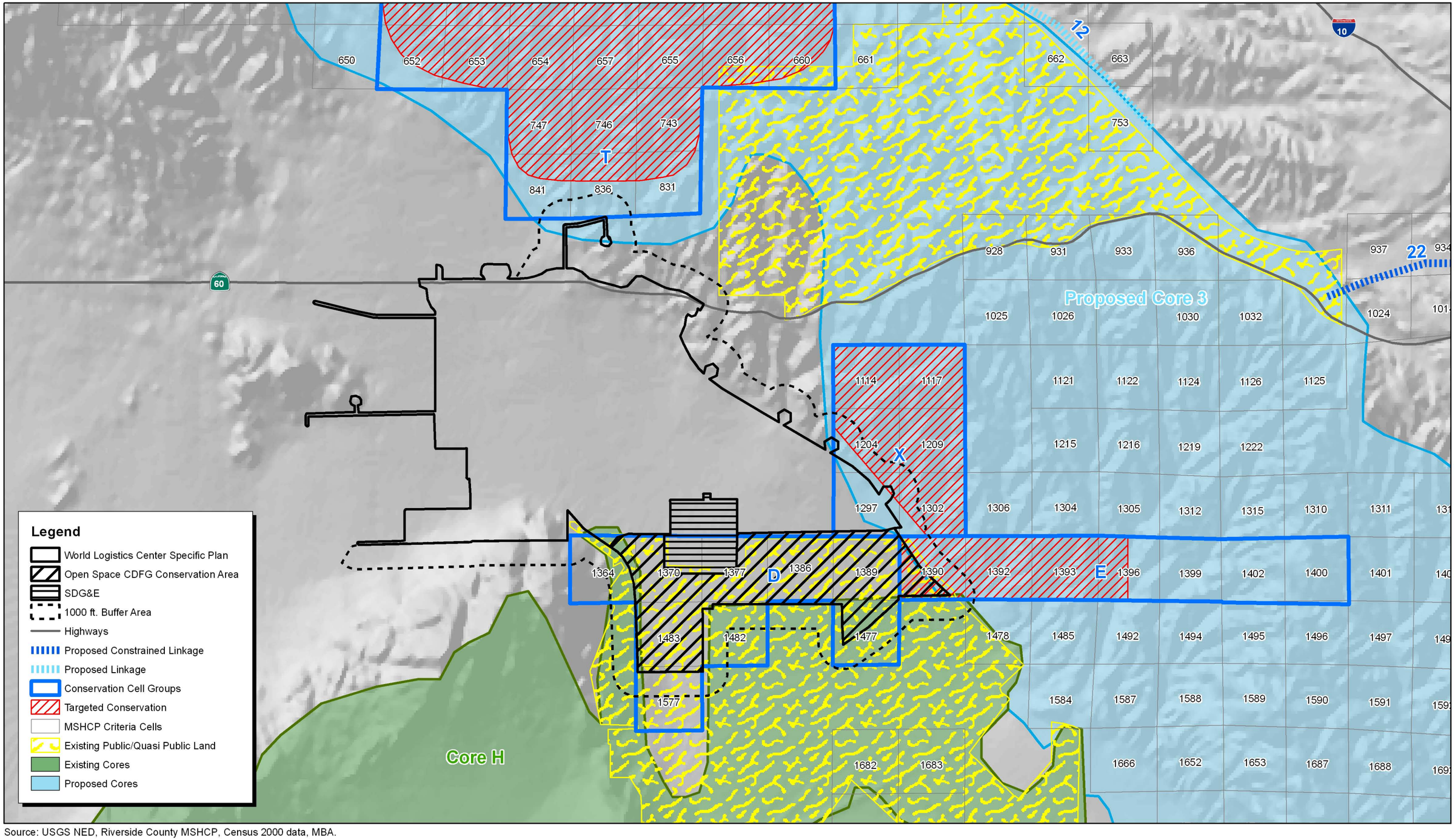
NORTH

4,000 2,000 0 4,000 Feet

Exhibit 10
MSHCP Criteria Areas Map

26100025 • 07/2012 | 10_mshcp_criteria_areas.mxd

HIGHLAND FAIRVIEW OPERATING COMPANY
WORLD LOGISTICS CENTER SPECIFIC PLAN
HABITAT ASSESSMENT, MSHCP CONSISTENCY ANALYSIS, AND HANS REVIEW



Source: USGS NED, Riverside County MSHCP, Census 2000 data, MBA.

Michael Brandman Associates

NORTH

4,000 2,000 0 4,000 Feet

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Exhibit 11
Target MSHCP Conservation Areas Map

6.1.1 - Reche Canyon/Badlands Area Plan

The Reche Canyon/Badlands Area Plan is in the northern portion of western Riverside County, south of the City of San Bernardino, west of the Pass Area Plan and the San Jacinto Valley Area Plan, north of the Mead Valley Area Plan and the Lakeview/Nuevo Area Plan, and east of the Highgrove Area Plan, the Cities of Norco and Riverside Area Plan, and the March Area Plan. The City of Moreno Valley sits entirely within the Reche Canyon/Badlands Area Plan. Additionally, the Planning Area incorporates lands within the LPSRA and SJWA. The Area Plan is separated into four Area Plan Subunits. The study area is located within portions of Area Plan Subunit 3: Badlands North and Area Plan Subunit 4: San Jacinto Wildlife Area/Mystic Lake.

The target conservation acreage range for the Reche Canyon/Badlands Area Plan is 30,815 to 35,905 acres; it is composed of approximately 20,295 acres of existing Public/Quasi-Public Lands and 10,520 to 15,610 acres of Additional Reserve Lands. The target acreage range within the City of Moreno Valley is 80 to 130 acres. The City of Moreno Valley target acreage is included within the 10,520 to 15,610 acre target conservation range on Additional Reserve Lands for the entire Area Plan. Based on the RCA Annual Report for 2011(Table 3), the City has already conserved 1030 acres and easily meets their conservation obligations under the MSHCP.

The study area includes approximately 883.1 acres of the SJWA, which is designated as Additional Reserve Land. All of this area is within the boundaries of the City of Moreno Valley and the conservation of this area will fulfill the target acreage range for the City.

Area Plan Subunit 3: Badlands - North

Area Plan Subunit 3 of the Reche Canyon/Badlands Area Plan includes lands within the northeastern and eastern portions of the Area Plan within the Badlands. Area Plan Subunit 3 contains a total of 88 Criteria Cells organized into 16 Cell Groups and 4 independent cells. The MSHCP conservation objectives for Area Plan Subunit 3 include conserving land within the Badlands area, north to the vicinity of SR-60, south to southeastern extent of the SJWA, west to the eastern boundary of the SJWA, and east to the Laborde Canyon vicinity. Target acreage range required for Additional Reserve Lands within Area Plan Subunit 3 is 8,270 to 10,895 acres. Plant and Wildlife Planning Species within Area Plan Subunit 3 include:

- Nevin's barberry
- Bell's sage sparrow
- Cactus wren
- Loggerhead shrike
- Southern California rufous-crowned sparrow
- Los Angeles pocket mouse
- San Bernardino kangaroo rat (*Dipodomys merriami parvus*)
- Stephens' kangaroo rat

- Bobcat (*Lynx rufus*)
- Mountain lion

Under the MSHCP, additional biological issues and considerations are proposed for conservation for each Area Plan Subunit. The biological issues and considerations emphasized in Area Plan Subunit 3 include:

- Conserving large habitat blocks in the Badlands.
- Maintain Core Area for bobcat.
- Maintaining core and linkage areas for mountain lion.
- Determining potential for populations of San Bernardino kangaroo rat along San Timoteo Creek.
- Maintain linkage area to SJWA for Stephens' kangaroo rat.
- Determine presence of potential Core Area for Los Angeles pocket mouse in San Timoteo Creek and tributaries to the Badlands.
- Maintain Core Area for Nevin's barberry.

The eastern boundary of the study area overlaps the boundary of Area Plan Subunit 3. The portions of the study area within Area Plan Subunit 3 are all along the southwestern edge of the Subunit and collectively comprise at most one percent of the target acreage range proposed for conservation. Since the Specific Plan area encroaches on a limited portion of the boundary of the Area Plan Subunit and since these portions of the study area are subject to existing edge effects, impacts from development are anticipated to be less than significant. Therefore, development of the study area does not conflict with the long-term conservation goals for bobcat or mountain lion or any of the other species listed above. The WLCSP and proposed offsite facilities do not provide habitat for the San Bernardino kangaroo rat, does not currently contain habitat for Stephens' kangaroo rat and does not currently support a population of Los Angeles pocket mouse or Nevin's barberry.

Cell Group E and Criteria Cell 1390

Conservation within Cell Group E will contribute to assembly of Proposed Core 3 and will focus on chaparral, coastal sage scrub, grassland, and Riversidean alluvial fan sage scrub habitat. Areas conserved within this Cell Group will be connected to habitat proposed for conservation in Cell Group X to the north, habitat proposed for conservation in Cell Group C also to the north, and to habitat proposed for conservation in Cell Group F to the south. Conservation within Cell Group E will range from 45 percent to 55 percent of the Cell Group focusing in the western portion.

Within the western-most portion of Cell Group E, and specifically within Criteria Cell 1390, the CDFG Conservation Buffer area encroaches on 51.9 acres. This portion of the study area is within the northeastern portion of the SJWA, which is Public/Quasi-Public Conserved Land and is designated as conserved by CDFG. Current plans call for a rezoning of this area but it is not included within the WLCSP Area and therefore with no development it would be consistent with the MSHCP. (Table 4).

Cell Group X: Criteria Cells 1204 and 1297

Conservation within Cell Group X will contribute to assembly of Proposed Core 3. Conservation within this Cell Group will focus on chaparral, coastal sage scrub, and grassland habitat. Areas conserved within Cell Group X will be connected to habitat proposed for conservation in Cell Groups C to the east, V to the northeast, and to chaparral and grassland habitat proposed for conservation in Cell Group E to the south. Conservation within Cell Group X will range from 65 percent to 75 percent of the Cell Group focusing in the northeastern portion of the Cell Group.

Within the southwestern portion of Cell Group X, and specifically within Criteria Cells 1204 and 1297, the WLCSP and one proposed debris basin encroaches on 114.2 acres of the cells. Under the MSHCP, conservation for Cell Group X is proposed for the northeastern portions of the Cell Group. The study area is not within the targeted conservation areas and, therefore, will not adversely affect the City/County's ability to achieve the goals of the MSHCP (Table 4).

Area Plan Subunit 4: San Jacinto Wildlife Area/Mystic Lake

Area Plan Subunit 4 of the Reche Canyon/Badlands Area Plan includes lands within the southeastern portions of the Area Plan within the SJWA. Area Plan Subunit 4 contains a total of 26 Criteria Cells organized into 3 Cell Groups and 12 independent cells. The MSHCP conservation objectives for Area Plan Subunit 4 include conserving land within the SJWA and Mystic Lake. The target acreage range required for Additional Reserve Lands within Area Plan Subunit 4 is 860 to 1,750 acres. Plant and Wildlife Planning Species within Area Plan Subunit 4 include:

- California Orcutt grass
- Los Angeles pocket mouse
- Smooth tarplant (*Hemizonia pungens*)
- Thread-leaved brodiaea
- Wright's trichocoronis
- Stephens' kangaroo rat
- Loggerhead shrike
- Northern harrier (*Circus cyaneus*)
- Peregrine falcon (*Falco peregrinus*)
- Tricolored blackbird (*Agelaius tricolor*)
- White-tailed kite (*Elanus leucurus*)
- Coulter's goldfields
- San Jacinto Valley crownscale
- Spreading navarretia
- Vernal barley (*Hordeum intercedens*)
- American bittern (*Botaurus lentiginosus*)
- Burrowing owl
- Bobcat
- Mountain plover (*Charadrius montanus*)
- Osprey (*Pandion haliaetus*)
- Prairie falcon (*Falco mexicanus*)
- White-faced ibis (*Plegadis chihi*)

- Black-crowned night heron (*Nycticorax nycticorax*)
- California horned-lark (*Eremophila alpestris actia*)
- Davidson's saltscale (*atriplex serenana* var. *davidsonii*)
- Double-crested cormorant (*Phalacrocorax auritus*)

The biological issues and considerations emphasized in Area Plan Subunit 4 include:

- Conservation of alkali playa and other habitat to augment existing conservation in the SJWA and Mystic Lake.
- Conservation of existing vernal pool complexes associated with the San Jacinto River floodplain in the SJWA and Mystic Lake area. Conservation should focus on vernal pool surface area and supporting watersheds.
- Provide for a connection of intact habitat between the SJWA and the adjacent Badlands to the north.
- Conservation of Willow-Domino-Travers soils supporting sensitive plants such as San Jacinto Valley crownscale, Davidson saltscale, Coulter's goldfields, spreading navarretia, vernal barley and Wright's trichocoronis.
- Provide for and maintain a continuous linkage along the San Jacinto River from the southern to the southeastern boundary of the Reche Canyon/Badlands Area Plan.
- Maintain linkage area for bobcat.
- Maintain a linkage area for Stephens' kangaroo rat to SJWA.
- Determine the potential presence of potential Core Area for Los Angeles pocket mouse in connection between the Badlands and the SJWA.

The CDFG Conservation Buffer Area is within Area Plan Subunit 4 and consists of grasslands and agricultural lands with minor constituents of Riversidean sage scrub and mule fat scrub conserved as part of the northern portion of the SJWA. The study area is not within or along the San Jacinto River floodplain, and does not contain any alkali playa habitat or vernal pool complexes under the definition provided by the MSHCP.

There is no Willow-Domino-Travers soil within the study area, therefore San Jacinto Valley crownscale, Davidson saltscale, Coulter's goldfields, spreading navarretia, vernal barley and/or Wright's trichocoronis are not likely to occur in the study area.

The study area is located immediately north of portions of the Stephens' kangaroo rat preserve within the SJWA. The portions of the study area adjacent to the preserve are currently subject to regular

disking and other disturbances associated with agricultural uses. The regular disturbances have resulted in limited suitable habitat for Stephens' kangaroo rat within the study area. The presence of a habitat linkage for this species within the study area is unlikely and population fragmentation is not anticipated.

Portions of the CDFG Conservation Buffer area contain suitable habitat for Los Angeles pocket mouse and burrowing owl. The results of MBA's focused surveys concluded that the study area does not currently support any Los Angeles pocket mouse or burrowing owl.

Cell Group D: Criteria Cells 1364, 1370, 1377, 1386, 1389, 1477, 1482, 1483, and 1577

Conservation within Cell Group D will contribute to assembly of areas proposed for conservation for Existing Core H. Conservation within Cell Group D will focus on agricultural land. Conservation within this Cell Group will be approximately 5 percent of Cell Group D focused on the southern and western portion of the Cell Group.

Within Cell Group D, the study area is within Criteria Cells 1364, 1370, 1377, 1386, 1389, 1477, 1482, 1483, and 1577. Only Criteria Cell 1364 with 4.75 acres in the northeast portion is within the WLCSP. Under the MSHCP, conservation for Cell Group D is proposed for the southern and western portions of the Cell Group. The CDFG Conservation Buffer area includes approximately 60 percent of the northern portion of the Cell Group; therefore, future development of the study area is consistent with the conservation goals for this cell group. The majority of Cell Group D is within the northern extent of SJWA, a Public/Quasi-Public Conserved Land. This area is designated as conserved by CDFG and, therefore, development of this portion of the study area would not be consistent with the MSHCP. No development is proposed on the portion of the study area as it is outside of the Specific Plan Area. The General Plan Amendment would change zoning on the area to an open space designation. Any development proposed in the Specific Plan Area adjacent to the SJWA must incorporate urban edge design features to minimize any potential impacts to the SJWA.

6.1.2 - Proposed Core 3

Proposed Core 3 (in Section 5, Western Riverside County MSHCP Consistency Analysis, 5.1, Overview) consists mainly of private lands but also contains a few Public/Quasi-Public parcels including De Anza Cycle Park, and functions as a Linkage, connecting the San Bernardino National Forest to the southwest with San Bernardino County and other conserved areas to the north of the Core. With a total acreage of approximately 24,920 acres, Proposed Core 3 is one of the largest MSHCP Core Areas. It is contiguous with Existing Core H (Lake Perris State Recreation Area [LPSRA]) and Existing Core K (San Jacinto Wildlife Area/Mystic Lake [SJWA]), thus greatly enlarging the functional area of the Core. Within the Core, important live-in and movement habitat is provided for Bell's sage sparrow (*Amphispiza belli*), loggerhead shrike (*Lanius ludovicianus*), cactus wren (*Campylorhynchus brunneicapillus*), Stephens' kangaroo rat, southern California rufous-crowned sparrow (*Aimophila ruficeps*), and mountain lion (*Puma concolor*), which have key

populations in the Badlands. Management of edge conditions will be necessary in the Badlands to maintain high quality habitat for these species in areas that may be affected by covered facilities including Lambs Canyon Road, San Timoteo Canyon Road, and Gilman Springs Road. The planning species for which habitat is provided within Proposed Core 3 include the following:

- Nevin's barberry
- Cactus wren
- Southern California rufous-crowned sparrow
- San Bernardino kangaroo rat
- Mountain lion
- Bell's sage sparrow
- Loggerhead shrike
- Los Angeles pocket mouse
- Stephens' kangaroo rat
- Bobcat

No significant impacts to any population of the above planning species are anticipated as a result of the implementation of the WLCSP or any of the proposed offsite improvements.

Minimizing edge effects are considered a significant goal of Proposed Core 3. Approximately 56 acres of the WLCSP occur within the western extent of Proposed Core 3. The portions of the Proposed Core 3 along Gilman Springs Road (generally on the east side of the road) are currently subject to significant edge effects associated with traffic, and the impacts caused by development of the WLCSP would not dramatically increase the edge exposure. Edge effects in these areas are not considered significant because development will be small and restricted to auxiliary infrastructure such as proposed debris basins. All development in the WLCSP will implement measures that minimize edge effects associated with urban development in wildlands. The minimization efforts are addressed in Section 5.2.6, Urban/Wildlands Interface Analysis, of this report.

The WLCSP is located adjacent to the junction of Proposed Core 3 and Existing Core H. Development would not impede the movement of wildlife or reduce the continuous area of the two cores, which are both goals of Proposed Core 3. Additionally, the portion of the WLCSP located adjacent to the junction of Proposed Core 3 and Existing Core H would occur outside of the boundaries and will remain undeveloped, facilitating connectivity between the two Cores.

The study area occupies less than 0.1 percent of Proposed Core 3 and no significant impacts to the goals of the Proposed Core 3 would occur.

6.1.3 - Existing Core H

Existing Core H is comprised of LPSRA, SJWA, private lands, and lands with pre-existing conservation agreements. It provides live-in habitat for several species, contains soils suitable for some Narrow Endemic plant species, supports vernal pool complexes and may provide a connection to Core Areas in the Badlands and the middle reach of the San Jacinto River. Maintenance of habitat quality, floodplain processes along the San Jacinto River, and conservation of vernal pool complexes

are important for the planning species. The Core Area provides potentially suitable live-in habitat for small rodents and common mammals.

Approximately 113.1 acres of the study area are located within the northern extent of Existing Core H, near the junction of Theodore Street and Alessandro Boulevard and within Criteria Cell 1364. The portion of the study area in Existing Core H contains potentially suitable habitat for small rodents, common mammals, and burrowing owl. No vernal pool complexes or floodplain processes occur on the study area and there is no suitable habitat for any narrow endemic plant species. A small portion (4.75 acres) of Existing Core H in Criteria Cell 1364 is within the WLCSP. The remaining 108.35 acres in Existing Core H will not be developed, as it is part of the SJWA and outside of the Specific Plan boundaries. The represents less than 0.2 percent of Existing Core H and no significant impacts to the goals of this core area would occur.

6.2 - Habitat Acquisition and Negotiation Strategy (HANS) Review

Portions of the study area are located within Criteria Cells as designated under the MSHCP. In general, if a project applicant's site falls within Criteria areas, the applicant is required to file a Habitat Acquisition and Negotiation Strategy (HANS) application, which includes a habitat assessment of their study area to determine if all or part of the property is necessary for inclusion in any MSHCP Conservation Areas. The City of Moreno Valley planning staff has 45 days to review the HANS application and respond with a letter of intent for the proposed project. The Western Riverside County Regional Conservation Authority (RCA), the County, cities, or various State and federal agencies must determine whether all or part of the property is needed for inclusion in a MSHCP Conservation Area. If it is determined that all or part of the property is needed, the property owner will enter into negotiations with the appropriate agencies to determine the extent of development allowed within the study area that will not significantly impact the function of the subject conservation areas. This section summarizes the location of the study area in relation to areas proposed for conservation by the Western Riverside MSHCP.

The WLCSP Area does not occur within any land that is targeted for long-term conservation within Cell Group X, or Cell Group E (all within Area Plan Subunit 3 of Proposed Core 3). However, the portion of the CDFG Conservation Buffer area that occurs within Cell Group D (within Area Plan Subunit 4 of Existing Core H) is located in the SJWA, an existing Public/Quasi-Public Conserved Land. This portion of the study area has been designated as conserved by CDFG and development of this area would not be consistent with the MSHCP and has not been proposed by the applicant.

6.2.1 - Anticipated Impacts

Development of the study area would not conflict with the conservation goals established by the MSHCP for Cell Group X or Cell Group E. In addition, no conflict from development would occur

in relation to the Reche Canyon/Badlands Area Plan, the Area Plan Subunit 4, the Area Plan Subunit 3, Proposed Core 3, or Existing Core H.

No development will occur in the portion of the study area that lies within Cell Group D and the SJWA, because it is already conserved with the exception of 4.75 acres within Criteria Cell 1364 adjacent to Theodore Road and Alessandro Boulevard. Additionally, any development in the Specific Plan Area that would occur adjacent to the SJWA property will incorporate urban edge design features to minimize any potential impacts to the SJWA as discussed in Section 7.4, Nesting Birds.

SECTION 7: IMPACT ASSESSMENT

The examination of the study area includes the WLCSP and Offsite Facilities, the CDFG Conservation Buffer Area that forms the southern margins of the study area and the San Jacinto Wildlife Refuge and adjacent lands, also referred to as the additional 1,000 ft. buffer beyond the margins of the study area to address potential indirect impacts considered under the MSHCP and in a CEQA analysis. The WLCSP; Offsite Facilities; and the CDFG Conservation Area are considered under a City of Moreno Valley General Plan Amendment. The 3,814-acre WLC project being evaluated in the EIR consists of three separate areas/land uses:

1. The World Logistics Center Specific Plan on 2,710 acres with 41.6 million square feet of logistics-related warehousing (2,636 acres of LD-logistics development, 29 acres of LL-light logistics, and 45 acres of Open Space);
2. The existing 1,085-acre California Department of Fish and Game (CDFG) property to be designated as permanent open space in the City; and
3. The existing 18-acre Moreno Compressor Plant and 1-acre natural gas facility to be designated as Public Facility in the City's General Plan.

Neither the CDFG Conservation Buffer Area nor the Moreno Compressor Plant would have an action under this analysis and no biological impacts would directly occur. These changes in land use under the General Plan Amendment are consistent with the MSHCP and no further analysis is needed. The changes, as well as any indirect impacts associated however would still have to be analyzed under the CEQA process.

The following recommendations begin with MSHCP species.

7.1 - Western Riverside County MSHCP Consistency

7.1.1 - Burrowing Owl

MBA biologists conducted burrowing owl focused surveys in 2005, 2006, 2007, 2010, and 2012 (Appendix D, Burrowing Owl Focused Surveys). The surveys were conducted according to the protocol established for western Riverside County, CDFG, and the Burrowing Owl Consortium, which requires a focused burrow survey and four presence/absence surveys between March 1 and August 31. A pair of burrowing owl was noted in the 2005 focused surveys within Drainage Area 4. No burrowing owl or sign of burrowing owl were observed in the study area during the subsequent focused surveys in 2006, 2007, 2010, and 2012.

However, burrowing owl were observed in 2008 as well as during an MBA site visit in March 2012 associated with the jurisdictional delineation (Crawford personal communication March 2012).

Therefore, portions of the study area are considered occupied, but this species is not considered a permanent resident within the survey area. The burrowing owl onsite have only been observed in the northwestern portion of the study area and are closely associated with earthen berms or banks of existing drainage features. Burrowing owl and burrowing owl burrows have not been found in the large open agricultural fields throughout the study area.

Because of the presence of suitable habitat onsite, a preconstruction survey will be required no more than 30 days prior to ground-disturbing activity associated with any of the proposed projects associated with the Specific Plan. Based on previous observations within the study area, no more than two pairs of burrowing have been observed during a single nesting season. As a result, the WLCSP, associated offsite facilities, and the GPA land use changes for the CDFG Conservation Buffer Area and the Moreno Compressor Plant are consistent with the long-term conservation goals of the MSHCP and no additional lands need to be conserved.

7.1.2 - Mammalian Species

Los Angeles Pocket Mouse

MBA biologists conducted focused surveys for Los Angeles pocket mouse in 2005, 2010, and 2012 (Appendix C, Los Angeles Pocket Mouse Focused Surveys). The surveys were conducted according to the established USFWS protocols for Pacific pocket mouse (*Perognathus longimembris longimembris*), a similar species. The current focused protocol requires trapping for 5 consecutive nights: conducted when the animal is active aboveground at night, during a new moon phase, if possible. No Los Angeles pocket mouse were observed in the study area during either of the focused surveys. Therefore, the area is unoccupied, and no further surveys are needed for development of the study area and the associated land use changes to be consistent with the long-term conservation goals of the MSHCP.

7.1.3 - Narrow Endemic Plant Species

Based on study area conditions of soil, hydrology, and vegetation communities, no Narrow Endemic plant species are anticipated to occur on the study area and no additional action is required to be consistent with the long-term goals of the MSHCP (MBA 2010).

7.1.4 - Criteria Area Plant Species

Based on study area conditions of soil, hydrology, and vegetation communities, no Criteria Area plant species are anticipated to occur on the study area and no additional action is required to be consistent with the long-term goals of the MSHCP (MBA 2010).

7.1.5 - Riparian/Riverine Areas and Vernal Pools

A single catch basin (Drainage Feature 14) and portions of Drainage Features 7, 8, and 9 contain riparian plant species and are hence considered riparian/riverine areas, as designated by the MSHCP. If impacts to these features cannot be avoided at the time of specific development, then a

Determination of Biologically Equivalent or Superior Preservation (DBESP) and associated mitigation will be required. The study area does not contain habitat suitable for covered riparian species, such as least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo.

No vernal pools or ephemeral ponds were observed on the study area and no suitable habitat for any fairy shrimp species was identified onsite. No additional mitigation regarding vernal pools or vernal pool species is recommended to be consistent with the long-term goals of the MSHCP.

7.2 - Urban/Wildlands Interface Guidelines

The CDFG Conservation Buffer area, the SJWA, and a 1000 foot buffer outside the boundaries of the WLCSP on the east and southwest are a part of the study area, but not a portion of the WLCSP. These lands are located on the southern and eastern portion of the study area and are generally undeveloped, minimally disturbed property that provides habitat for various resident and migratory wildlife species. This CDFG Conservation Buffer portion of the study area is currently subject to agricultural uses and is regularly disturbed by disking and related activities, but is not proposed for development. The 1,000 feet east of Gilman Springs Road is a combination of non-native grasslands and highly disturbed areas due to off-road vehicles and resultant erosion.

Due to disturbed nature of the majority of the surrounding undeveloped land, the potential for significant impacts related to the Urban/Wildlands Interface is greatly reduced. To further minimize any impacts to the SJWA, the disturbed open space to the east, and the active agricultural land to the south of the Specific Plan area, the MSHCP guidelines noted in Section 5.2.6, Urban/Wildlands Interface Analysis, of this report should be implemented. With these guidelines implemented, no significant impacts are likely to occur to the adjacent wildlands or the portion of the study area within the SJWA.

7.3 - Stephens' Kangaroo Rat

With adherence to the Stephens' kangaroo rat HCP's IA, payment of the County's per-acre mitigation fee impacts to the species through the loss of potential habitat are covered under an existing incidental take permit and no further action is required. The WLCSP and the CDFG Conservation Buffer Area is considered marginal habitat for SKR due to the amount of disturbance due to regular disking associated with past and current agricultural activities. The SJWA and Core Area H are a part of the SKR Core Area. Based on the current project description and the change of the CDFG Conservation Buffer Area to GPA designated open space, no direct or indirect impacts to the SKR Core Area are anticipated. Project specific analyses of potential impacts to the SKR Core should be undertaken with any proposed development within 1,000 feet of the SKR Core Area.

7.4 - Nesting Birds

The study area contains suitable nesting habitat for several tree-, shrub-, and ground-nesting avian species. Therefore, MBA recommends construction activities avoid the avian nesting season, from February to August, if possible. If construction activity must take place during the nesting season, a pre-construction nesting bird survey should be conducted prior to any ground disturbance activities. The survey can be conducted in conjunction with the pre-construction survey for burrowing owl.

If passerine birds are found to be nesting or if there is evidence of nesting behavior within 300 feet of the impact area, a 300-foot buffer will be required around the nest where no vegetation disturbance will be permitted. For raptor species such as hawks and owls, this buffer should be expanded to 500 feet. A qualified biologist will be required to closely monitor nests until it is determined that they are no longer active, at which time construction activity in the vicinity of nests could continue. Construction activity may proceed within the buffer area at the discretion of the biological monitor.

7.5 - Critical Habitat

No USFWS designated Critical Habitat for any species is located within the Study Area (Exhibit 8), therefore, no further action with regard to Critical Habitat is necessary.

7.6 - CEQA Thresholds of Significance

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether impacts to biological resources are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

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

Section 15065(a) of the CEQA Guidelines also states that a project may have a significant effect on the environment when "the project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal." Other significant impacts could include those that would conflict with local, state, or federal resource conservation plans, goals, or regulations.

7.7 - Project Impacts

Potential impacts to biological resources are discussed below, with reference to identified impact thresholds of significance.

7.7.1 - Federally Protected, California State Protected, and Special-Status Plant and Wildlife Species

Impact BIO-1:	**Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (Threshold a.)**

Stephens' Kangaroo Rat

The study area contains marginally suitable habitat for Stephens' kangaroo rat. Based on the known range of this species, project related activities have the potential to impact this species and its habitat. Stephens' kangaroo rat is protected under the federal and State ESA and any impacts to this species are considered significant. Potential impacts are considered significant and mitigation is provided.

Burrowing Owl

The study area contains moderately suitable habitat for burrowing owl. MBA conducted burrowing owl focused surveys in the study area in 2005, 2007, 2010, and 2012. The study area was determined to be unoccupied by burrowing owl at the time of all the focused surveys with the exception of 2005 and an incidental observation in 2012. This species has been recorded to occur within the survey area, but is not considered a permanent resident. Project-related activities could result in a significant impact on the species. Potential impacts are considered significant and mitigation is provided. The WLCSP is currently raptor foraging habit for not only burrowing owls, but also a variety of other raptors. The prey base is rather limited due to on-going agricultural practices that eliminate burrows for rodents. The CDFG Conservation Buffer area, similarly also has on-going agricultural practices

that presumably would cease in the future. The loss of foraging habitat associated with the development of the WLCSP would be gradual due to phased construction and the abundance of surrounding open lands associated with Core Area H and Proposed Core 3 should provide ample foraging lands for the existing raptor population.

Nesting Birds

The study area contains suitable nesting habitat for ground-, tree-, and shrub-nesting birds. The proposed project may have a permanent direct impact to nesting bird species protected by the MBTA and CFG Code. Potential impacts include direct impacts resulting from such activities as tree-trimming and removal, and indirect impacts resulting from such construction effects as noise and dust. Project-related impacts to loggerhead shrike and horned lark are limited impacts that would occur to nesting birds during the nesting season. Potential impacts are considered significant and mitigation is provided.

7.7.2 - Natural Habitats

Impact BIO-2:	**Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (Threshold b.)**

A single catch basin and portions of Drainage Features 7, 8, and 9 contain riparian plant species and are hence considered riparian/riverine areas, as designated by the MSHCP, as well as by CDFG and USFWS. If impacts to these features cannot be avoided at the time of specific development, then a Determination of Biologically Equivalent or Superior Preservation (DBESP) and associated mitigation will be required under MSHCP guidelines. The study area does not contain habitat suitable for covered riparian species, such as least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo.

No vernal pools or ephemeral ponds were observed on the study area and no suitable habitat for any fairy shrimp species was identified onsite. No additional mitigation regarding vernal pools or vernal pool species is recommended to be consistent with the long-term goals of the MSHCP. Potential impacts riparian habitat is considered significant and mitigation is provided.

7.7.3 - Jurisdictional Areas

Impact BIO-3:	**Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (Threshold c.)**

A total of 15 primary drainage features were evaluated for jurisdiction under Section 404 and 401 of the CWA as administered by USACE and RWQCB, respectively; Porter Cologne is administered by the RWQCB; and Section 1600 of the Fish and Game Code as administered by CDFG.

Only Drainage Feature 12 was determined to be jurisdictional waters of the U.S. under Section 404 and 401 of the CWA, as it connects with the Perris Drain which flows into Canyon Lake and the San Jacinto River. The remaining 14 drainage features onsite lack direct connectivity to any downstream navigable waters of the US or relatively permanent waters. The drainage features onsite also do not flow into any tributaries of the above-mentioned features. Therefore, 14 drainage features onsite are considered upland erosion features and are isolated from any downstream drainage features that are under the jurisdiction of the USACE. The eroded features onsite eventually sheet flow within the active agricultural areas or non-native grassland areas prior to flowing into Mystic Lake or San Jacinto River. No jurisdictional wetlands were identified.

Portions of two drainages were determined to be jurisdictional under Section 1600 of the Fish and Game Code. There are approximately 8.54 acres of jurisdictional stream bed and bank found within project boundary. Projects affecting stream bed and bank subject to CDFG jurisdiction, including riparian habitat, would require a stream alteration agreement (SAA) from CDFG.

The WLCSP also incorporates a number of potential offsite improvements. All offsite improvements east of Redlands Boulevard may potentially impact drainage features likely considered jurisdictional by USACE, RWQCB, and CDFG. Once these offsite improvements have been finalized, project specific jurisdictional delineations will be required in order to document the existing conditions, potential impacts, and recommended mitigation measures. Potential impacts are considered significant and mitigation is provided.

7.7.4 - Wildlife Movement, Corridors, and Nursery Sites

Impact BIO-4:	**Would the project 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? (Threshold d.)**

The proposed project is not anticipated to impact wildlife movement because urban and agricultural development surround the study area. The proposed project is not anticipated to impact any wildlife movement corridor because no corridor occurs on or directly adjacent to the study area. The closest corridor, or Linkage Area as identified by the MSHCP, is located approximately 3 miles north from the site and approximately 3.5 miles south of the site. Additionally, the proposed project is not anticipated to impact any nursery sites because no evidence of nursery sites was observed on or directly adjacent to the study area. No impact is anticipated.

7.7.5 - Policies or Ordinances Related to Biological Resources

Impact BIO-5:	**Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (Threshold e.)**

Table 5 below provides a discussion of the project's consistency with the City's land use goals and policies contained in the Existing General Plan and Municipal Code. As discussed in the table below,

the proposed project is generally consistent with all of the relevant land use policies and ordinances set forth in the Existing General Plan and in the Municipal Code if the project is also consistent with the MSHCP. Impacts under the MSHCP and SKR HCP are considered potentially significant and mitigation is provided.

Table 5: Existing General Plan and Municipal Code Consistency Analysis

Goals, Objectives, Policies, Ordinances		Project Consistency
City of Moreno Valley General Plan		
Objective 7.4	Maintain, protect, and preserve biologically significant habitats where practical, including the San Jacinto Wildlife Area, riparian areas, habitats of rare and endangered species, and other areas of natural significance.	No significant riparian or other biologically sensitive habitat is on or adjacent to the study area. The project is consistent with this objective.
Policy 7.4.1	Require all development, including roads, proposed adjacent to riparian and other biologically sensitive habitats to provide adequate buffers to mitigate impacts to such areas.	No significant riparian or other biologically sensitive habitat is on or adjacent to the study area. The project is consistent with this policy.
Policy 7.4.2	Limit the removal of natural vegetation in hillside areas when retaining natural habitat does not pose threats to public safety.	Limited stands of natural plant communities or stands of native vegetation occur in the study area within hillside areas. These areas are proposed as open space under the proposed action. The project is consistent with this policy.
Policy 7.4.3	Preserve natural drainage courses in their natural state and the natural hydrology, unless the protection of life and property necessitate improvement as concrete channels.	The study area contains 14 drainages and/or basins. As specific projects are designed within the WLCSP, consistency with the policy will have to be determined.
Policy 7.4.4	Incorporate significant rock formations into the design of hillside developments.	The study area is generally not a hillside area. Limited natural rock formations occur in a proposed open space area. The project is consistent with this policy,
Policy 7.4.5	The City shall fulfill its obligations set forth within any agreement(s) and permit(s) that the City may enter into for the purpose of implementing the Western Riverside County Multi-species Habitat Conservation Plan.	See Consistency with Chapter 3.48 of the City of Moreno Valley Municipal Code below.

Table 5 (cont.): Existing General Plan and Municipal Code Consistency Analysis

Goals, Objectives, Policies, Ordinances		Project Consistency
City of Moreno Valley Municipal Code		
Title 3 Revenue and Finance		
Chapter 3.48 MSHCP Fee Program (Ordinance 742 Section 1.1, 2007)	Establish a local development mitigation fee to assist in the maintenance of biological diversity and the natural ecosystem processes that support this diversity; the protection of vegetation communities and natural areas within the city and western Riverside County which are known to support threatened, endangered or key sensitive populations of plant and wildlife species; the maintenance of economic development within the city by providing a streamlined regulatory process from which development can proceed in an orderly process; and the protection of the existing character of the city and the region through the implementation of a system of reserves which will provide for permanent open space, community edges, and habitat conservation for species covered by the MSHCP.	MBA conducted an MSHCP Consistency Analysis for the proposed project in 2012 and found that the study area is within the MSHCP fee area. Impacts are potentially significant and mitigation is provided.
Title 8 Buildings and Construction		
Chapter 8.60 Threatened and Endangered Species (Ordinance 502 Section 2.1, 1996)	Adopt and require certain implementation measures as required by the SKRHCP, the Section 10(a) Permit and the Management Authorization; and to adopt and impose an impact and mitigation fee to provide funds to the Riverside County Habitat Conservation Authority to implement the terms of the SKRHCP.	The study area is located within the known range of SKR. The study area is also located within the SKRHCP fee area and not in the SKRHCP Core Reserve Area. Impacts are potentially not consistent; however mitigation is provided.
Sources: City of Moreno Valley General Plan, 2006; City of Moreno Valley Municipal Code.		

7.7.6 - Adopted HCP or NCCP

Impact BIO-6: **Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (Threshold f.)**

Western Riverside County MSHCP

The study area is located within the City of Moreno Valley, which is within the Reche Canyon/Badlands Area Plan of the MSHCP. As a participant of the Western Riverside County MSHCP, the City of Moreno Valley will only approve projects that are consistent with the goals of the MSHCP. MBA conducted an MSHCP Consistency Analysis for the proposed project and found

that the study area requires MSHCP participation. Impacts are considered potentially significant and mitigation is provided.

Stephens' Kangaroo Rat Habitat Conservation Plan

The study area contains marginally suitable habitat for Stephens' kangaroo rat and the species has a low potential to occur onsite. As stated previously, the study area is located within the boundaries of the SKRHCP fee area and not located within a SKRHCP Core Reserve Area. Because of the location of the study area within the SKRHCP fee area, impacts to the species are potentially significant. Impacts are considered potentially significant and mitigation is provided.

Other Issues

Roadkill

As development occurs within the WLCSP, some local wildlife will be injured or killed by the additional vehicles and trucks on SR-60, Gilman Springs Road, Redlands Boulevard north of Eucalyptus Avenue, and all internal WLCSP roads. There is no accurate way to quantify this impact, since there is no data on existing roadkill on these roadways. However, it is reasonable to assume this impact will increase linearly (from current levels) as WLCSP-related traffic increases. This impact is adverse, but less than significant.

Air Pollution/Diesel Exhaust.

The most significant potential environmental impact on local wildlife (i.e., within the SJWA) may be exposure to vehicular exhaust and especially diesel particulates and toxic air contaminants from truck exhaust as the WLCSP project builds out. New development will produce significant amounts of diesel-related air pollutants that will be released into the atmosphere, including gases and particles of various sizes.

Most of the available (and most applicable) research is on diesel pollutant impacts on humans. Although the physiology of many animals is very different than humans, data on health effects from diesel pollution is nonetheless instructive when attempting to assess diesel impacts on wildlife. Potential health effects on wildlife obviously depend on the species involved (Dudley and Stolton, 1995), but in general health effects from air pollution/diesel exhaust include impaired cardiac and lung or respiratory function (Gordon et al. 2012), reduced heart function or longevity, decreased clutch size or hatching success, increased incidence of cancer and other mutagenic or teratogenic effects, ingestion of air deposited particulates, reduction in overall biodiversity, reproductive failure, etc. In general, impacts on higher animals are most commonly attributed to food loss and reproductive effects, rather than to direct toxic effects on adults. There are relatively few examples of higher animals suffering direct toxic effects from either atmospheric acidity or gaseous air pollution. However, a number of mammals are known to build up high levels of heavy metals and other pollutants from air pollution.

Diesel emissions contain thousands of pollutant species, and the composition depends on the fuel, vehicle, and driving conditions (Constantini 2006). The main public health concerns are from fine and ultrafine particulate matter, black or elemental carbon, polyaromatic hydrocarbons (PAHs) like phenanthrene, metallic ashes, gases like nitrogen dioxide, aldehydes like acetaldehyde, acrolein, and crotonaldehyde, volatile organic compounds like benzene and 1,3-butadiene, etc. One of the research limitations is that some health effects from these pollutants take a long time, in some cases even a lifetime, to exhibit themselves. These pollutants can also be emitted from other sources, so in complex urban environments, it can be difficult to trace individual sources of air pollution. In this case, air quality is relatively good and the only major activity is agriculture, so the increase in most of these pollutant species would predominantly be the result of construction and new warehouse uses within the WLCSP. Research suggests that wildlife may be more susceptible to air pollutant impacts than humans, such as their smaller size, higher respiration rates, smaller lung capacities, ingestion of local plant materials that have also been exposed, higher metabolic rates, etc., although some factors like shorter life spans would reduce the length of exposure over time (Soloman et al. 1998). For the purposes of this analysis, it is assumed that animals within the SJWA may be susceptible to health effects from air pollution, including diesel exhaust.

In 2002, the U.S. Environmental Protection Agency (USEPA), compiled a wide range of scientific studies on the health effects of diesel exhaust, including non-carcinogenic effects of diesel exhaust on laboratory animals. Studies found that diesel particulate matter (DPM) had a limited effect on the survival and growth of rats and mice when exposed to DPM for short periods of time. However, rats, mice and hamsters all experienced increased lung to body-weight ratios when exposed to 1.5 mg/m^3 DPM concentrations for extended periods of time. Several studies looked at behavior effects in animals, and found that juvenile rats exposed to diesel emissions (DE) exhibited a decreased ability to move around on their own, and negatively affected their learning in adulthood.

Extended exposure to diesel emissions caused negative effects on the pulmonary functions of rats, hamsters, cats and monkeys. Depending on the species, DE levels of 1.5-11.7 mg/m^3 affected lung mechanical properties, diffusing capacity, lung volumes, and ventilator performance of the subject animal. The ability of rats to clear their airways was also severely impaired by diesel particulate matter (DPM) concentrations of 1 mg/m^3or greater. Data on the effect of DPM on airway clearance in other animals was limited, but the pathological effects of DPM seemed to be dependent on the relative rates of pulmonary deposition and clearance (rate of breathing) of the subject animal. The studies also showed that DPM can reduce an animal's resistance to respiratory infections. DPM can begin to impair an animal's immune system in as little as 2-6 hours with exposures of 5-8 mg/m^3 of DPM. The testing data also suggested that DPM may be a factor in increased allergic reactions in animals.

When comparing filtered versus non filtered DE, studies found that diesel particulates are the main cause of non-cancerous health effects. However, they could not determine if DPM acts additively

with the gas, or whether it combines with the gases to create different effects. The studies also found that other airborne contaminants (e.g., criteria pollutants) can be altered by DPM when absorbed by the diesel particles and increase the physical health effects caused by the DPM and other contaminants. These increased health risks were only found in laboratory settings. There was no evidence for DE interacting with other contaminants in normal urban atmospheric settings except for the impaired ability of animals to resist respiratory tract infections. No other non-cancerous effects were found in any of the studies.

Chapter 7 of the USEPA document includes studies that concluded diesel emissions also have carcinogenic effects on animals CARB and EPA 2005. Studies indicated that DE and/or DPM did result in increased cases of cancer in laboratory animals as well as humans. Rats experienced a trend of increased tumor growth when exposed to concentrations of DE exceeding $1x10^4$ mg*hr/m^3. Because tumors were induced at high concentrations it is believed that they are caused by the lungs experiencing particle overload. The studies also examined the effect of filtered exhaust and discovered that it did not cause tumors. They concluded that filtered exhaust either was not a carcinogenic or had low cancer potency. Lastly, they examined the effect of poorly soluble particles like black carbon, and concluded that long term exposure of high concentrations of these particles caused tumors, and that the carbon core was the main cause of the carcinogenic response.

In addition to pollutants associated with diesel trucks, passenger vehicles produce additional air pollutants including carbon monoxide, nitrogen oxides, particulates, etc. These pollutants will also have indirect impacts on wildlife resources of the SJWA and the areas east of Gilman Springs Road. Two impacts of most concern would be ozone degradation (e.g., plants having an unusual dry or “burned” look) and the deposition of additional nitrogen, both of which can disrupt plant growth cycles.

Direct air pollutant impacts on wildlife within the northern end of the SJWA will be reduced somewhat because prevailing winds are mainly to the southeast with the remainder mostly to the east (i.e., very little to the south), based on data from the project air quality study (MBA 2012). These easterly winds would have a potentially greater effect on wildlife east of Gilman Springs Road where the distance of travel would be less than 1,000 feet. However, some diesel and other project-related air pollutants will still be expected to disperse toward the SJWA, including both gases and particulates, from both trucks and passenger vehicles, when prevailing winds are absent.

There appears to be little academic or scientific research on the specific impacts of diesel air pollutant emissions on wildlife (i.e., not laboratory animals) in natural settings, or specific setbacks for wildlife protection areas from warehouse distribution centers or other sources of diesel pollution. Most available research is too limited or specific regarding the type of pollutant and/or the species considered to be impacted (e.g., impacts of one pollutant on one species). The portion of the SJWA adjacent to the WLCSP property is upland agricultural fields, which mainly support foraging birds,

including raptors. Indeed, the northern portion of the SJWA (CDFG Conservation Buffer Area) land serves as an existing buffer and it was acquired by the CDFG in 1994 for that purpose. Additional buffer areas imposed as mitigation are discussed below.

Based on available scientific data, it is reasonable to conclude that the proposed WLCSP project, due to its size and expected amount of truck traffic, will have potentially significant impacts on wildlife within the SJWA from project air pollution, including diesel truck exhaust.

Research by the California Air Resources Board (CARB) indicates that 80 percent of the particulates generally settle out of the atmosphere within 1,000 feet of emission sources. Therefore, diesel particulate deposition may occur within approximately 1,000 feet of truck activities within the WLCSP. This would limit most impacts to the CDFG Conservation Buffer Area and the areas adjacent to Gilman Springs Road. There are no established thresholds for air quality impacts on wildlife.

Buffer Distances

The MSHCP's urban/wildlands interface analysis encourages buffers between development and areas with sensitive biological resources. The SJWA is considered a very important resource due to its large number and diversity of birds and is a significant portion of Core Area H. Available research and MSHCP guidelines recommend a setback or a buffer between the north boundary of the SJWA and the south boundary of development within the WLCSP. No specific research has been done on the WLCSP-SJWA interface, but scientific and academic research can provide guidance on the appropriate width of such a buffer under these types of conditions. Typical setbacks to protect wildlife from human presence (though not warehousing) ranges from 50 to 500 feet, but 200-215 feet appears adequate for the most sensitive or valuable wetlands. As an example, Placer County has setback guidelines in its General Plan of a setback range of 100–400 feet between field crops and natural areas, and a setback range of 50-200 feet between rangeland/pastures and natural areas. In addition, the MSHCP and adopted guidelines of the USFWS and CDFG include a setback of 300 feet or more from nesting birds during construction activities. For example, typical burrowing owl mitigation says…"To adequately avoid active nests, no grading or heavy equipment activity shall take place within at least 250 feet of an active nest during the breeding season (February 1 through August 31) and 160 feet during the non-breeding season."

According to available research, a 250-foot "clear" setback (i.e., no human activity or improvements) appears to be adequate for a WLCSP-SJWA buffer (McElfish 2008). The protection this buffer will provide will be enhanced by any additional setback of buildings, and by the presence of the Conservation Area of the WLC planning area, which was originally purchased to provide a buffer between Mystic Lake and development in Moreno Valley. A minimum 250-foot setback is supported by a compilation of available academic and scientific literature and studies on wildlife impacts from diesel emissions, and also the distance established in nesting bird surveys for setbacks from human

activity. A total setback of 400 feet to WLCSP buildings will help provide an additional buffer from building lighting and noise. Together, two buffer areas totally 400 feet in width will effectively mitigate potential direct and indirect impacts on the SJWA to indirect noise, light and air quality impacts.

7.7.7 - Mitigation Measures

Feasible mitigation measures are required to minimize the potentially significant impacts identified above. Many of the mitigation measures set forth below are standard mitigation measures approved by the USFWS, CDFG, County of Riverside, and City of Moreno Valley.

Mitigation Measure for Impact BIO-1

MM BIO-1 Stephens' kangaroo rats have a low potential to occur within the study area. While the study area is not within the SKR Core Reserve Area, the SKR HCP Implementing Agreement requires payment for loss of habitat within defined areas. The entire study area lies within the fee area. An assessment of individual actions for development within the WLCSP would be required prior to any implementation. The number of acres of disturbance associated with the development and any offsite improvements shall require payment to comply with the SKR HCP.

MM BIO-2 A pre-construction clearance survey for burrowing owl shall be conducted by a qualified biologist no more than thirty (30) days prior to any grading or ground disturbing activities. This will satisfy mitigation required for Impacts BIO-1 and BIO-6.

If construction is to be initiated during the breeding season (February 1 through August 31) and burrowing owl is determined to occupy any portion of the study area during the 30-day pre-construction survey, consultation with the CDFG and USFWS shall take place and no construction activity shall take place within 500 feet of an active nest/burrow until it has been determined that the nest/burrow is no longer active, and all juveniles have fledged the nest/burrow. No disturbance to active burrows shall occur without appropriate permitting through the MBTA and/or CDFG.

If active burrowing owl burrows are detected outside the breeding season (September through January), or within the breeding season but owls are not nesting or in the process of nesting, passive relocation may be conducted following consultation with the CDFG and USFWS. Construction activity may occur within 500 feet of the active nests at the discretion of the biological monitor.

MM BIO-3 To avoid impacts to nesting birds covered under the MBTA, vegetation removal activities involving established perennial vegetation located in the urban/developed plant community shall be avoided during avian nesting season (February 15 through

August 31). If the nesting season cannot be avoided, a nesting bird survey shall be provided no more than thirty (30) days prior to vegetation removal activities. If no active nests are observed, construction activity may proceed with no further monitoring. If active nests are observed, a biological monitor shall be present during any construction activity within the vicinity of the nest. Construction activity may encroach with the vicinity of the nesting birds at the discretion of the biological monitor. Construction activity may proceed once the nestlings have fledged the nest. This will satisfy mitigation required for Impact BIO-1.

Mitigation Measures for Impacts BIO-2, and BIO-3

MM BIO-4 A DBESP shall be prepared to document measures to reduce impacts to riparian/riverine habitats in accordance with the MSHCP as well as CDFG and USFWS guidelines. The DBESP shall include specific measures to reduce impacts to riparian areas and provide mitigation in the form of on-site preservation of riparian areas and/or a combination of compensation through purchase and placement of lands with riparian/riverine habitat into permanent conservation through a conservation easement and/or restoration or enhancement efforts at offsite or on-site locations. This will satisfy mitigation required for Impacts BIO-2 and BIO-3 on a project by project basis as design information becomes available.

MM BIO-5 The applicant shall consult with USACE, CDFG and RWQCB to establish the need for permits based on the results of the 2012 jurisdictional delineation and final design plans for each of the proposed the facilities. Consultation with the three agencies shall take place and appropriate permits obtained. Compensation for losses associated with the altering of drainages on site shall be in agreement with the permit conditions and in coordination with compensation established in Mitigation Measure BIO-2. This will satisfy mitigation required for Impacts BIO-2 and BIO -3.

Mitigation Measures for Impacts BIO-6

MM BIO-6 Prior to issuance of a grading permit on each individual project, the applicant shall pay the mandatory mitigation fee for the SKR HCP. The mitigation fee is a per/acre fee based on the entire property footprint and is used to purchase land that contains occupied Stephens' kangaroo rat habitat for the purpose of conserving a large core population. This will satisfy mitigation required for Impacts BIO-1 and BIO-6.

Mitigation Measures for Impacts BIO-5 and BIO-6

MM BIO-7 Prior to issuance of a grading permit on each individual project, the applicant shall pay the mandatory mitigation fee for the MSHCP. The mitigation fee is a per unit fee based on a per cubic feet fee based on commercial or industrial development. This will satisfy mitigation required for Impact BIO-5 and BIO-6.

MM BIO-8 A total setback of 400 feet within the WLCSP for any permanent buildings shall be enforced on the southern and eastern boundary of the WLCSP. This setback shall provide provide an additional buffer from building lighting, noise, and air quality concerns. The 400 foot distance to buildings from the boundaries of the Specific Plan will effectively mitigate potential direct and indirect impacts on the SJWA and Criteria Cells to indirect noise, light and air quality impacts associated with both the construction and operation of the facilities. This will satisfy mitigation required for Impact BIO-5 and BIO-6.

7.7.8 - Level of Significance After Mitigation

Impact BIO-1:	**Federally Protected, California State Protected, and Special-Status Plant and Wildlife Species.**

Stephens' Kangaroo Rat

Less than significant.

The payment of the SKRHCP mitigation fee by the applicant will make the proposed project consistent with the SKRHCP and all impacts to Stephens' kangaroo rat will be fully mitigated. Therefore, with the implementation of Mitigation Measures BIO-1, potential impacts to Stephens' kangaroo rat would be minimized to a level considered less that significant.

Burrowing Owl

Less than significant.

The study area is currently not occupied by burrowing owl; however, the species has potential to occur on the site. Therefore, if Mitigation Measures BIO-2 and BIO-3 are implemented, then impacts to burrowing owl will be minimized to a level considered less than significant.

Nesting Birds

Less than significant.

If construction occurs during the breeding season, February 15 through August 31, then there is a potential to impact nesting birds protected under the MBTA and CFG Code. Therefore, if Mitigation Measure BIO-3 is implemented, then impacts to nesting birds will be minimized or avoided to a level considered less than significant.

Impact BIO-2:	**Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (Threshold b.)**

Less than significant.

The riparian/riverine analysis associated with the MSHCP would be in effect. As individual projects are proposed within the WLCSP and the Offsite Facilities, an analysis of impacts to the

riparian/riverine areas identified in this document would have to be examined. If impacts are a part of the design, a DBESP for riparian/riverine areas would be required and would be approved by the RCA and the resource agencies prior to implementation to any of the riparian/riverine areas. The DBESP would indicate avoidance measures through design, specific compensation for losses and locations for replacement.

Impact BIO-3: Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (Threshold c.)

No mitigation required

Impact BIO-4: Would the project 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? (Threshold d.)

No mitigation required.

Impact BIO-5 - Policies or Ordinances Related to Biological Resources

Less than significant.

The mandatory MSHCP mitigation fees must be paid prior to construction for MSHCP consistency. A pre-construction clearance survey for burrowing owl shall be required. If vegetation is scheduled to be removed during the nesting season, then a pre-construction nesting bird survey is required. For the proposed project to be consistent with the SKRHCP, the mandatory SKRHCP mitigation fees must be paid. Therefore, if Mitigation Measures BIO-2, BIO-3, and BIO-4, are implemented, then the project will be consistent with the MSHCP and SKRHCP, and impacts associated with the Existing General Plan and Municipal Code will be minimized to a level considered less than significant.

Impact BIO-6 - Adopted HCP or NCCP

Less than significant.

For the proposed project to be consistent with the MSHCP, the mandatory MSHCP mitigation fees must be paid prior to construction and a pre-construction clearance survey for burrowing owl will be required. If vegetation is scheduled to be removed during the nesting season, then a pre-construction nesting bird survey is required. For the proposed project to be consistent with the SKRHCP, the mandatory SKRHCP mitigation fees must be paid. Therefore, if Mitigation Measures BIO-2 and BR-BIO-4 are implemented, then the project will be consistent with the MSHCP and SKRHCP, and impacts to relevant Habitat Conservation Plans will be minimized to a level considered less than significant.

SECTION 8: CONCLUSION

A habitat assessment, MSHCP Consistency Analysis, and HANS Review was conducted for the 3,814-acre study area, inclusive of the WLCSP property and areas to be designated as open space under the General Plan Amendment located in the City of Moreno Valley, Riverside County, California.

Burrowing owls are considered present within specific portions of the study area. A pre-construction clearance survey is recommended prior to projects being implemented. If burrowing owls are present during initial project grading activities, passive relocation of the owls will be required.

Focused protocol surveys for Los Angeles pocket mouse conducted in 2005, 2010, and 2012 concluded that no Los Angeles pocket mouse are present in the study area.

One catch basin (Drainage Feature 14) and portions of Drainage Feature 7, 8 and 9 on the study area and within the Specific Plan Area are considered riparian/riverine areas, as defined by MSHCP. If impacts to any of these areas cannot be avoided during specific project implementation, a DBESP report and relevant mitigation will be required prior to the issuance of a grading permit.

The study area does not contain habitat suitable for sensitive riparian species, such as least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo. Additionally, no vernal pools or ephemeral ponds were observed on the study area and no suitable habitat for any fairy shrimp species was identified onsite.

The study area does not contain any wildlife movement corridors or linkages. Additionally, the study area does not contain suitable habitat for any Criteria Area plant species or Narrow Endemic plant species.

The study area is bordered by Proposed Core 3 to the east and by Existing Core H and SJWA to the south. Moreover, portions of the study area fall within the boundaries of all the aforementioned Conservation Areas. The portions of the study area within the SJWA are not anticipated for development. The remaining portions of the study area that are on or immediately adjacent to conservation areas will incorporate the design features and measures required to minimize potential development impacts to wildlands.

The majority of Cell Group D is within the northern extent of SJWA, a Public/Quasi-Public Conserved Land. This portion of the study area will remain in conservation thus reducing the potential impacts on the Cell Group and satisfying the City of Moreno Valley's Additional Reserve Lands acreage goal.

The study area occurs within the Stephens' Kangaroo Rat Habitat Conservation Plan fee area boundary, but not in the Core Area boundary. Since the study area occurs within the fee area only, a per-acre mitigation fee will be required. Prior to tree and shrub vegetation removal, a nesting bird survey is required if vegetation removal or any ground disturbing activities occur during the nesting bird season.

Adherence with the above recommendations (and resulting additional actions, if required) and acceptance of the proposed project by the City of Moreno Valley and the RCA would fulfill requirements for biological resources pursuant to CEQA, FESA, CESA, and the MSHCP and development of the 3,814-acre property would be consistent with the Western Riverside County MSHCP.

SECTION 9: CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: _____ Signed: _____

Kenneth J. Lord, Ph.D.,
Director of Natural Cultural Resources
Michael Brandman Associates
Irvine, CA

SECTION 10: REFERENCES

American Ornithologists' Union. 1983 (and supplements 1985, 1987, 1989, 1991, 1993, and 1995). The A.O.U. Check-List of North American Birds. 6th ed. Allen Press. Lawrence, Kansas.

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D. H. Wilken, editors 2012. The Jepson Manual: Vascular Plants of California. Second Edition. University of California Press Berkeley.

Bennett, A.F., 1990. Habitat corridors: Their role in wildlife management and conservation. Arthur Rulah Institute for Environmental Research. Department of conservation and environment, Melbourne.

Burt, W.H., and Grossenheider, R.P. 1980. Peterson Field Guides, Mammals. Houghton Mifflin Company. New York, New York.

Cal IPC. 1999. Exotic Pest Plants of Greatest Ecological Concern in California. California Invasive Plant Council. 1999.

California Department of Fish and Game (CDFG). 1988a. California's Wildlife, Volume I: Amphibians and Reptiles. State of California Resources Agency. Sacramento, California.

California Department of Fish and Game (CDFG). 1988b. California's Wildlife, Volume II: Birds. State of California Resources Agency. Sacramento, California.

California Department of Fish and Game (CDFG). 1988c. California's Wildlife, Volume III: Mammals. State of California Resources Agency. Sacramento, California.

California Department of Fish and Game (CDFG). 2003. Natural Communities List. The Resources Agency of California, Department of Fish and Game, Natural Diversity Data Base. Sacramento, California. September.

California Department of Fish and Game (CDFG). 2011. Endangered and Threatened Animals List. The Resources Agency of California, Department of Fish and Game, Natural Heritage Division, Natural Diversity Data Base. Sacramento, California. October.

California Department of Fish and Game (CDFG). 2011. Special Animals List. The Resources Agency of California, Department of Fish and Game, Natural Heritage Division, Natural Diversity Data Base. Sacramento, California. October.

California Department of Fish and Game (CDFG). 2012. Endangered, Threatened, and Rare Plants. The Resources Agency of California, Department of Fish and Game, Natural Heritage Division, Natural Diversity Data Base. Sacramento, California. October.

California Department of Fish and Game (CDFG). 2012. RareFind 4 personal computer program. Data Base Record Search for Information on Threatened, Endangered, Rare, or Otherwise Sensitive Species for the Lakeview, Sunnymead, and El Casco, California, USGS Topographic Quadrangles. California Department of Fish and Game, State of California Resources Agency. Sacramento, California.

California Department of Fish and Game (CDFG). 2012. Special Vascular Plants, Bryophytes, and Lichens List. The Resources Agency of California, Department of Fish and Game, Natural Heritage Division, Natural Diversity Data Base. Sacramento, California. October.

California Native Plant Society (CNPS). 2012. California Native Plant Society's Electronic Inventory of Rare and Endangered Vascular Plants of California. Electronic document, http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi.

California, State of. 1989. Fish And Game Code.

CMH2Hill. 2012. Draft Delineation of Jurisdictional Waters and Wetlands, World Logistics Center Specific Plan. February.

Consortium of California Herbaria. 2008. Data provided by the participants of the Consortium of California Herbaria (Website: www.ucjeps.berkeley.edu/consortium/).

Department of the Army. 1986. 33 CFR Parts 320 Through 330, Regulatory Programs of the Corps of Engineers; Final Rule. Federal Register 51(219):41206-41260. November 13.

Department of the Army. 2000. 33 CFR Parts 320 Through 330, Regulatory Programs of the Corps of Engineers; Final Rule. Federal Register 65(47):12818-12899. March 9.

Department of the Army. 2002. 33 CFR Parts 320 Through 330, Regulatory Programs of the Corps of Engineers; Final Rule. Federal Register 67(10):2020-2095. January 15.

Fierro, Paul. Senior Site Superintendent. Personal communication: verbal. March 16, 2012.

Google Earth Version 4.3. 2011. Aerial Photographs.

Hickman, J.C. 1993. The Jepson Manual: Higher Plants of California. University of California Press. Berkeley, California.

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Non-game Heritage Program. California Department of Fish and Game. Sacramento, California.

Jennings, M.R. and Hayes, M.P. 1994. Amphibian and reptile species of special concern in California. Final Report submitted to the California Department of Fish and Game, Inland Fisheries Division. Contract No. 8023.

Michael Brandman Associates (MBA). 2005. Focused Burrowing Owl Survey Report for the 1,178-acre Bel Lago Property, City of Moreno Valley, Riverside County, California. September 12.

Michael Brandman Associates (MBA). 2005. Focused Los Angeles Pocket Mouse Survey Report for the 1,778-Acre Bel Lago Property, City of Moreno Valley, Riverside County, California. September 26.

Michael Brandman Associates (MBA). 2006. Burrowing Owl Focused Survey, 12.4-Acre Tentative Tract Map 3477, Moreno Valley, Riverside County, California. October 30.

Michael Brandman Associates (MBA). 2007. Habitat Assessment and MSHCP Consistency Analysis and HANS Review. November 19. Report on file: MBA, Irvine, California

Michael Brandman Associates (MBA). 2007. Jurisdictional Delineation for Highland Fairview Properties, Moreno Valley, California. Report on file: MBA, Irvine, California.

Michael Brandman Associates (MBA). 2008. Burrowing Owl Focused Survey, Highland Fairview Corporate Park, City of Moreno Valley, Riverside County, California. February 5.

Michael Brandman Associates (MBA). 2010. Burrowing Owl Focused Survey, Highlands Specific Plan, City of Moreno Valley, Riverside County, California. December 13.

Michael Brandman Associates (MBA). 2010. Focused Los Angeles Pocket Mouse Survey Report, Highlands Specific Plan, City of Moreno Valley, Riverside County, California. December 13.

Michael Brandman Associates (MBA). 2010. Sensitive Plant Focused Survey, Highlands Specific Plan, City of Moreno Valley, Riverside County, California. December 13.

Michael Brandman Associates (MBA). 2012. Jurisdictional Delineation for World Logistics Center Specific Plan, Moreno Valley, California. April.

Munz, P.A. 1974. A Flora of Southern California. University of California Press. Berkeley, California.

National Geographic Society. 1999. National Geographic Society Field Guide to the Birds of North America. 3rd ed. National Geographic Society. Washington D.C.

Nationwide Environmental Title Research, LLC. 2011. Website: www.historicaerials.com. NetroOnline.

Oberbauer, T. 1996. Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions. San Diego Association of Governments. San Diego, California.

Reed, P.B. 1988. National List of Plant Species That Occur in Wetlands: California (Region 0). National Wetlands Inventory, U.S. Fish and Wildlife Service Biological Report 88 (26.9).

Reiser, C.H. May 1994. Rare Plants of San Diego County. Aquafir Press. Imperial Beach, California. Site address: http://sandiego.sierraclub.org/rareplants/. Accessed October 1, 2007.

Sawyer, J.O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society. Sacramento, California.

Scott, Dr. T. Understanding the Plants and Animals of the Western Riverside County MSHCP. University of California, Riverside, Department of Earth Sciences, Dr. Scott Thomas Lab. Site address: http://ecoregion.ucr.edu/list_head.asp. Accessed October 1, 2007.

Sibley, D.A. 2003. The Sibley Field Guide to Birds of Western North America. Alfred A. Knopf, New York, USA. 471 p.

Skinner, M.W., and B. M. Pavlik. 1994. California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California. California Native Plant Society. Special Publication, No. 1, 5th ed.

Stebbins, R.C. 2003. A Field Guide to Western Reptiles and Amphibians. 2nd ed. Houghton-Mifflin Company. Boston, Massachusetts.

Tibor, D.P. 2001. California Native Plant Society's Inventory of Rare and Endangered Plants of California. California Native Plant Society. Special Publication, No. 1, 6th ed.

Udvardy, M.D. 1994. National Audubon Society Field Guide to North American Birds. Alfred A. Knopf, Inc. New York, New York.

United States Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, Mississippi.

United States Army Corps of Engineers (USACE). 2006. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. Ed. J.S. Wakely, R.W. Lichvar, and C.V. Noble. ERDC/EL TR. U.S. Army Engineer Research and Development Center. Vicksburg, Mississippi.

United States Department of Agriculture (USDA). 1971. Soil Survey of Western Riverside County, California. Department of the Interior. Washington D.C.: US Government Printing office.

United States Department of Agriculture (USDA). 2007. Official Soil Series Descriptions. Website: http://soils.usda.gov/technical/classification/osd/index.html. Natural Resources Conservation Service, Soil Survey Staff. Accessed: October 1, 2007.

United States Fish and Wildlife Service (USFWS). 1993. Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review. Federal Register 50 CFR Part 17. U.S. Department of the Interior. Washington, D.C. September 30.

United States Fish and Wildlife Service (USFWS). 1994. Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species. Federal Register 50 CFR Part 17. U.S. Department of the Interior. Washington, D.C. November 15.

United States Fish and Wildlife Service (USFWS). 1997c. Endangered and Threatened Wildlife and Plants. Federal Register 50 CFR Part 17.11 and 17.12. U.S. Department of the Interior. Washington, D.C. October 31.

United States Geological Survey (USGS). 1979. El Casco, California 7.5-Minute Topographic Quadrangle Map. Department of the Interior. U.S. Government Printing Office. Washington D.C.

United States Geological Survey (USGS). 1980. Sunnymead, California 7.5-Minute Topographic Quadrangle Map. Department of the Interior. U.S. Government Printing Office. Washington D.C.

Weiss, S.B. 2006. Impacts of Nitrogen Deposition on California Ecosystems and Biodiversity. California Energy Commission, PIER Energy-Related Environmental Research. CEC-500-2005-165.

Wildlife Conservation Board. 2001. Excerpt from Minutes, May 18.

Appendix A:
Floral and Faunal Compendia

Flora Compendia

Adoxaceae		**Honeysuckle Family**
Sambucus	*mexicana*	blue elderberry
Amaranthaceae		**Amaranth Family**
Amaranthus	*albus*	tumbling pigweed
Amaranthus	*arenicola*	pigweed
Anacardiaceae		**Sumac or Cashew Family**
Malosma	*laurina*	laurel sumac
Schinus	*molle*	Peruvian pepper tree
Asteraceae		**Sunflower Family**
Ambrosia	*psilostachya*	western ragweed
Anthemis	*cotula*	mayweed
Artemisia	*californica*	California sagebrush
Artemisia	*douglasiana*	mugwort
Artemisia	*dracunculus*	tarragon
Baccharis	*salicifolia*	mule fat
Centaurea	*solstitialis*	yellow star-thistle
Chamomilla	*suaveolens*	pineapple weed
Conyza	*canadensis*	horseweed
Cotula	*coronopifolia*	brass-buttons
Encelia	*californica*	California brittlebush
Encelia	*farinosa*	brittlebush
Helianthus	*annuus*	common sunflower
Heterotheca	*grandiflora*	telegraphweed
Lasthenia	*californica*	California goldfields
Lepidospartum	*squamatum*	California broomsage
Pseudognaphalium	*canescens*	everlasting cudweed
Sonchus	*asper ssp. asper*	prickly sow thistle
Sonchus	*oleraceus*	common sow thistle
Boraginaceae		**Borage Family**
Amsinckia	*menziesii*	Menzies' fiddleneck
Heliotropium	*curassivicum*	saltmarsh heliotrope
Brassicaceae		**Mustard Family**
Brassica	*nigra*	black mustard
Brassica	*tournefortii*	Asian mustard
Cakile	*edentula*	American sea rocket
Hirschfeldia	*incana*	short-podded mustard
Idahoa	*scapigera*	oldstem idahoa
Raphanus	*sativus*	radish
Rorippa	*columbiae*	Columbian yellowcress
Sisymbrium	*irio*	London rocket

Flora Compendia

Chenopodiaceae		**Goosefoot Family**
Atriplex	*canescens*	four wing saltbush
Chenopodium	*album*	lamb's quarters
Salsola	*tragus*	Russian thistle
Cistaceae		**Rock-Rose Family**
Cistus	*salviifolius*	salvia cistus
Convolvulaceae		**Morning-Glory Family**
Convolvulus	*arvensis*	field bindweed
Cornaceae		**Dogwood Family**
Cornus	*glabrata*	brown dogwood
Euphorbiaceae		**Spurge Family**
Chamaesyce	*albomarginata*	rattlesnake weed
Ricinus	*communis*	castor bean
Fabaceae		**Legume Family**
Lotus	*scoparius*	common deerweed
Lupinus	*sp.*	unknown lupine sp.
Melilotus	*indicus*	annual yellow sweetclover
Vicia	*sativa*	garden vetch
Geraniaceae		**Geranium Family**
Erodium	*botrys*	longe beak stork's bill
Erodium	*cicutarium*	red-stemmed stork's bill
Hydrophyllaceae		**Waterleaf Family**
Phacelia	*cicutaria*	caterpillar phacelia
Lamiaceae		**Mint Family**
Marrubium	*vulgare*	horehound
Salvia	*apiana*	white sage
Salvia	*mellifera*	black sage
Oleaceae		**Olive Family**
Fraxinus	*latifolia*	Oregon ash
Olea	*europaea*	olive
Onagraceae		**Evening Primrose Family**
Camissonia	*arenaria*	Fortuna Range sun cup
Polygonaceae		**Buckwheat Family**
Eriogonum	*fasciculatum*	California buckwheat
Salicaceae		**Willow Family**
Populus	*fremontii ssp. fremontii*	Fremont cottonwood
Salix	*exigua*	narrowleaf willow
Salix	*gooddingii*	Goodding's willow
Salix	*lasiolepis*	arroyo willow

Flora Compendia

Scrophulariaceae		**Figwort Family**
Scrophularia	*californica*	California figwort
Simaroubaceae		**Quassia Family**
Ailanthus	*altissima*	tree of heaven
Solanaceae		**Nightshade Family**
Datura	*wrightii*	jimson weed
Nicotiana	*glauca*	tree tobacco
Tamaricaceae		**Tamarisk Family**
Tamarix	*aphylla*	athel tamarisk
Arecaceae		**Palm Family**
Washingtonia	*filifera*	California Washington palm
Poaceae		**Grass Family**
Arundo	*donax*	giant reed
Avena	*barbata*	slender oat
Bouteloua	*aristidoides*	needle grama
Bromus	*carinatus*	California brome
Bromus	*diandrus*	ripgut brome
Bromus	*rubens*	red brome
Deschampsia	*cespitosa ssp. holciformis*	California hair grass
Elymus	*condensatus*	giant wild rye
Hordeum	*murinum*	wall barley
Hordeum	*vulgare*	hore barley
Leptochloa	*viscida*	sticky sprangletop
Pleuropogon	*californicus*	annual semaphoregrass
Triticum	*aestivum*	wheat

Fauna Compendium

Aeshnidae		**Darners**
Aeshna	*Multicolor*	blue-eyed darner
Pieridae		**Whites, Sulphurs, and Orangetips**
Pieris	*rapae*	cabbage white
Nymphalidae		**Brush-Footed Butterflies**
Vanessa	*cardui*	painted lady
Pompilidae		**Spider Wasps**
Pepsis	*chrysothemis*	tarantula hawk
Phrynosomatidae		**Lizards**
Sceloporus	*occidentalis*	western fence lizard
Uta	*stansburiana*	side-blotched lizard
Colubridae		**Egg-laying snakes**
Pituophis	*cantenifer annectens*	San Diego gopher snake
Cathartidae		**Vultures**
Cathartes	*aura*	turkey vulture
Accipitridae		**Hawks**
Elanus	*leucurus*	white-tailed kite
Circus	*cyaneus*	northern harrier
Buteo	*lineatus*	red-shouldered hawk
Buteo	*jamaicensis*	red-tailed hawk
Charadriidae		**Plovers**
Charadrius	*vociferus*	killdeer
Laridae		**Gulls/Terns**
Larus	*californicus*	California gull
Columbidae		**Pigeons/Doves**
Columba	*livia*	rock pigeon
Zenaida	*macroura*	mourning dove
Cuculidae		**Cuckoos/Roadrunners/Anis**
Geococcyx	*californianus*	greater roadrunner
Tytonidae		**Barn owls**
Tyto	*alba*	barn owl
Strigidae		**True Owls**
Athene	*cunicularia*	burrowing owl
Trochilidae		**Hummingbirds**
Calypte	*anna*	Anna's hummingbird
Calypte	*costae*	Costa's hummingbird
Picidae		**Woodpeckers**
Picoides	*nuttallii*	Nuttall's woodpecker
Tyrannidae		**Flycatchers**

Fauna Compendium

Sayornis	*nigricans*	black phoebe
Sayornis	*saya*	Say's phoebe
Myiarchus	*cinerascens*	ash-throated flycatcher
Tyrannus	*vociferans*	Cassin's kingbird
Tyrannus	*verticalis*	western kingbird
Laniidae		**Shrikes**
Lanius	*ludovicianus*	loggerhead shrike
Corvidae		**Jays/Crows**
Corvus	*brachyrhynchos*	American crow
Corvus	*corax*	common raven
Alaudidae		**Larks**
Eremophila	*alpestris*	horned lark
Hirundinidae		**Swallows**
Stelgidopteryx	*serripennis*	northern rough-winged swallow
Hirundo	*rustica*	barn swallow
Hirundo	*rustica*	barn swallow
Aegithalidae		**Bushtits**
Psaltriparus	*minimus*	bushtit
Troglodytidae		**Wrens**
Salpinctes	*obsoletus*	rock wren
Thryomanes	*bewickii*	Bewick's wren
Troglodytes	*aedon*	house wren
Timaliidae		**Old world babblers**
Sialia	*mexicana*	western bluebird
Mimidae		**Mockingbirds/Thrashers**
Mimus	*polyglottos*	northern mockingbird
Sturnidae		**Starlings**
Sturnus	*vulgaris*	European starling
Parulidae		**New world warblers**
Wilsonia	*citrina*	hooded warbler
Emberizidae		**Warblers, sparrow, etc.**
Pipilo	*crissalis*	California towhee
Melospiza	*melodia*	song sparrow
Zonotrichia	*leucophrys*	white-crowned sparrow
Cardinalidae		**Cardinals**
Pheucticus	*melanocephalus*	black-headed grosbeak
Passerina	*caerulea*	blue grosbeak
Passerina	*caerulea*	blue grosbeak
Icteridae		**New world blackbirds**

Fauna Compendium

Agelaius	*phoeniceus*	red-winged blackbird
Sturnella	*neglecta*	western meadowlark
Euphagus	*cyanocephalus*	Brewer's blackbird
Icterus	*cucullatus*	hooded oriole
Icterus	*bullockii*	Bullock's oriole
Fringillidae		**Finches**
Carpodacus	*mexicanus*	house finch
Carduelis	*psaltria*	lesser goldfinch
Leporidae		**Hares and Rabbits**
Sylvilagus	*audubonii*	desert cottontail
Sciuridae		**Squirrels**
Spermophilus	*beecheyi*	California ground squirrel
Geomyidae		**Pocket Gophers**
Thomomys	*bottae*	Botta's pocket gopher
Canidae		**Wolves and Foxes**
Canis	*familiaris*	domestic dog
Canis	*latrans*	coyote
Mustelidae		**Weasels, Skunks, and Otters**
Mephitis	*mephitis*	striped skunk

Appendix B:
Site Photographs

Photograph 1: looking south at the eastern side of Theodore Street at the northern end of the project site. In the photograph is a highly eroded road-side ditch, with extensive agriculture on the east and disturbed roadside to the west.

Photograph 2: Looking northeast at extensive agriculture from the eastern side of the project site. This vegetation community is the dominant community within the specific plan area.

Source: Michael Brandman Associates, 2012.

Michael Brandman Associates

Appendix B
Site Photographs 1 and 2

Photograph 3: Looking southeast at the patch of mule fat scrub within the central portion of the specific plan area. This area is an isolated from adjacent riparian habitat.

Photograph 4: Looking northeast from the central portion of the project site. The non-native grassland areas as commonly found in areas where extensive agriculture has been stopped.

Source: Michael Brandman Associates, 2012.

Michael Brandman Associates

Appendix B
Site Photographs 3 and 4

Photograph 5: Looking south at the extensive agricultural areas in the western portion of the project site. The mixed chaparral habitat located within the specific plan area is located at the base of the hills in the background.

Photograph 6: Looking south at the central portion of Drainage 9. This portion of the drainage is the southern most extent of coastal sage scrub before it transitions into mule fat scrub.

Source: Michael Brandman Associates, 2012.

Michael Brandman Associates

Appendix B
Site Photographs 5 and 6

Photograph 7: Looking north at the central portion of the specific plan area from the southern portion of the project site. In the background, southern willow scrub habitat occurs on the left side of the photo and ornamental habitat occurs on the right side.

Photograph 8: Looking east at the central potion of the project site. The urban/developed area in the background is a natural gas compressor station. The area surrounding the development is extensive agriculture.

Source: Michael Brandman Associates, 2012.

Michael Brandman Associates

Appendix B
Site Photographs 7 and 8

Appendix C:
Los Angeles Pocket Mouse Focused Surveys

DRAFT
Focused Los Angeles Pocket Mouse Survey Report for the 1,778-Acre Bel Lago Property City of Moreno Valley Riverside County, California

Sunnymead and El Casco, CA USGS 7.5-minute Topographic Quadrangles
Sections 1 and 12, Township 3 South, Range 3 West and
Sections 7, 8, 16, 17, and 18, Township 3 South, Range 2 West

Prepared for:

Highland Fairview Properties
24525 Alessandro Boulevard
Moreno Valley, CA 92553

Contact: David C. Smith, General Counsel

Prepared by:

Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA 92602
714.508.4100

Contact: Kelly M. Rios, Project Biologist

Michael Brandman Associates

September 26, 2005

Draft

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SECTION 1:
INTRODUCTION

1.1 - SURVEY PURPOSE

This report contains the findings of Michael Brandman Associates' (MBA) focused survey for Los Angeles pocket mouse (*Perognathus longimembris brevinasus*). The 1,778-acre Bel Lago property, herein referred to as Project Site or Site, is located within the City of Moreno Valley, Riverside County, California. MBA biologist Kelly Rios conducted a live-trapping effort, with the assistance of MBA biologists Steven Hongola, Scott Crawford, Karl Osmundson, Kyle Workman, and Jacque Rice for the Los Angeles pocket mouse (LAPM) which is a California Department of Fish and Game (CDFG) species of concern. This report describes the existing conditions of the property, general biological resources observed onsite and results of the trapping effort. The focused survey is a Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) requirement. This species was identified as species that may require additional surveys if suitable habitat is present within the Project Site based on the Riverside County Report Generator. The trapping effort was conducted to determine the presence/absence of LAPM on the Project Site, since suitable habitat was identified.

1.2 - PROJECT SITE LOCATION

The Project Site is located in the City of Moreno Valley, Riverside County, California. Generally, the Site is located north of the San Jacinto Wildlife Area (SJWA), south of State Route (SR) 60, east of Redlands Boulevard, and west of Gilman Springs Road (Exhibit 1). The Site is specifically located in Sections 1 and 12 of Township 3 South, and Range 3 West; and Sections 7, 8, 16, 17, and 18 of Township 3 South and Range 2 West as depicted on the Sunnymead and El Casco, CA United States Geological Survey (USGS) 7.5-minute topographic maps (Exhibit 2). The Project Site is located within the Reche Canyon/Badlands Area Plan of the MSHCP.

The Project Site consists of two large properties and a smaller, isolated property. The western property is approximately 825 acres in size with a north-south orientation. The larger eastern property is approximately 890 acres in size, oriented east-west. The small, isolated property is approximately 63 acres in size, oriented east-west, and located immediately east of Gilman Springs Road and north of Eucalyptus Avenue.

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Source: Census 2000 Data, The CaSIL, MBA GIS 2005.

Michael Brandman Associates

NORTH

5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

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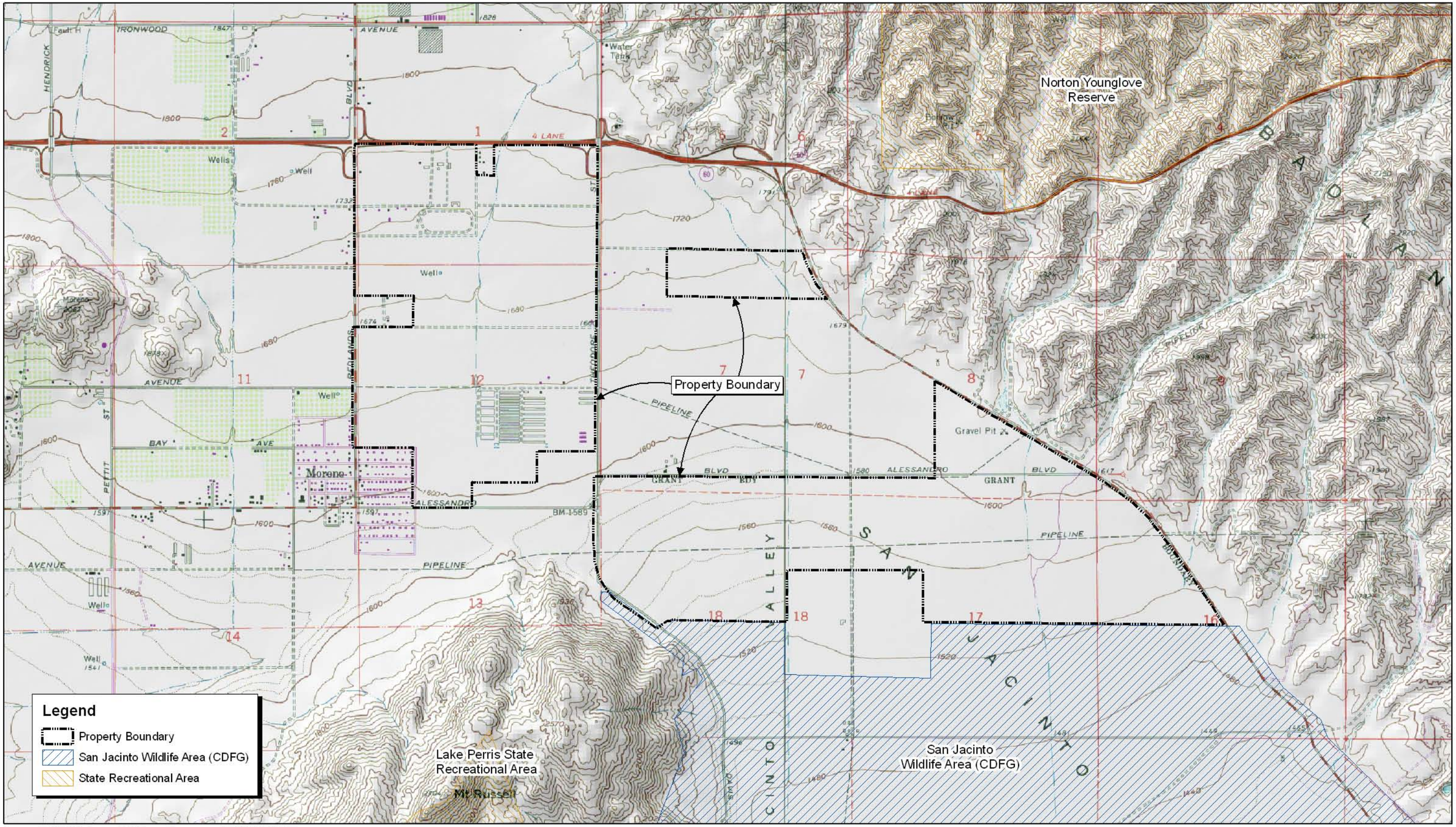
HIGHLAND FAIRVIEW PROPERTIES • 1,778-ACRE BEL LAGO PROPERTY
LOS ANGELES POCKET MOUSE FOCUSED SURVEY REPORT



Source: USGS El Casco (1979) and Sunnymead (1980) 7.5' DRG.

NORTH

2,000 1,000 0 2,000 Feet

Michael Brandman Associates

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Exhibit 2
Local Vicinity USGS Map

The Project Site has been used for dry-land grain farming for decades and is dominated by agricultural fields (Exhibit 3). General land use in the vicinity of the Project Site includes agricultural lands and scattered rural residences to the north, agricultural and conservation lands within the SJWA as well as a natural gas compressor station to the south, recreational and conservation lands to the southwest within the Lake Perris State Recreation Area, open undeveloped foothills proposed for conservation to the east, and agricultural lands and residential development to the west.

1.3 - LOS ANGELES POCKET MOUSE DESCRIPTION

The Los Angeles pocket mouse (LAPM) is a widely distributed in the eastern two-thirds of the MSHCP Area, but recent known localities are sparsely scattered throughout this area. LAPM appears to be limited to sparsely vegetated habitat areas in patches of fine sandy soils associated with washes or of aeolian (windblown) origin, such as dunes. The current status of populations in the MSHCP Area is relatively unknown, but some biologists believe that the Los Angeles pocket mouse is in serious decline in the region because it is seldom trapped and much of its suitable habitat has been lost to agriculture and urban development.

LAPM are known to occur in similar habitats to those found within the general vicinity of the Project Site. The closest recorded observation of this species is located in a large canyon bottom within the southern portion of the Badlands. The Project Site contains a single location containing suitable habitat for LAPM. The large drainage feature in the eastern portion of the project site contains similar habitat including fine sandy soil (San Emigdio fine sandy loam).

The Project Site is located within the northern portions of the Perris and San Jacinto Valley floors, immediately west of the Badlands, and immediately north of the SJWA. General land use in the vicinity of the Project Site includes open undeveloped foothills to the east within the Badlands, agricultural, recreational, and conserved lands to the south within the SJWA, and rural residential properties and active agricultural lands to the north and west of the Site. Relatively uninterrupted connectivity of habitat exists between these areas and the Project Site. Based on current records provided by the California Natural Diversity Data Base (CNDDB) (2005). One LAPM was recorded to occur approximately two miles southeast of the Project Site (see Section 3.5.1, Existing Conditions).

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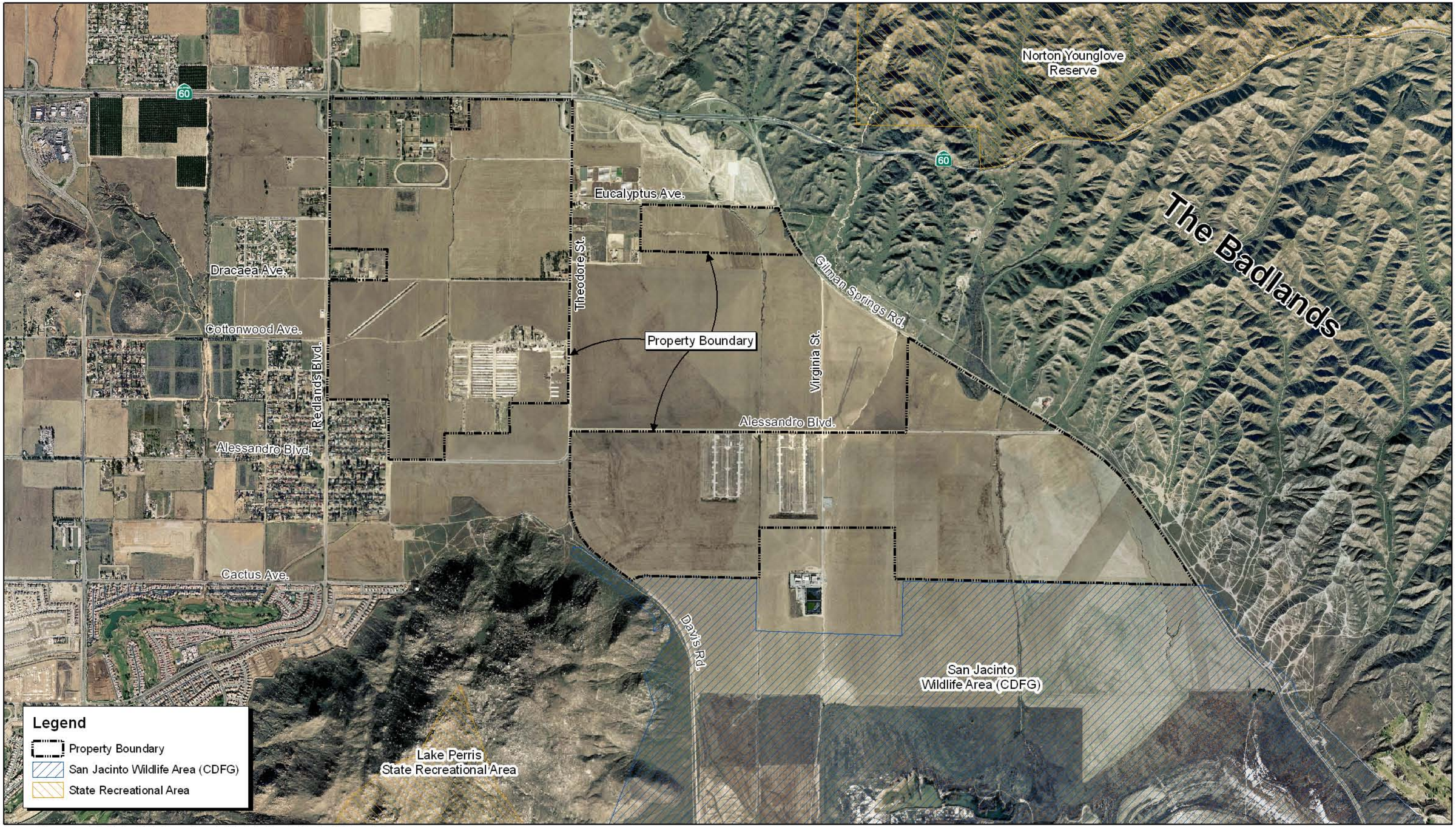

Source: Forma and AirPhoto USA, Flown March 2004, California Dept. of Fish and Game.

NORTH

2,000 1,000 0 2,000 Feet

Michael Brandman Associates

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Exhibit 3
Local Vicinity Aerial Map

SECTION 2:
METHODS

A literature review and records search were conducted for sensitive flora and faunal resources potentially occurring in the vicinity of the Project Site. In addition to the literature review, general field surveys of the Site were conducted in May and August 2005. The field surveys provided information on the existing conditions on the Site and the potential for sensitive resources to be present. Suitable habitat was determined to occur on the Project Site. Focused trapping efforts for LAPM were recommended and subsequently conducted on areas containing potential LAPM habitat.

2.1 - LITERATURE REVIEW

A literature review was conducted prior to trapping. This included a review of standard field guides and texts on sensitive and non-sensitive biological resources, as well as the following sources:

- List of sensitive biological resources provided by the California Natural Diversity Data Base (CNDDB);
- Biological resources reports for the Project Site; and
- General texts and other documents identifying potential resources on the Site.

2.2 - GENERAL BIOLOGICAL SURVEYS

A reconnaissance level survey was conducted on the Project Site, prior to trapping by walking the Site to assess potentially suitable LAPM habitat within the project boundaries. The biologist inventoried and evaluated the condition of the plant communities onsite in order to assess the probability of occurrence for LAPM or other sensitive species. Field notes were taken during the survey of all plant and animal species observed. Observations of animal species included scat, trails, tracks, burrows, nests, vocalizations, and visual observation. In addition, Site characteristics such as soils, topography, the condition of the plant communities, and evidence of human use of the Site were noted. A list of plant and wildlife species observed is included in Appendix A.

2.3 - FOCUSED SURVEYS

A focused trapping effort for LAPM was conducted according to established United States Fish and Wildlife Service (USFWS) protocols for Pacific pocket mouse (*Perognathus longimembris*

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longimembris), a similar species. Kelly Rios (USFWS permit number TE018909-02, Scientific Collecting Permit number 801056-05) conducted the trapping surveys. A total of 9 acres of suitable habitat was surveyed (Exhibit 3). The current protocol requires five consecutive nights of trapping conducted when the animal is active aboveground at night, and preferably during a new moon phase. As MBA conducted trapping on the five consecutive nights beginning August 21 and concluding the morning of August 26, 2005.

A total of 121 traps, set approximately ten meters apart, were set in the largest blue-line drainage feature located in the eastern portion of the Project Site as illustrated in Exhibit 5 and described further in section 5.6-1 Trap Line Descriptions.

This drainage contains suitable sandy habitat required by this species. Five nights of trapping were conducted for a total of 605 trap nights. Traps were placed in suitable habitat areas within the Project Site, concentrating on areas containing sandy soils, suitable vegetation, and near burrow locations.

Each trap was baited with a mixture of birdseed placed at the back of the traps. The traps were left in place, opened at dusk each night, and inspected once during the night and at dawn each morning. All animals were identified and released at the point of capture.

Field notes (see Appendix B) were recorded of the habitat conditions where the traps were placed. Weather conditions at the time of the baiting and trapping were also noted.

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SECTION 3:
EXISTING CONDITIONS

3.1 - WEATHER CONDITIONS

Weather conditions during the trapping survey included morning temperatures in the mid 60s degrees Fahrenheit. Skies were partly cloudy but no precipitation occurred. The moon was in its third quarter phase at the time of the surveys; the new moon occurred on August 5.

3.2 - SOILS AND TOPOGRAPHY

The Project Site contains two different soil series (Exhibit 4). A soil series is a group of soils with similar profiles. These profiles include major horizons with similar thickness, arrangement, and other important characteristics. The Project Site is dominated by San Emigdio fine sandy loam. The other soil series present onsite was Metz loamy sand, which was located in the southern portion of the drainage feature (U.S. Department of Agriculture 1971).

Topographically, the Project Site is located at the northern extent of the San Jacinto and Moreno Valleys, north and northwest of Mt. Russell, and east of The Badlands. The SJWA, managed by CDFG, is directly south of the Project Site. The Site is flat, with the exception of the deeply incised drainage feature, with a gentle slope to the south. It has an elevation range approximately 1,500 to 1,780 feet above sea level.

3.3 - SURROUNDING LAND USES

Overall, the Project Site contains extensive evidence of previous disturbance. With the exception of a few major drainage features, the entire Site was previously developed for agricultural purposes. Currently, cultivated wheat fields are present throughout the majority of the Project Site. The northwestern corner of the Site is occupied by an abandoned equestrian property that contains an arrangement of corrals, stables, fields, and rural residences. Rural residential development is also present at the northwestern corner of the intersection of Cottonwood Avenue and Theodore Street. In addition, there are several abandoned structures previously used for agricultural purposes in the southern portion of the Project Site.

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Specifically, the land surrounding the survey area of the drainage feature was dominated by extensive agriculture to the north, east, and west (Holland, 1996 update).

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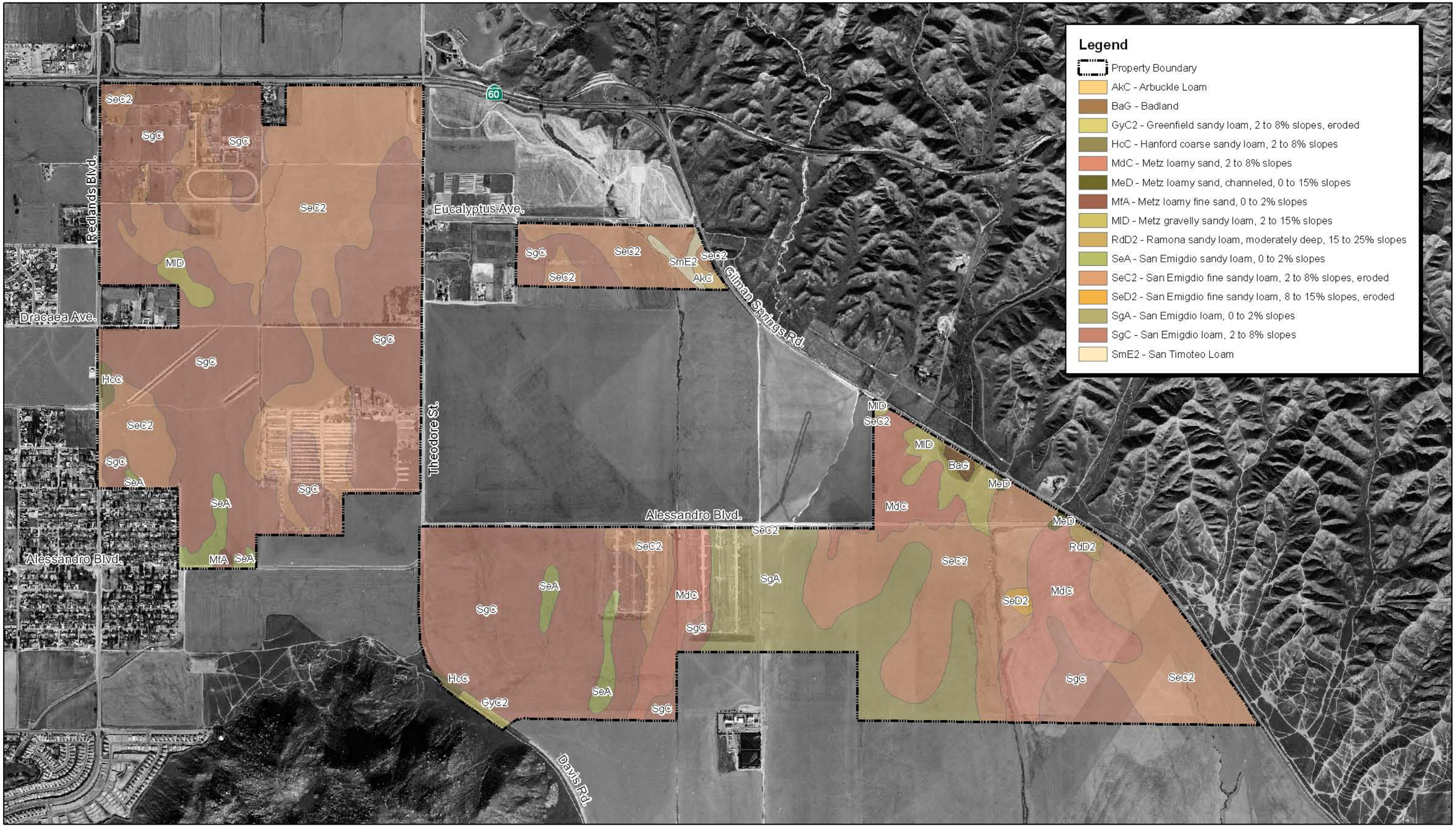

Source: Forma, USDA Soil Series and AirPhoto USA, Flown March 2004.

NORTH

1,500 750 0 1,500 Feet

Michael Brandman Associates

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Exhibit 4
USDA Soils Map

HIGHLAND FAIRVIEW PROPERTIES • 1,778-ACRE BEL LAGO PROPERTY
LOS ANGELES POCKET MOUSE FOCUSED SURVEY REPORT

The western Riverside County MSHCP classifies this vegetation type as Field Croplands, a community that is widespread throughout the Plan Area. Alessandro Boulevard is located at the northern end of the drainage feature.

3.4 - PLANT COMMUNITIES

The survey area in the drainage feature is located within a Riversidean alluvial fan sage scrub (RAFSS) plant community. The vegetation within this channel is sparse and frequently disturbed during high flow events. The drainage feature has been moderately disturbed as a result of trash dumping, grazing, agricultural activities, and the presence of domesticated animals. This community surrounds the Site to the north, south, east, and west.

The RAFSS community occupies approximately nine acres of the Project Site and common species observed in this community are typical of those found in a Riversidean sage scrub (RSS) community these include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), brittlebush (*Encelia farinosa*), and black sage (*Salvia mellifera*). However, the RAFSS also contains plant species commonly associated with alluvial systems such as scalebroom (*Lepidospartum squamatum*), mulefat (*Baccharis salicifolia*), and four-wing saltbush (*Atriplex canescens*). This plant community is considered distinct from RSS due to the slight difference in vegetation composition and its location within the active drainage feature.

3.5 - WILDLIFE

Wildlife activity was low to moderate, with most of the wildlife represented by trapped mammal species. Birds and reptiles were observed mainly on the slopes and steep walls of the drainage feature. One amphibian species, western toad (*Bufo boreas*), was observed during the survey.

Wildlife observations were based on calls, songs, scat, tracks, burrows, and actual sightings of animals. A list of wildlife species observed is found in Appendix A.

3.5.1 - Sensitive Biological Resources

The following is a discussion of the sensitive species identified as potentially occurring on the Project Site.

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Los Angeles Pocket Mouse

The LAPM (*Perognathus longimembris brevinasus*) is one of two pocket mice found in this area of Riverside County (Williams 1986). Both the LAPM and the northwestern San Diego pocket mouse (*Chaetodippus fallax fallax*) occupy similar habitats, but the northwestern San Diego pocket mouse has a wider habitat range extending south into San Diego County. The habitat of the LAPM is described as being confined to lower elevation grasslands and coastal sage scrub habitats, in areas with soils composed of fine sands (Williams, 1986). It occurs in open sandy areas in the valley and foothills of southwestern California (Hall 1981). LAPM forages in open ground and underneath shrubs. Pocket mice, in general, dig burrows in loose soil.

Presently, the known distribution of this species extends from Rancho Cucamonga east to the middle of the Santa Ana River near Slover Mountain, and from Cajon Wash south to at least Riverside Avenue in the City of Riverside. The LAPM is listed as a California Species of Special Concern by the CDFG. One LAPM was recorded to occur approximately two miles southeast of the Project Site.

Northwestern San Diego Pocket Mouse

The northwestern San Diego pocket mouse prefers habitat in open, sandy areas in the valleys and foothills of southwestern California. The range of this species extends from Orange County to San Diego County, and includes Riverside and San Bernardino counties. This species is a California Species of Special Concern; its historical range has been reduced by urban development and agriculture.

San Diego Desert Woodrat

The desert woodrat (*Neotoma lepida*) is a relatively wide-ranging species extending along the coast of California from south of San Francisco through to the border of Baja California. This species also occurs in the Central Valley and the deserts of southern California, extending along the desert side of the Sierra Nevada into southeastern Oregon.

The coastal race of the desert woodrat, the San Diego desert woodrat (*Neotoma lepida intermedia*), prefers scrub habitats such as coastal sage scrub, chaparral, and alluvial fan sage scrub. It is more common in areas with rock piles and coarse sandy to rocky soils throughout coastal southern California.

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The range of this species extends from just south of Sacramento and the San Francisco area to the border of Baja California. The coastal subspecies of the widespread desert woodrat is listed as a California Species of Special Concern; its historical range has been impacted by the conversion of scrub habitats into residential, commercial, and industrial use.

3.6 - TRAP LINE DESCRIPTIONS

Traps were set in a single transect on the bottom of the main drainage feature in open sandy areas within the Project Site boundary (Exhibit 5). Additional trap sets were also set on sandy benches adjacent to the main trap line. The additional trap sets ranges from two to four additional traps depending on the amount of additional suitable within the sandy benches. Exhibit 5 illustrates the main trap line, the beginning, and end of the main trap line, and the location of the adjacent trap sets. Vegetation surrounding trap locations varied but overall, cover was less than 20 percent. Some trap locations had cobbles and loose gravel associated with the sandy patches.

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Source: USGS El Casco (1998) and Sunnymead (1998) 3.75' DOQQ, and MBA Field Survey.

NORTH

1,000 500 0 1,000 Feet

Michael Brandman Associates

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Exhibit 5

Los Angeles Pocket Mouse Survey Area Map

HIGHLAND FAIRVIEW PROPERTIES • 1,778-ACRE BEL LAGO PROPERTY

LOS ANGELES POCKET MOUSE FOCUSED SURVEY REPORT

SECTION 4:
FOCUSED TRAPPING SURVEY RESULTS

Table 1 summarizes the results from the 2005 survey. No LAPM were captured during the survey. A total of four small mammal species were trapped, San Diego woodrat (*Neotoma lepida*), western harvest mouse (*Reithrodontomys megalotis*), deer mouse (*Peromyscus maniculatus*), and long-tailed pocket mouse (*Chaetodipus formosus*). Incidentally, a western toad (*Bufo boreas*) was also trapped on two different nights.

Table 1: 2005 Focused Trapping Results for the Bel Lago Project Site

Night #	San Diego Desert Woodrat	Western Harvest Mouse	Deer Mouse	Long-tailed Pocket Mouse
1	1	1	25	0
2	1	1	19	0
3	1	2	24	1
4	3	3	25	0
5	2	2	15	1
Total	**8**	**9**	**108**	**2**

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SECTION 5:
CONCLUSIONS AND RECOMMENDATIONS

This survey effort was conducted within the main drainage feature in the eastern portion of the Project Site. The transect was located in the only area within the Project Site that contains suitable habitat for LAPM. However, LAPM were not captured as part of the 2005 trapping effort and are considered absent from the proposed Project Site. Development of the Project Site will be in full compliance with the MSHCP for LAPM and none of the conservation efforts associated with LAPM are required.

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SECTION 6:
CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: September 23, 2005 Signed _____
Kelly Rios

Draft

SECTION 7:
REFERENCES

Burt, W.H., 1986. *A Field Guide to the Mammals in North American North of Mexico*. Houghton Mifflin Company, Boston, Massachusetts.

California Department of Fish and Game (CDFG), 1998. *Conservation Plan for the Etiwanda-Day Canyon Drainage System Supporting the Rare Natural Community of Alluvial Fan Sage Scrub*. California State Polytechnic University California.

California Natural Diversity Data Base, 1997. Data Base report on threatened, endangered, rare or otherwise sensitive species and communities in the vicinity of the Rancho Summit III project site.

Garrett, K. and J. Dunn, 1981. *Birds of Southern California*. Los Angeles Audubon Society. The Artisan Press, Los Angeles, California.

Grinnell, J., 1933. *Review of the Recent Mammal Fauna of California*. University of California Publications in Zoology. 40:71-234.

Hall, E.R., 1981. *The Mammals of North America,* Volumes I and II. John Wiley and Sons, New York, New York.

Hickman, J.C., ed. 1993. *The Jepson Manual: Higher Plants of California*. University of California Press.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. State of California Resources Agency. Department of Fish and Game. Non-Game Heritage Program. Sacramento, CA. (1996 update).

Ingles, L.G., 1965. *Mammals of the Pacific States*. Stanford University Press, Stanford, California.

Laudenslayer, Jr., W.F., W.E. Grenfell, Jr., and D.C. Zeiner, 1991. *A Checklist of the Amphibians, Reptiles, Birds and Mammals of California*. California Fish and Game 77:109-141.

McKernan, R.L., 1997. *The Status and Known Distribution of the San Bernardino Kangaroo Rat (Dipodomys merriami parvus): Field surveys conducted between 1987 and 1996.* Report prepared for the U.S. Fish and Wildlife Service, Carlsbad Field Office.

McKernan, R.L. 1999. *Biological Inventory of the Etiwanda Creek Flood Control Project, San Bernardino County*. Report prepared for the San Bernardino County Transportation/Flood Control Department, San Bernardino, California.

Draft

Munz, P.A., 1974. *A Flora of Southern California*. University of California Press, Berkeley, California.

Remsen, Jr., J.V., 1978. *Bird Species of Special Concern in California*. Non-game Wildlife Investigations. Wildlife Management Branch Administrative Report No 78-1. Report prepared for the California Department of Fish and Game.

Riverside County. 2003 (June). Final Western Riverside County Multiple Species Habitat Conservation Plan. www.rcip.org

Skinner, M.W. and B.M. Pavlik, 1994. *Inventory of Rare and Endangered Vascular Plants of California*. California Native Plant Society, Spec. Pub. No. 1 (5th edition), Berkeley, California.

Soil Conservation Service, 1980. Soil Survey of Riverside County, California.

Stebbins, R.C., 1985. *A Field Guide to Western Reptiles and Amphibians*, Houghton Mifflin Company, Boston.

U.S. Fish and Wildlife Service, 1996. *Review of plant and animal taxa for listing as endangered or threatened species; notice of review*. Federal Register Vol. 61, No. 40.

U.S. Fish and Wildlife Service, 1998a. *Emergency Rule to List the San Bernardino Kangaroo Rat, San Bernardino and Riverside Counties in Southern California, as Endangered*. Vol. 63, No. 17, pp. 3835 - 3843.

U.S. Fish and Wildlife Service, 1998b. *Endangered and Threatened Wildlife and Plants; Proposed Rule to List the San Bernardino Kangaroo Rat as Endangered; and Notice of Public Hearing*. Vol. 63, No. 17, pp. 3877 - 3878.

U.S. Fish and Wildlife Service, 1998c. *Endangered and Threatened Wildlife and Plants; Final Rule to List the San Bernardino Kangaroo Rat as Endangered*, Vol. 63, No. 185, pp. 51005 - 51017.

Williams, D.F., 1986. *Mammalian Species of Special Concern in California*. Wildlife Management Division Administrative Report 86-1. Prepared for The Resources Agency, California Department of Fish and Game.

Draft

Appendix A: Floral and Faunal Compendia

Draft

FLORAL COMPENDIUM

Angiospermae: Dicotyledones	Dicot Flowering Plants
Asteraceae	**Sunflower family**
Ambrosia acanthicarpa	Annual bur-sage
Ambrosia psilostachya	Western ragweed
Artemisia californica	California sagebrush
Helianthus annuus	Annual sunflower
Hemizonia sp.	Tarweed
Boraginaceae	Borage family
Amsinckia intermedia	Fiddleneck
Cryptantha intermedia	Popcorn flower
Brassicaceae	**Mustard family**
Hirschfeldia incana	Short-podded mustard
Chenopodiaceae	**Saltbush family**
Salsola tragus	Russian thistle
Euphorbiaceae	**Spurge family**
Croton californica	Croton
Fabaceae	**Pea family**
Lotus scoparius	Deerweed
Geraniaceae	**Geranium family**
Erodium cicutarium	Red-stemmed filaree
Hydrophyllaceae	**Waterleaf family**
Eriodictyon trichocalyx	Yerba santa
Lamiaceae	**Mint family**
Marrubium vulgare	Horehound
Salvia apiana	White sage
Salvia mellifera	Black sage

Angiospermae: Dicotyledones	Dicot Flowering Plants
Polygonaceae	**Buckwheat family**
Eriogonum fasciculatum	California buckwheat
Eriogonum gracile	Graceful buckwheat
Rosaceae	**Rose family**
Adenostoma fasciculatum	Chamise
Prunus ilicifolia	Holly-leaved cherry

Draft

Solanaceae	Nightshade family
Nicotiana glauca	Indian tree tobacco
Angiospermae: Monocotyledonae	**Monocot Flowering Plants**
Poaceae	**Grass family**
Avena barbata	Slender wild oats
Bromus diandrus	Ripgut brome
Bromus madritensis	Red brome
Bromus tectorum	Cheat grass
Hordeum murinum	Wild barley
Lolium perenne	Ryegrass
Schismus barbatus	Mediterranean grass

Draft

FAUNAL COMPENDIUM

Reptilia	Reptiles
Iguanidae *Uta stansburiana*	**Iguanas and their allies** Side-blotched lizard
Aves	**Birds**
Accipitridae *Buteo jamaicensis*	**Kites, hawks and eagles** Red-tailed hawk
Corvidae *Corvus brachyrhynchos*	**Crows and ravens** American crow
Emberizidae *Amphispiza bellii*	**Warblers, sparrows, blackbirds and relatives** Sage sparrow
Fringillidae *Carpodacus neomexicanus*	**Finches** House finch
Mammalia	**Mammals (Other Than Trapped)**
Leporidae *Sylvilagus audubonii*	**Rabbits and hares** Audubon's cottontail
Sciuridae *Spermophilus beecheyi*	**Squirrels, chipmunks and marmots** California ground squirrel
Geomyidae	Pocket gophers
Thomomys umbrinus	Botta's pocket gopher
Canidae *Canis latrans*	**Foxes, wolves and relatives** Coyote

Draft

Appendix B: Field Data Sheet

Draft

Bel Lago

LAPMT trapping 8/21/05
w/ KO + SH
Yukon .98 mls 4.0 hrs.
1900 - @ Site T=90° W=>1.0
Very humid
- Set traps approx. 10 paces apart in drainage + on adj. benches.
- Not many small mammal burrows observed.
- 2 Barn owls flushed from bank.

2025 - Back @ car T=86°
0700 - @ Site w/ KO 98 mls 8/22/05
T=63° W=71.0 0% clouds 3.5 hrs
P. maniculatus - 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸
Empty - 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸
triggered - 𝍸
R. megacephalus
N. Lepida - 1

Bel Lago

LAPM Trapping 8/22/05
Yukon, 98 w/SC 3.5 hrs
1900 - T = 89° W = 71.0 0%
Baiting traps

8/23/05

0640 - @ Site T = 62° W = 71.0 0%
w/ SH Yukon 4.0 hrs
SH recording plant sp. ~~IIII IIII IIII~~ I
Empty - ~~IIII IIII IIII IIII IIII IIII IIII IIII IIII IIII~~ III
P. maric. - ~~IIII IIII IIII~~ IIII
triggered - ~~IIII~~ III
[redacted]
WP # 2 = beginning of line #11-4
#3 - 1 trap #7-2 #12-2
#4 - 2 traps #8-2 #13-2
#5 - 1 trap #9-gabline #14-3
#6 - 3 traps #10-4 #15-end
R. megalotis - 1
N. [redacted] - 1
lepida
Bufo. B. - 1
0800 - T = 64° W = 71.0 0% Clouds

Bel Lago

LAPM Trapping 8/23/05
w/ KW Yukon 3.5hrs

1845 - T=83° W=2.0 0%
Baiting traps

8/24/05

LAPM Trapping
w/ JR Yukon 4.5 hrs
0700 - @ Site T=65° W=71.0 0% clouds
Empty - ~~IIII IIII IIII IIII IIII IIII IIII IIII IIII IIII IIII~~
P. manic. - ~~IIII IIII IIII IIII IIII~~ IIII ~~IIII IIII IIII~~
R. megalotis - II
triggerid - ~~IIII IIII~~
[illegible] - [illegible]
N. lepida
Chat. fermosus

0815 - T=67 W=71.0 0% clouds
8/24/05

1920 - Baiting traps
T=88° W=71.0 0% clouds
w/ KO + SH

Bit Lago

LAPM Trapping w/SC Yukon

8/25/05

0645 @ site T=68° W=71.0 10% cloud

Empty - [tally marks]

Triggered - ||||/ ||

P. manic. - [tally marks]

R. megalotis - |||

N. lepida |||

~~[illegible]~~

Bufo boreas - 1

0745 - T=69°

8/25/05

Kyle is baiting traps tonight.

Bel Lago

LAPM Trapping 8/26/05
w/ KW

0615 T=65° W=71.0

68/53

Empty - ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ||||

Triggered - ~~||||~~ ~~||||~~ ||

P. maniculatus - ~~||||~~ ~~||||~~ ~~||||~~

R. megalotis - ||

N. lepida - ||

C. formosus - |

picking up traps = Total 121

0730 - T=69° W=71.0

Total 605 trap nights

Bel Lago 8/23

LAPM Trapping #2

6:30 am 62°F 1-2 mph 0% clouds

OM: ~~IIII~~ ~~IIII~~ ~~IIII~~ IIII

[illegible]

F/M : 1

Wood R : 1

Wtad : 1

plants: ✓mule fat ✓ragweed ✓centaurea

✓tarragon ✓Jimson ✓b. sage

✓scalebroom ✓CA sagebrush ✓lessingia

✓sp mustard ✓horseweed ✓telegraph

✓red brome ✓ripgut ✓stephanomeria

✓tree tobacco heliotrope ✓living saltbush

✓schismus ✓atriplex

✓common sunflower

✓R. thistle ✓CA buck

Focused Los Angeles Pocket Mouse Survey Report
Highlands Specific Plan
City of Moreno Valley, Riverside County, California

Sunnymead and El Casco, California USGS 7.5-minute Topographic Quadrangle Map
Sections 1, 2, 11, 12, 13, and 14; Township 3 South; Range 3 West
Sections 5, 6, 7, 8, 16, 17, 18, 19, 20, and 21; Township 3 South; Range 4 West

Prepared for:

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Contact: Mr. Wayne Peterson, Vice President, Community Planning

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Report Prepared By: Kelly M. Rios, Sr. Biologist
Survey(s) Conducted: June 27 through July 2, 2010
Report Date: December 13, 2010

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SECTION 1: SUMMARY

Michael Brandman Associates (MBA) conducted a focused survey for Los Angeles pocket mouse on the 4,321-acre Highland Fairview project site (project site or site), located in the City of Moreno Valley, Riverside County, California. This effort assessed the presence/absence of Los Angeles pocket mouse and identified the potential for impacts to this species resulting from the proposed development of the site.

The Los Angeles pocket mouse focused surveys are part of the survey requirements for Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) consistency. The surveys were conducted according to established United States Fish and Wildlife Service (USFWS) protocols for Pacific pocket mouse, a similar species to determine the presence/absence of the species within the project site.

Los Angeles pocket mouse was not observed during the trapping session. The project site is considered unoccupied by Los Angeles pocket mouse. No additional measures are required for potential impacts associated with this species.

SECTION 2: INTRODUCTION

As requested by the Highland Fairview Operating Company, Michael Brandman Associates (MBA) completed a focused survey for Los Angeles pocket mouse for the Highlands Specific Plan within the City of Moreno Valley, Riverside Counties, California.

2.1 - Survey Purpose

MBA's biologist, Kelly Rios who is experienced in mammal trapping (United States Fish & Wildlife Service, permit TE018909-03 for San Bernardino kangaroo rat), conducted a live-trapping effort for the Los Angeles pocket mouse (LAPM), a California Species of Special Concern, on the 4,321-acre Highlands Specific Plan project site located in the City of Moreno Valley, Riverside County, California, (project site or site). Trapping for the LAPM occurred in three portions of the project site that contained suitable habitat for the LAPM, hereafter referred to as the survey area.

Previously, the project site had been surveyed for LAPM. The large drainage feature located in the southeastern portion of the site was trapped in September of 2005. The findings from that trapping effort were negative.

The live-trapping effort for the LAPM was conducted to comply with the Western Riverside County MSHCP. The study area occurs within the Reche Canyon/Badlands Area Plan of the MSHCP but is not located within any Criteria Cells. The study area is located within an MSHCP-designated survey area for LAPM.

This report describes the existing conditions of the survey area, general biological resources observed within the study area, and results of the trapping effort.

2.2 - Project Description

The Highland Fairview Operating Company property is a 4,321-acre project site dominated by dry-land farming agricultural land. Additional offsite areas include freeway interchanges, water quality basins, as well as other project infrastructure. Historically, the project site has been used for agricultural purposes for many decades. Currently, it is dominated by disked agricultural fields. General land use in the vicinity of the project site includes State Route (SR) 60 and agricultural lands to the north, agricultural lands intermixed with rural residences to the west and south, and undeveloped land to the east.

2.3 - Project Site Location and Study Area

The project site includes the Highland Fairview Operating Company property as well as offsite improvement areas that may be used in support of any future project implemented on the parcel map. The study area is generally located north of SR-74, south of SR-60, east of Interstate (I) 215, and west

of SR-79, in the City of Moreno Valley, Riverside County, California (Exhibit 1). The survey area is depicted within Sections 7 and 8 of Township 3 South, Range 4 West of the Sunnymead and El Casco, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Exhibit 2). More specifically, it is located south of Ironwood Avenue, east of Moreno Beach Drive, and west of Gillman Springs Road (Exhibit 3).

The entire project site occurs on the Assessor's Parcel Numbers (APNs) shown in Table 1.

Table 1: Project Site Assessor's Parcel Numbers

Project Site Assessor's Parcel Numbers				
304020006	304020008	304041014	304041015	304041016
304041029	304041030	304051005	304051006	304051012
304052026	304053001	304053006	304053007	304053010
304053011	304053012	304053013	304053014	304053015
304053016	304053017	304053018	304053019	304053020
304053021	304060001	304060002	304060003	304060004
304060005	304060006	304060007	304060008	304060009
304060020	304060021	304070001	304070002	304070003
304070004	304070005	304070006	304070007	304070008
304070009	304070010	304070011	304070012	304070013
304070014	304070015	304070016	304070017	304070052
304070053	304070054	304070055	304070056	304290063
304290064	304420001	304420002	304420003	304420004
304420005	304420006	304420007	304421001	304421002
304421003	304421004	304421005	304421006	304421007
304421008	304421009	304421010	304421011	304421012
304421029	304421043	304431005	304431006	304431007
304431008	304431009	312020006	312041011	312050015
312061001	312063019	312063020	312063021	312063022
312063023	312063024	312063025	422020003	422020004
422020005	422020006	422020007	422020009	422020010
422030002	422030003	422030007	422030008	422030012
422030013	422040008	422040009	422040010	422040012
422040013	422040014	422040015	422050006	422070005
422070006	422070010	422070014	422070017	422070018
422070019	422070020	422070021	422070022	422070023
422070024	422070029	422070030	422070031	422070032
422070033	422070034	422070035	422070036	422070037
422080001	422080002	422080003	422080004	422090001
422100001	422100002	422100003	422100006	422100007
422100010	422100012	422100013	422100014	422100015
422100016	422100021	422100022	422110001	422110002
422110003	422110004	422110005	422110006	422110007

Project Site Assessor's Parcel Numbers				
422110008	422110009	422120001	422120002	422120003
422120004	422120007	422120008	422120011	422120012
422120015	422120016	422120017	422130001	422130002
422130003	422140001	422140002	422140003	422140004
422140006	422140007	422140008	422140009	422140010
422150004	422150006	422150007	422150008	422150010
422160008	422160009	422160010	422180002	422190003
423070005	423070008	423070009	423250001	423250002
423250007	423250008	423250009	423250010	423250011
423250012	423250013	423250018	423260001	423260002
423260003	423260004	423260005	423260006	423260007
423260008	423260009	423270003	423270004	423270006
423270007	423270008	423270009	423270017	423270018
423270019	423280001	423280002	423280003	423280004
423280005	423280006	423280007	423280008	423280009
423290007	423300002	423300004	423300005	423300009
423300010	423310001	423310002	423310003	423310004
423310005	423310006	423310007	423310008	423320001
473220016	473220017	473220024	473220025	478020040
478070004	478070005	478070006	478070007	478070008
478070010	478070011	478070012	478070016	478070017
478070025	478080007	478080008	478100002	478100003
478100009	478100012	478100017	478100018	478110001
478110004	478110005	478110006	478120001	478120002
478120003	478120004	478120007	478120008	478120017
478120018	478120020	478120021	478120024	478131039
478131041	478131056	478132020	478132021	478132030
478141002	478141045	478142025	478142028	478142029
478151001	478151002	478151003	478151004	478151012
478151014	478151016	478151018	478151024	478151036
478151037	478151038	478151040	478152012	478152052
478165075	478165077	478166001	478166002	478166003
478166004	478166006	478166007	478166008	478166009
478166010	478166013	478166014	478166015	478166016
478166017	478166018	478166019	478166031	478166032
478166033	478166036	478166037	478173029	478173034
478173042	478173043	478174016	478174017	478174018
478181059	478181060	478182022	478182023	478182042
478182047	478182048	478182054	478182058	478182061
478182062	478191029	478191030	478191031	478191032
478191033	478191034	478191035	478191036	478191037
478192055	478192056	478201039	478201047	478201063
478202052	478202090	478210032	478210033	478210044

Project Site Assessor's Parcel Numbers				
478210045	478210046	478210054	478210055	478210056
478220001	478220002	478220003	478220004	478220005
478220006	478220007	478220009	478220010	478220011
478220012	478220013	478220014	478220015	478220016
478220017	478220018	478220019	478220020	478220021
478220022	478220023	478220024	478220025	478220026
478220027	478220028	478220029	478220030	478220031
478230001	478230002	478230003	478230004	478230005
478230006	478230007	478230008	478230009	478230010
478230011	478230014	478230015	478230016	478230017
478230019	478230020	478240002	478240003	478240005
478240006	478240007	478240008	478240011	478240012
478240013	478240014	478240015	478240016	478240017
478240019	478240021	478240022	478240023	478240024
478240025	478240026	478240027	478240028	478240029
478240030	478240031	478240032	478240033	478240034
478370005	478370006	478370007	478370008	478370014
486160037	486160038	486340029	486480001	486480026
486480027	486480042	486480043	486480044	486480047
486481001	486481002	486481003	486481004	486481005
486481006	488080006	488080007	488230001	488230012
488231001	488231002	488231003	488231004	488231005
488231006	488231007	488231008	488250001	488250002
488250003	488250004	488250005	488250006	488250007
488260001	488260002	488260003	488260006	488260009
488260012	488260014	488260018	488260019	488260020
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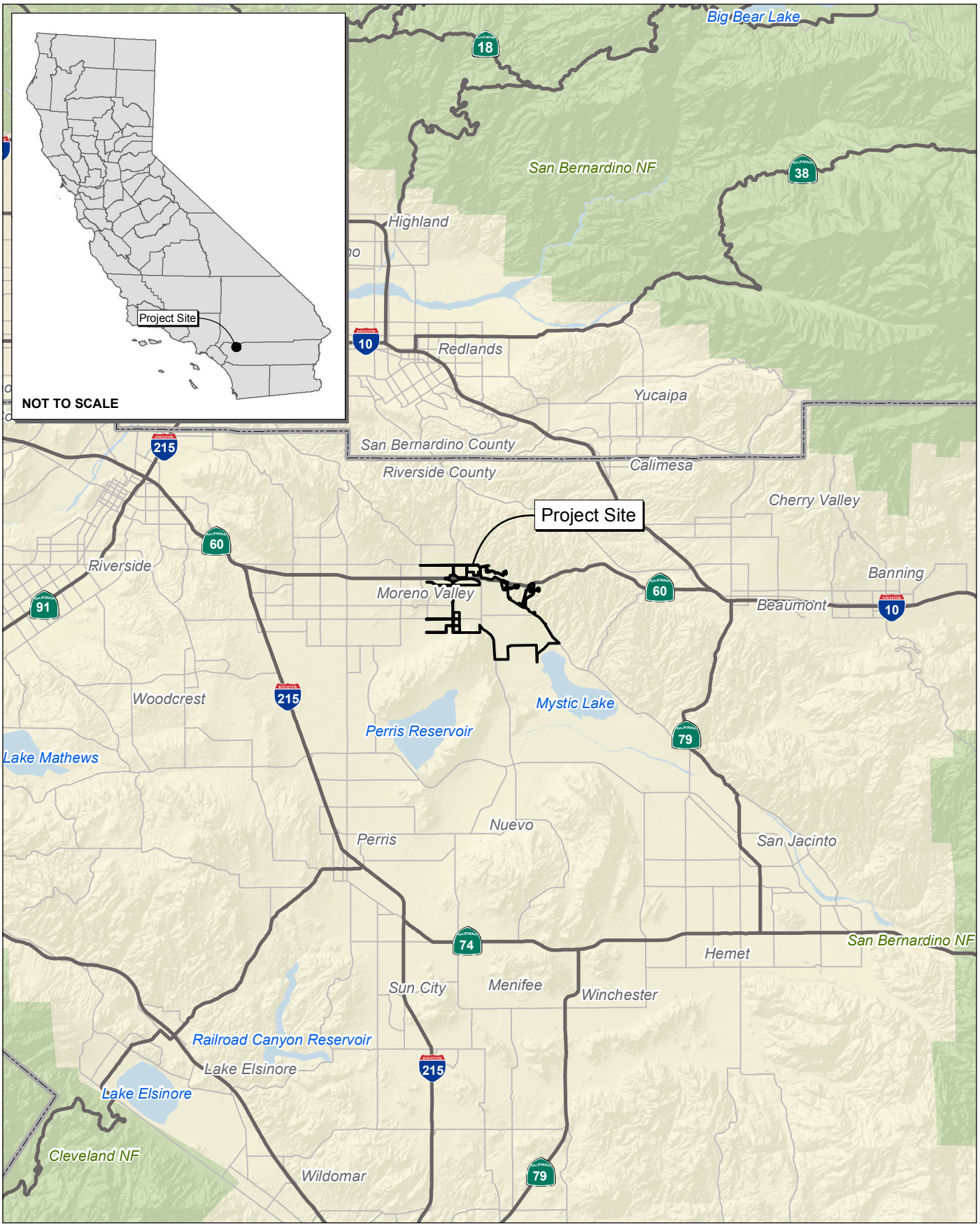
488260033	488260034	488260035	488260036	488260037
488260038	488310004	488310009	488310010	488310011
488320001	488320006	488320007	488320008	488320009
488330001	488330004	488330013	488330019	488330022
488330023	488330024	488330025	488330026	488330027
488330028	488330029	488330030	488330031	488340001
488340002	488340003	488340004	488350001	488350002
488350003	488350004	488350005	488350006	488350007
488350008	488350009	488350010	488350011	488350012
488350013	488350014	488360001	488360002	488360004
488360005	488360006	488360007	488360008	488360009
488360010	488360011	488360012		



Source: Census 2000 Data, The CaSIL, MBA GIS 2009.

Michael Brandman Associates

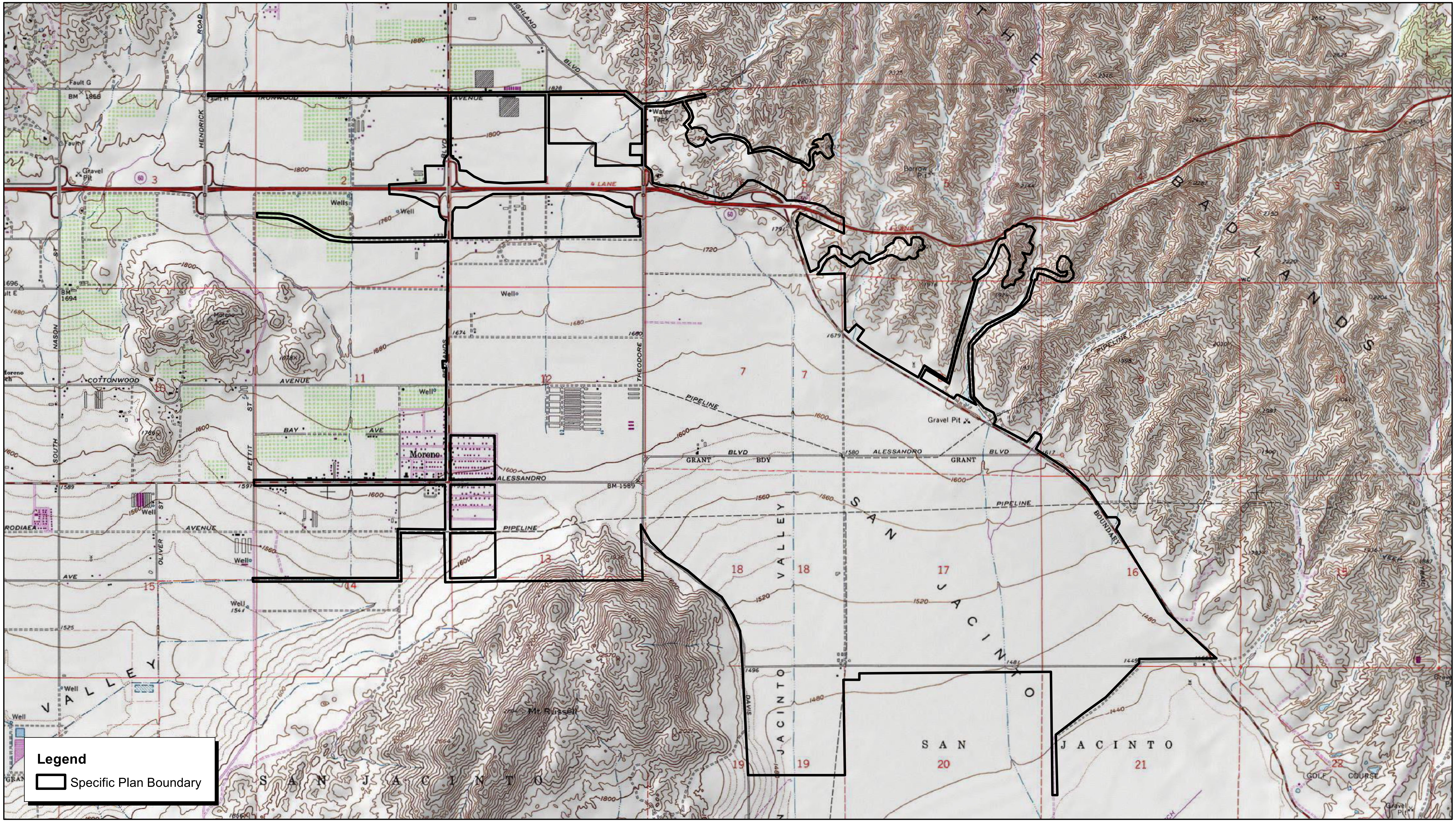
NORTH

5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

26100022 • 08/2010 | 1_regional.mxd

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN
LOS ANGELES POCKET MOUSE FOCUSED SURVEY



Source: TOPO! USGS Sunnymead (1978) and El Casco (1976) 7.5' DRG.

Michael Brandman Associates

NORTH

2,500 1,250 0 2,500

Feet

Exhibit 2

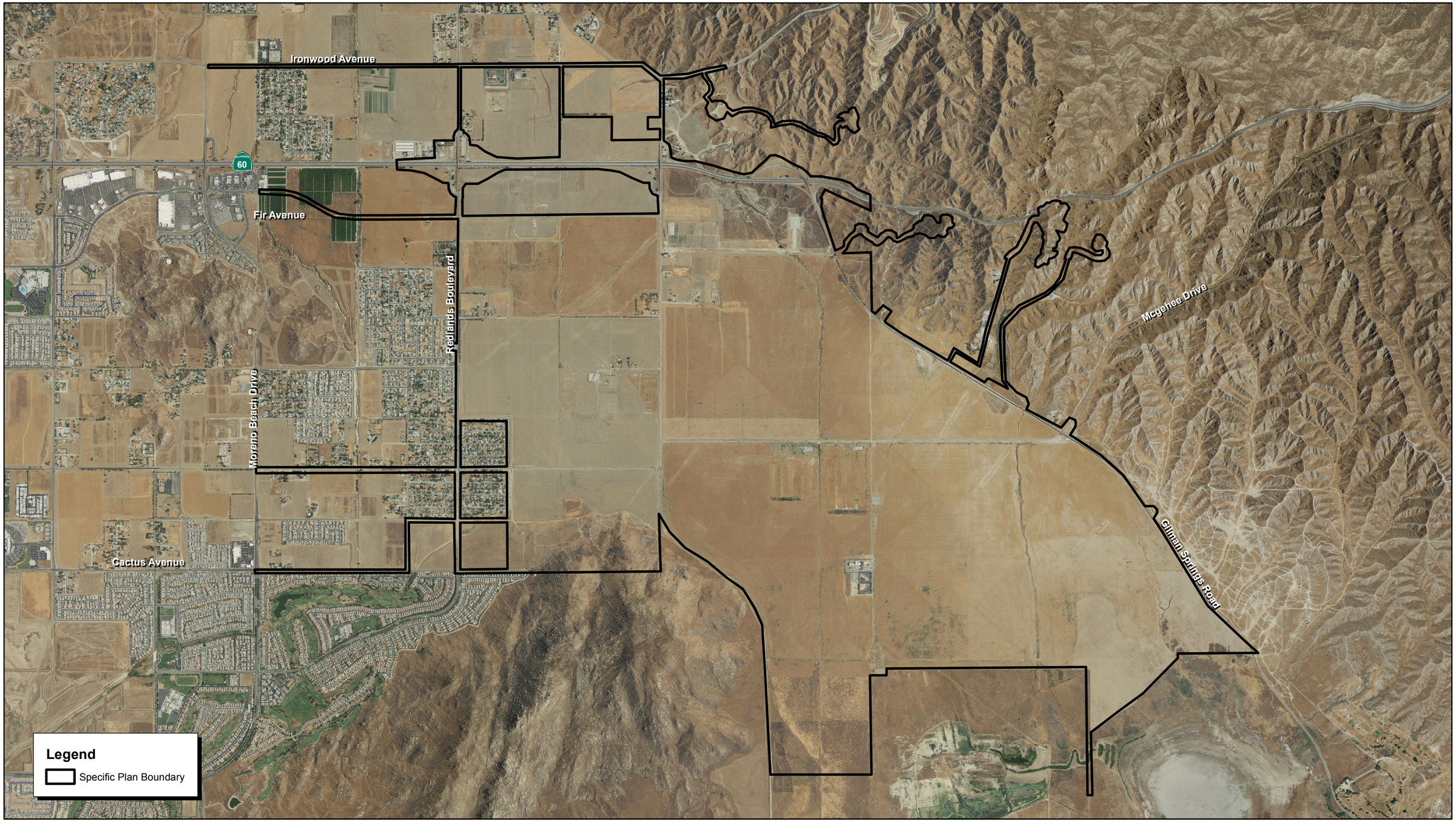
Local Vicinity Map

Topographic Base

26100022 • 08/2010 | 2_local_topo.mxd

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN

LOS ANGELES POCKET MOUSE FOCUSED SURVEY



Source: Riverside County NAIP, 2009.

NORTH

2,400 1,200 0 2,400
Feet

Michael Brandman Associates

26100022 • 08/2010 | 3_local_aerial.mxd

Exhibit 3
Local Vicinity Map
Aerial Base

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN
LOS ANGELES POCKET MOUSE FOCUSED SURVEY

SECTION 3: METHODS

3.1 - Literature Review

A literature review was conducted prior to trapping. This included a review of standard field guides and texts on sensitive and non-sensitive biological resources, as well as the following sources:

- List of sensitive biological resources provided by the California Natural Diversity Database (CNDDB).
- Biological resources reports for the project site.
- General texts and other documents identifying potential resources on the site.

3.2 - Focused Surveys

A focused trapping effort for LAPM was conducted according to established USFWS protocols for Pacific pocket mouse (*Perognathus longimembris longimembris)*, a similar species. Kelly Rios (USFWS permit # TE-018909-03, Scientific Collecting permit # 801077-05) conducted the trapping surveys. Three transects were executed for the focused survey effort. The current protocol requires five consecutive nights of trapping conducted when the animal is active aboveground at night, and preferably during a new moon phase. MBA conducted the trapping effort on five consecutive nights beginning June 27 and concluded the morning of July 2, 2010.

A total of 122 traps were set in three drainages within the survey area. Five nights of trapping were conducted, for a total of 610 trap nights. Traps were placed in suitable habitat areas within the drainages, concentrating on areas containing sandy soils and suitable vegetation, and located near potential LAPM burrows.

The traps were left in the same place throughout the trapping survey. At sunset, each trap was baited with a mixture of birdseed placed at the back of the traps. The traps were inspected and the animals captured were released at dawn each morning. Any trap that was not triggered was set in the closed position to prevent accidental capture of animals during daylight hours. All animals were identified and released at the point of capture.

The habitat conditions of trap locations were recorded in a field notebook. Weather conditions at the time of the baiting and releasing of the animals were also noted.

SECTION 4: EXISTING CONDITIONS

4.1 - Weather Conditions

Weather conditions during the trapping survey included morning temperatures ranging from 57 to 64 degrees Fahrenheit (°F) and an evening temperature when the traps were set ranging from 76 to 83 °F. Skies were clear. The moon was in its new moon phase, which occurred on June 12, 2010.

4.2 - Soils and Topography

Exhibit 4 depicts the USDA soil types that are mapped within the project site (USDA 1971). Within the survey area, the majority of the transect lines occur within San Emigdo fine sandy loam. The southern portion of Transect 2 occurs in San Emigdo loam and Transect 1 is immediately adjacent to Metz sandy loam.

Of these soil types, San Emigdo fine sandy loam and Metz sandy loam are considered suitable burrowing substrate for the LAPM.

4.3 - Plant Communities Within the Transects

The three transects were located in three separate drainage features containing a mix of mulefat scrub and Riversidean alluvial fan sage scrub plant communities and surrounded by active agriculture fields (Exhibit 5). Transects 1 and 2 were located in ephemeral drainage features that meander through the agricultural field and are dominated by mulefat (*Baccharis salicifolia*). Scattered ruderal species such as short-podded mustard (*Hirschfeldia incana*), cheeseweed (*Malva parviflora*), bindweed (*Convolvulus arvensis*), and non-native grasses such as slender oats (*Avena barbata*) and rip-gut brome (*Bromus diandrus*) occur in the features.

Transect 3 was located in an agricultural field, however this large drainage feature was approximately 30 feet deep and was also surrounded by Riversidean alluvial fan sage scrub, which occurred on the lower banks of the drainage feature (Exhibit 5). The vegetation within this channel is sparse and frequently disturbed during high flow events. The drainage feature has been moderately disturbed as a result of trash dumping, grazing, agricultural activities, and the presence of domesticated animals.

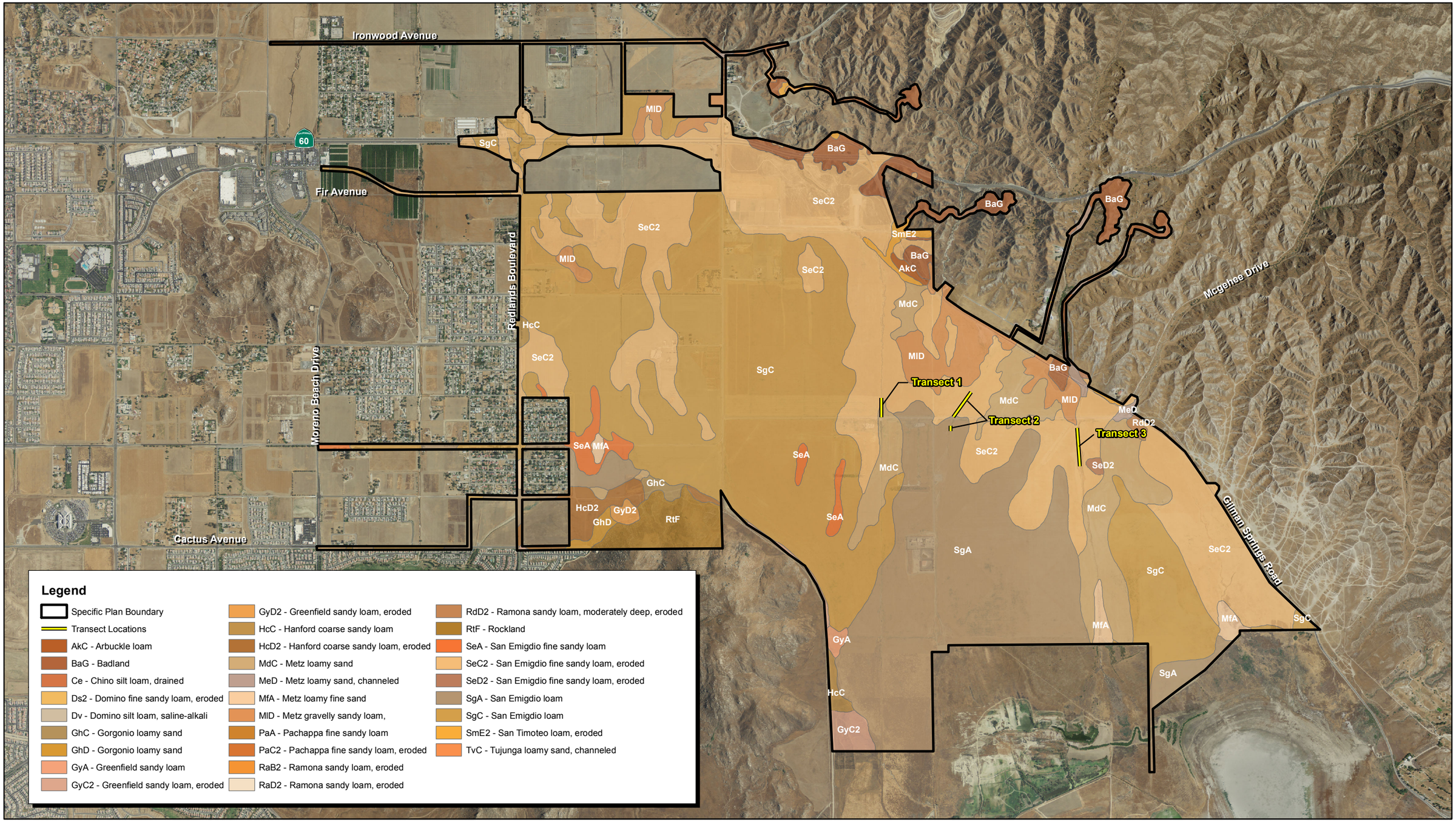
4.4 - Mulefat Scrub

This community occurs in small patches along the drainages and tends to dry out quickly after storm events. This riparian habitat type consists primarily of mulefat, with scattered willows (*Salix* spp.), and coyote bush, forming the shrub canopy. In most areas, the understory contains upland grasses and forbs like wild oats (*Avena* spp.) and mustard (e.g., *Brassica, Hirschfeldia*, *Rapa* spp.). In areas where mulefat is particularly dense or where substantial scouring has occurred, the understory component of this habitat may be sparsely vegetated or absent.

4.5 - Riversidean Alluvial Fan Sage Scrub

Riversidean alluvial fan sage scrub (RAFSS) is described as open vegetation adapted to alluvial fans and outwashes. It grows on sandy, rocky, alluvial flood deposits at the base of the San Bernardino, San Gabriel and San Jacinto Mountains. The community is composed of drought-deciduous shrubs and evergreen woody shrubs, with a substantial herbaceous/wildflower understory. The RAFSS habitat consisting of sandy soils is considered suitable for LAPM.

The RAFSS surrounding Transect 3 consisted of continuous stands of shrubby plant species with limited interstitial areas. The dominant species observed in the vicinity of Transect 3 are California buckwheat (*Eriogonum fasciculatum*) and brittlebush (*Encelia farinosa*). Additional native species observed includes California sagebrush (*Artemisia californica*).



Source: Riverside County NAIP, 2009. USDA Soils Data.

NORTH

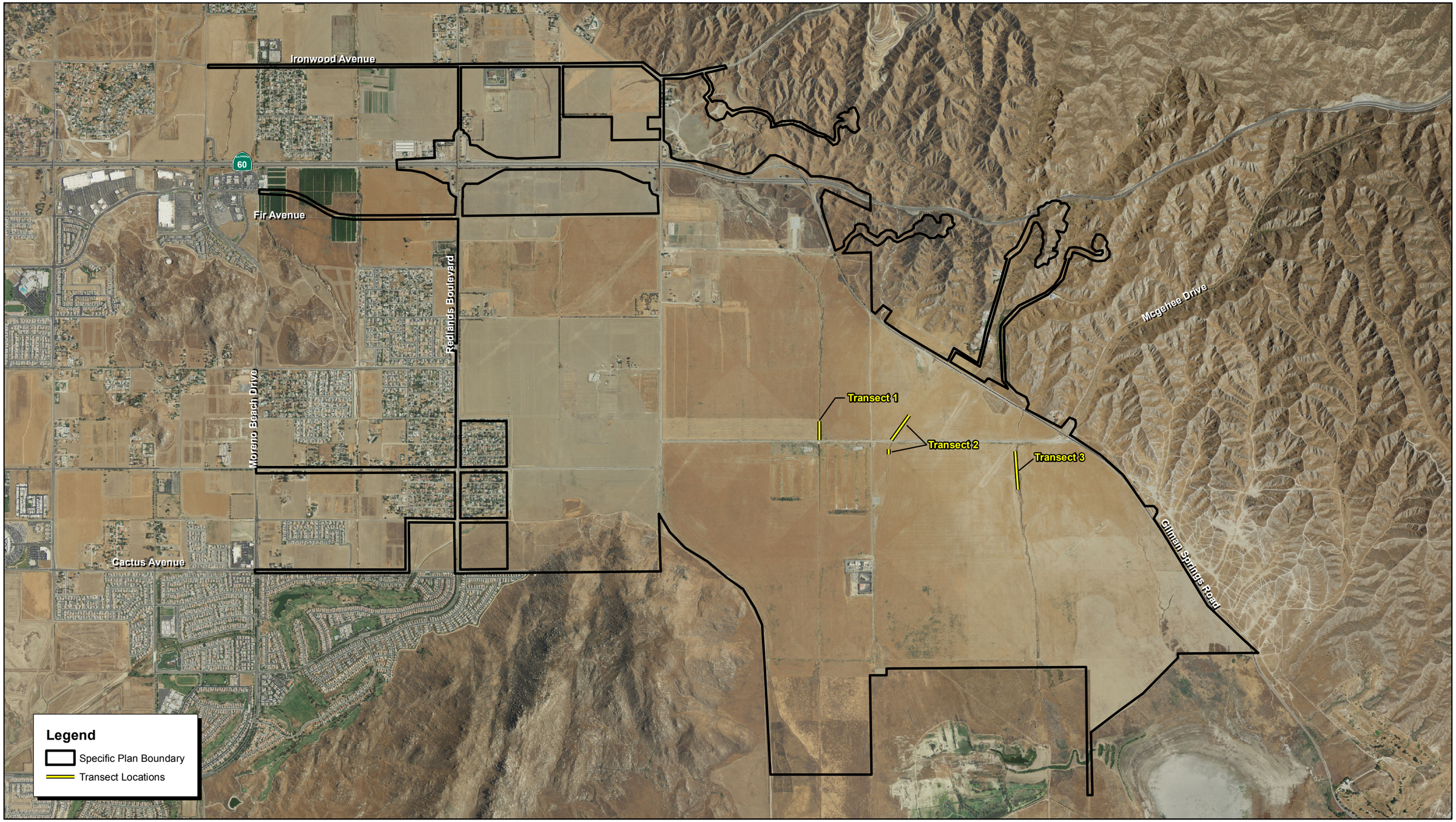
2,400 1,200 0 2,400 Feet

Michael Brandman Associates

26100022 • 08/2010 | 4_soils.mxd

Exhibit 4
Soils Map

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN
LOS ANGELES POCKET MOUSE FOCUSED SURVEY



Source: Riverside County NAIP, 2009.

NORTH

2,400 1,200 0 2,400
Feet

Michael Brandman Associates

26100022 • 08/2010 | 5_transects.mxd

Exhibit 5
Transect Locations

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN
LOS ANGELES POCKET MOUSE FOCUSED SURVEY

4.6 - Wildlife

Wildlife activity was low to moderate, with most of the wildlife represented by trapped mammal species. Wildlife observations were based on calls, songs, scat, tracks, burrows, and actual sightings of animals. Birds, reptiles, and mammal species were observed mainly on the slopes of the drainage features. Common avian species observed during the surveys include house finch (*Carpodacus mexicanus*) and American crow (*Corvus brachyrhynchos*). Other common wildlife species observed during the survey include reptilian species such as side-blotched lizard (*Uta stansburiana*), and mammalian species including desert cottontail (*Sylvilagus audubonii*) and California ground squirrel (*Spermophilus beecheyi*).

4.7 - Sensitive Biological Resources

The following is a discussion of the sensitive mammal species that have the potential to be trapped on the project site.

4.7.1 - Los Angeles Pocket Mouse

The LAPM is one of the smallest pocket mice found in this area of Riverside County. The habitat of the LAPM is described as being confined to lower elevation grasslands and coastal sage scrub habitats, in areas with soils composed of fine sands (Williams 1986). It occurs in open sandy soils within the valley and foothills of southwestern California (Hall 1981). LAPM is nocturnally active and forages in open ground and underneath shrubs. Pocket mice, in general, dig burrows in loose soil.

Marginal suitable habitat for LAPM occurs within the drainage features of the project site. These areas contains sparse to moderately vegetated mulefat scrub and non-native grassland, and contain moderately packed sandy soils that may provide suitable habitat for LAPM.

4.7.2 - Northwestern San Diego Pocket Mouse

The northwestern San Diego pocket mouse (*Chaetodipus fallax*) prefers habitat in open, sandy areas in the valleys and foothills of southwestern California. The range of this species extends from Orange County to San Diego County, and includes Riverside and San Bernardino counties. This species is a California Species of Special Concern; its historical range has been reduced by urban development and agriculture.

4.7.3 - San Diego Desert Woodrat

The desert woodrat (*Neotoma lepida*) is a relatively wide-ranging species extending along the coast of California from south of San Francisco through to the border of Baja California. This species also occurs in the Central Valley and the deserts of southern California, extending along the desert side of the Sierra Nevada into southeastern Oregon. The coastal race of the desert woodrat, the San Diego

desert woodrat (*Neotoma lepida intermedia*), prefers scrub habitats such as coastal sage scrub, chaparral, and alluvial fan sage scrub.

SECTION 5: FOCUSED TRAPPING SURVEY RESULTS

Table 2 summarizes the results of the 2010 survey. No LAPM were captured during this survey. A total of five mammal species were trapped, including deer mouse (*Perognathus maniculatus*), desert pocket mouse (*Chaetodipus penicillatus*), long-tailed pocket mouse (*Chaetodipus formosus*), Northwestern San Diego pocket mouse (*Chaetodipus fallax*), and harvest mouse (*Reithrodontomys megalotis*).

Table 2: 2010 Focused Trapping Results for the Highlands Specific Plan Project Site

Night #	Deer Mouse	Desert Pocket Mouse	Long-tailed Pocket Mouse	San Diego Pocket Mouse	Harvest Mouse
1	27	11	0	0	1
2	29	15	1	3	0
3	36	21	1	1	1
4	28	20	1	2	0
5	38	20	1	1	0
Total	**158**	**87**	**4**	**7**	**2**

SECTION 6: CONCLUSIONS AND RECOMMENDATIONS

This survey effort was conducted within portions of the project site that exhibit suitable LAPM habitat. No LAPM were captured during the 2010 trapping effort and the entire project site is considered unoccupied. There is no suitable connectivity from the project site to a known recorded occurrence of LAPM and many physical and topographical barriers limit any possible distribution to the site.

Based on the negative findings of the focused survey, the disturbed nature of the habitat within and surrounding the survey area, it is MBA's opinion that the existing facility will not directly impact LAPM.

SECTION 7: CERTIFICATION

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Date: December 13, 2010 Signed: _____

Kelly Rios, Sr. Biologist
Permit Number TE-018909-3
Michael Brandman Associates
Irvine, California

SECTION 8: REFERENCES

Burt, W.H. 1986. A Field Guide to the Mammals in North American North of Mexico. Houghton Mifflin Company, Boston, Massachusetts.

California Department of Fish and Game (CDFG). 2010. California Natural Diversity Database. Wildlife and Habitat Data Analysis Branch.

Garrett, K. and J. Dunn. 1981. Birds of Southern California. Los Angeles Audubon Society. The Artisan Press, Los Angeles, California.

Grinnell, J. 1933. Review of the Recent Mammal Fauna of California. University of California Publications in Zoology. 40:71-234.

Hall, E.R. 1981. The Mammals of North America, Volumes I and II. John Wiley and Sons, New York, New York.

Hickman, J.C., ed. 1993. The Jepson Manual: Higher Plants of California. University of California Press.

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. State of California Resources Agency. Department of Fish and Game. Non-Game Heritage Program. Sacramento, California. (1996 update).

Ingles, L.G. 1965. Mammals of the Pacific States. Stanford University Press, Stanford, California.

Michael Brandman Associates (MBA). 2005. Biological Resources Assessment for the 1,778-acre Bel Lago Property. City of Moreno Valley, Riverside County, California. On file at MBA.

Michael Brandman Associates (MBA). 2007. Burrowing Owl Focused Survey, Highlands Specific Plan. City of Moreno Valley, Riverside County, California. On file at MBA.

Michael Brandman Associates (MBA). 2008. Habitat Assessment and MSHCP Consistency Analysis. Highland Fairview Corporate Park. City of Moreno Valley, Riverside County, California. On file at MBA.

Munz, P.A. 1974. A Flora of Southern California. University of California Press, Berkeley, California.

Remsen, Jr., J.V. 1978. Bird Species of Special Concern in California. Non-game Wildlife Investigations. Wildlife Management Branch Administrative Report No 78-1. Report prepared for the California Department of Fish and Game.

Riverside County. 2003 (June). Final Western Riverside County Multiple Species Habitat Conservation Plan. Website: www.rcip.org.

Skinner, M.W. and B.M. Pavlik. 1994. Inventory of Rare and Endangered Vascular Plants of California. California Native Plant Society, Spec. Pub. No. 1 (5th edition), Berkeley, California.

U.S. Fish and Wildlife Service (USFWS). 1996. Review of plant and animal taxa for listing as endangered or threatened species; notice of review. Federal Register Vol. 61, No. 40.

United States Department of Agriculture (USDA). 1978. Soil Survey of Western Part of Riverside County, California. Department of the Interior. U.S. Government Printing Office. Washington, D.C.

Williams, D.F. 1986. Mammalian Species of Special Concern in California. Wildlife Management Division Administrative Report 86-1. Prepared for The Resources Agency, California Department of Fish and Game.

Appendix D:
Burrowing Owl Focused Surveys

DRAFT
Focused Burrowing Owl Survey Report
for the
1,778-Acre Bel Lago Property
City of Moreno Valley
Riverside County, California

Sunnymead and El Casco USGS 7.5-minute Topographic Quadrangles
Sections 1 and 12, Township 3 South, Range 3 West and
Sections 7, 8, 16, 17, and 18, Township 3 South, Range 2 West

Prepared for:

Highland Fairview Properties
24525 Alessandro Boulevard
Moreno Valley, CA 92553

Contact: David C. Smith, General Counsel

Prepared by:

Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA 92602
714.508.4100

Contact: Scott Crawford, Senior Project Biologist

Michael Brandman Associates

September 12, 2005

Draft

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SECTION 1:
INTRODUCTION

1.1 - SURVEY PURPOSE

This report contains the findings of Michael Brandman Associates (MBA) focused spring survey for burrowing owl (*Athena cunicularia*), on the 1,778-acre Bel Lago property, herein referred to as Project Site or Site, located within the City of Moreno Valley, Riverside County, California. Suitable burrowing owl habitat is present within limited portions of the Project Site; therefore, the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) requires a focused survey for this species. MBA conducted this focused survey to determine the presence/absence of burrowing owls on the Site.

1.2 - PROJECT SITE LOCATION

The Project Site is located in the City of Moreno Valley, Riverside County, California. Generally, the Site is located north of the San Jacinto Wildlife Area (SJWA), south of State Route (SR) 60, east of Redlands Boulevard, and west of Gilman Springs Road (Exhibit 1). The Site is specifically located in Sections 1 and 12 of Township 3 South, and Range 3 West; and Sections 7, 8, 16, 17, and 18 of Township 3 South and Range 2 West as depicted on the Sunnymead and El Casco, CA United States Geological Survey (USGS) 7.5-minute topographic maps (Exhibit 2). The Project Site is located within the Reche Canyon/Badlands Area Plan of the MSHCP.

The Project Site consists of two large properties and a smaller, isolated property. The western property is approximately 825 acres in size with a north-south orientation. The larger eastern property is approximately 890 acres in size, oriented east-west. The small, isolated property is approximately 63 acres in size, oriented east-west, and located immediately east of Gilman Springs Road and north of Eucalyptus Avenue.

The Project Site has been used for dry-land grain farming for decades and is dominated by agricultural fields (Exhibit 3). General land use in the vicinity of the Project Site includes agricultural lands and scattered rural residences to the north, agricultural and conservation lands within the SJWA as well as a natural gas compressor station to the south, recreational and conservation lands to the southwest within the Lake Perris State Recreation Area, open undeveloped foothills proposed for conservation to the east, and agricultural lands and residential development to the west.

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Source: Census 2000 Data, The CaSIL, MBA GIS 2005.

Michael Brandman Associates

NORTH

5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

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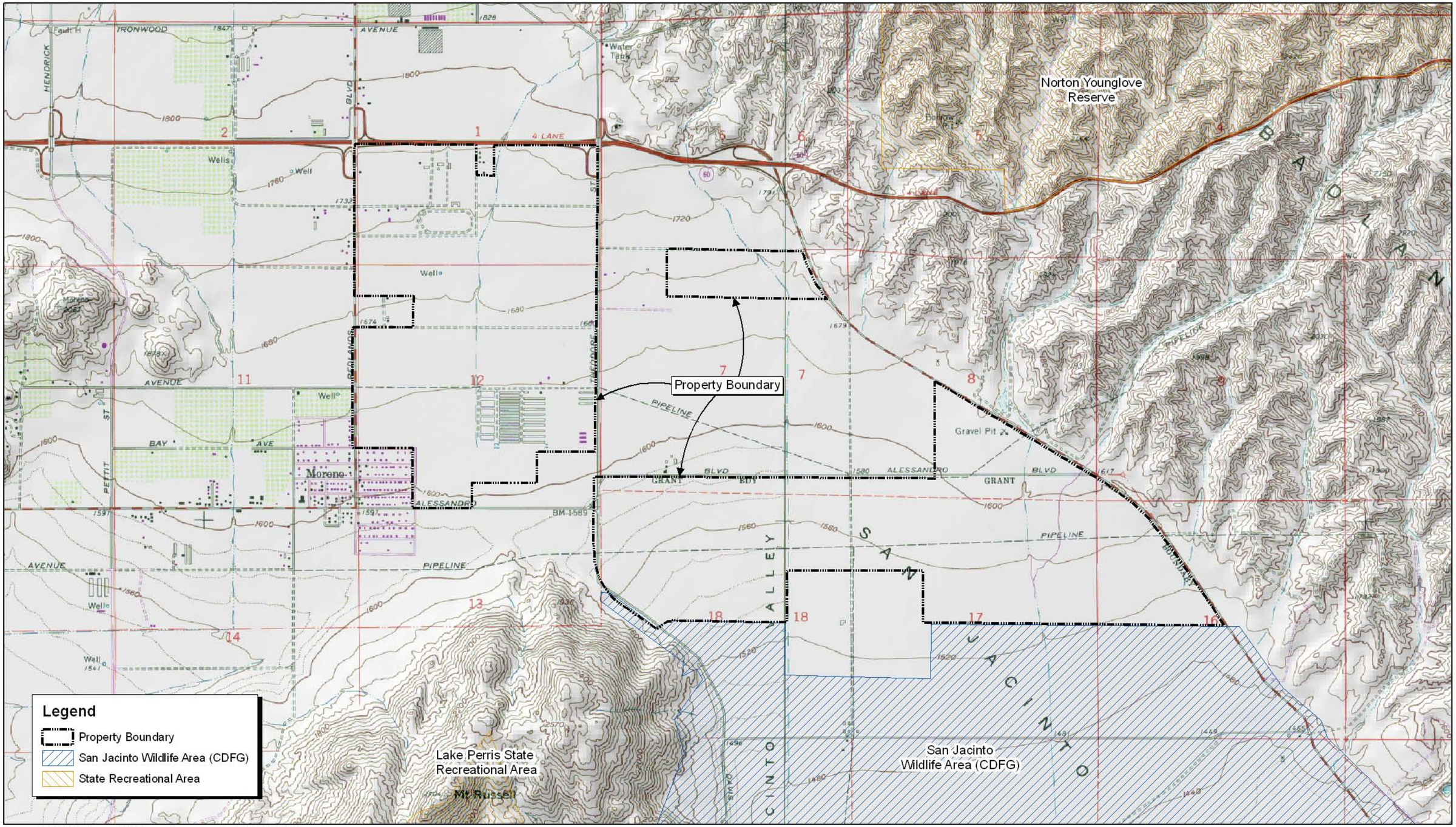
HIGHLAND FAIRVIEW PROPERTIES • 1,778-ACRE BEL LAGO PROPERTY
BURROWING OWL FOCUSED SURVEY REPORT



Source: USGS El Casco (1979) and Sunnymead (1980) 7.5' DRG.

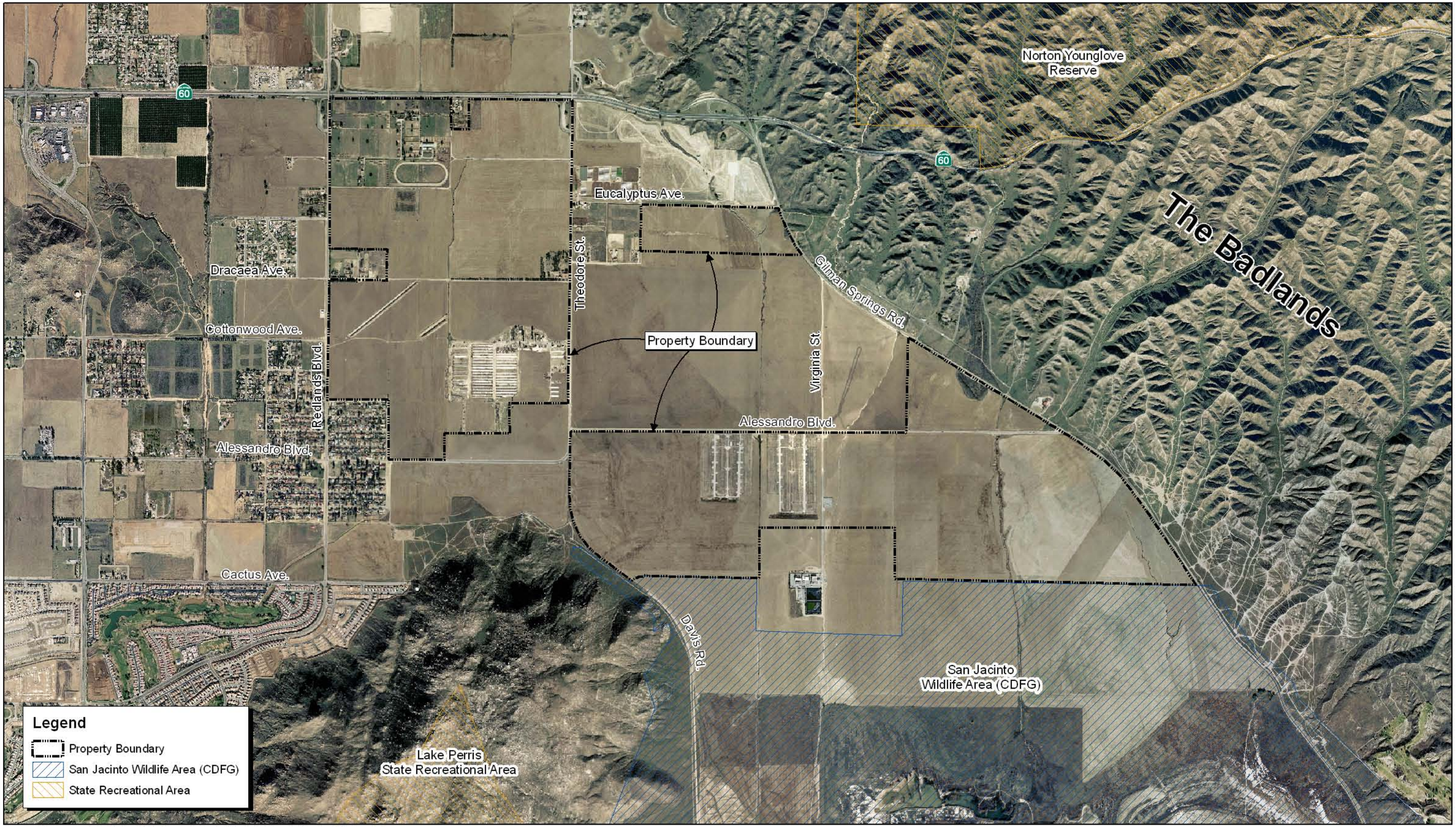
NORTH

2,000 1,000 0 2,000 Feet

Michael Brandman Associates

26100003 • 09/2005 | 2_local_usgs.mxd

Exhibit 2
Local Vicinity USGS Map



Source: Forma and AirPhoto USA, Flown March 2004, California Dept. of Fish and Game.

NORTH

2,000 1,000 0 2,000 Feet

Michael Brandman Associates

26100003 • 09/2005 | 3_local_aerial.mxd

Exhibit 3
Local Vicinity Aerial Map

1.3 - BURROWING OWL DESCRIPTION

Burrowing owls are small crepuscular owls, which use rodent burrows for nesting and roosting. They inhabit grasslands and prairies and often prefer areas with some disturbance and/or berms or drainages. Reasons for their decline include habitat destruction, insecticide poisoning, rodenticide (particularly squirrel eradication), and shooting.

Burrowing owls are known to occur in similar habitats to those found within the general vicinity of the Project Site. The Site area contains numerous locations of suitable habitat for burrowing owl, including flat, open, valley floor plains occupied by non-native grasslands, fallow fields, and agricultural lands.

The Project Site is located within the northern portions of the Perris and San Jacinto Valley floors, immediately west of the Badlands, and immediately north of the San Jacinto Wildlife Area. General land use in the vicinity of the Project Site includes open undeveloped foothills to the east within the Badlands, agricultural, recreational, and conserved lands to the south within the San Jacinto Wildlife Area, and rural residential properties and active agricultural lands to the north and west of the Site. Relatively uninterrupted connectivity of habitat exists between these areas and the Project Site. Based on current records provided by the California Natural Diversity Data Base (CNDDB) (2005), several known colonies of burrowing owl occur throughout this general area (see Section 3, Existing Conditions).

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SECTION 2:
METHODOLOGY

2.1 - LITERATURE REVIEW

The presence of burrowing owls on and in the vicinity of the Project Site was initially researched through a literature review using the U.S. Fish and Wildlife Service (USFWS) (2002) and the CNDDB (2005).

2.2 - FOCUSED SURVEY

Following the literature review, MBA biologists Scott Crawford, Steve Hongola, and Karl Osmundson conducted four focused surveys of the Project Site on May 10, 2005, May 20, 2005, May 23, 2005, and August 29, 2005. Based on current aerial photographs, habitat within the Project Site was divided into three categories defined by the potential for burrowing owl to occur: low potential, moderate potential, and high potential. Habitat within the low potential area includes previously disturbed/developed areas that contain little to no vegetation. The majority of the moderate potential area contains extensive agriculture including active wheat fields. During the focused surveys conducted in May 2005, the active wheat fields contained approximately 100 percent vegetation coverage with limited visibility. During the August 29, 2005 focused survey, the active wheat fields on the Project Site had recently been disced and contained limited vegetative coverage and high visibility. Moderate potential habitat also occurs within the disturbed portions of the southwestern quarter of the western property, north of Alessandro Street and west of Theodore Street, and the disturbed portions of the eastern property that occur to the west of Victoria Street. High potential habitat constitutes those areas in which burrowing owls have the highest potential to occur, and includes four drainage features that occur within the Project Site that contain limited vegetation and banks that support rodent burrows.

The surveys were conducted on foot and by vehicle within suitable habitat on the Project Site and within a 100-foot buffer around the suitable habitat (Exhibit 4). The total area surveyed within the Project Site was approximately 1,778 acres in size. Portions of the Project Site that were occupied by active wheat fields, existing development, or those which were dominated by ornamental trees and tall native shrubs were not walked due to the low potential for occurrence of burrowing owl.

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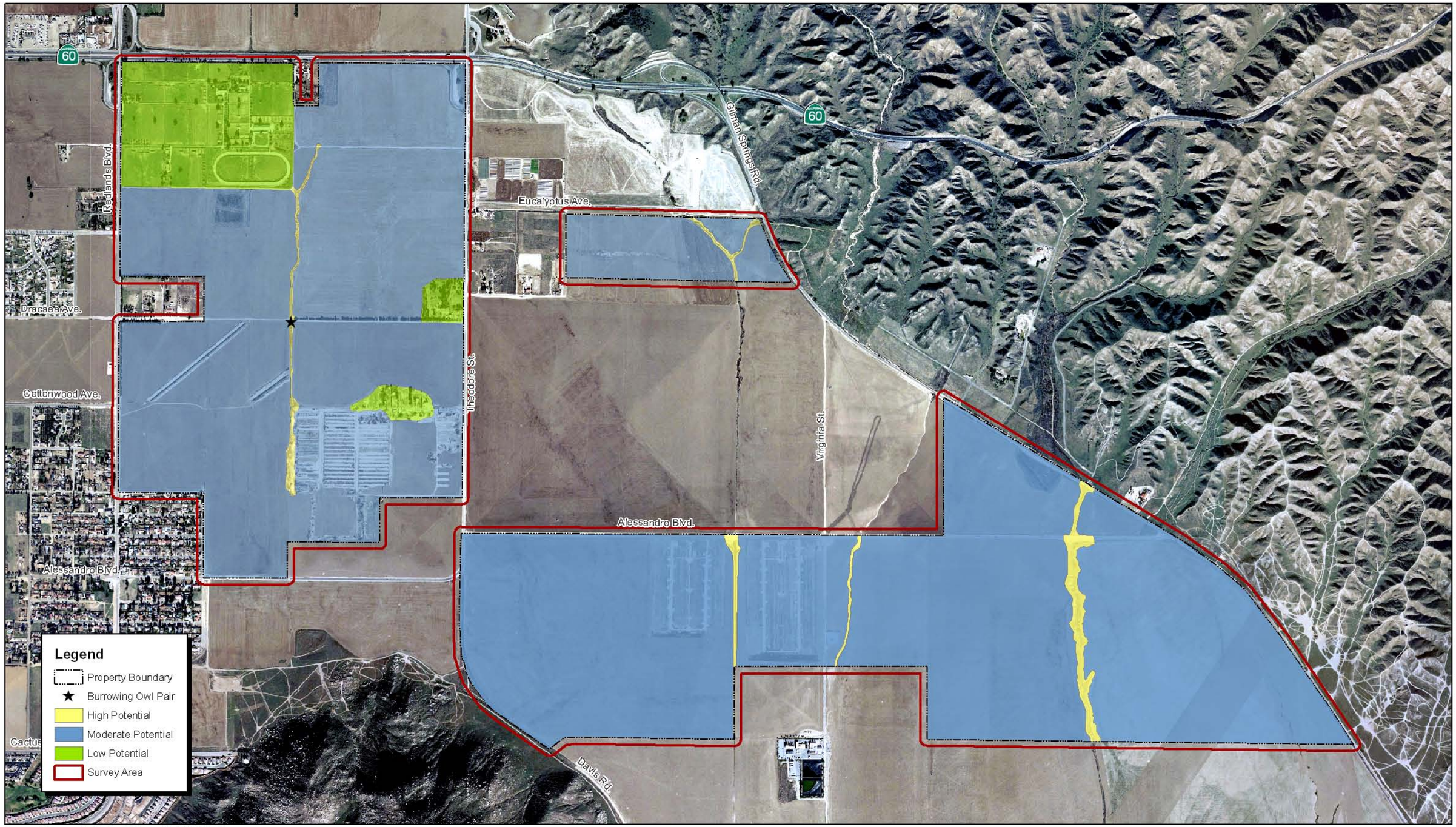

Source: Forma, Air Photo USA, and MBA Field Survey.

NORTH

1,400 700 0 1,400 Feet

Michael Brandman Associates

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Exhibit 4
Burrowing Owl Survey Area Map

Due to the limited area of suitable burrowing owl habitat on the Project Site, and because no burrowing owls had been previously recorded or observed on the Project Site during previous biological surveys, MBA's biologist determined that four focused surveys would be sufficient to determine the presence/absence of burrowing owls within the Project Site. The Project Site has been divided into three survey areas and addressed within this report as the western property, the eastern property, and the small isolated 63-acre property. The western property is described as the large property that includes those portions of the Project Site that are located west of Theodore Street. The eastern property is described as the large property that includes those portions of the Project Site that are located east of Theodore Street. The small isolated 63-acre property is located in the northeastern portions of the Project Site, immediately west of Gilman Springs Road and south of Eucalyptus Avenue (Exhibit 3).

2.2.1 - Presence/Absence Determination

The presence of owls was determined by direct observation or by inference from the presence of sign, including pellets, white wash, tracks, feathers, and/or prey remains. All rodent burrows were thoroughly examined for evidence of sign and all suitable perches were inspected for burrowing owl pellets and whitewash.

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SECTION 3:
EXISTING CONDITIONS

Four focused burrowing owl surveys were conducted on the 1,778-acre Project Site between 0530 and 1230 hours on May 10, 2005, May 20, 2005, May 23, 2005, and August 29, 2005. General weather conditions during the focused surveys for the proposed project included clear skies with an approximate temperature range of 58 to 95 degrees Fahrenheit and winds of approximately 1 mile per hour.

Based upon a review of the CNDDB sensitive species lists for the El Casco and Sunnymead USGS topographic quadrangles, MBA determined that burrowing owls have been previously observed in the vicinity of the Project Site. The closest recorded occurrence of burrowing owls is approximately 2 miles south of the Project Site within the San Jacinto Wildlife Area. According to the CNDDB, this occurrence was last updated in 1995. Burrowing owls have also been recorded approximately 5 miles west of the Site in the vicinity of March Air Force Base, last updated in 2002, and approximately 5 miles southwest of the Site in the vicinity of the Perris Dam, last updated in 1989.

3.1 - SOILS AND TOPOGRAPHY

Topographically, the Project Site exists within the San Jacinto Valley floor at the northern extent of the Perris and San Jacinto valleys, north of the San Jacinto Mountains, and west of the Badlands. This area is relatively flat with minimal topographic relief or elevation change. The Project Site has an elevation range of approximately 1,480 to 1,800 feet above sea level. Soils on the Project Site are dominated by San Emigdio sandy loams based upon the United States Department of Agriculture (USDA) Soil Survey for the Western Riverside Area (1971). The vegetation on the Project Site consists primarily of non-native grasses, ruderal forbs, herbs, ornamental trees and shrubs, cultivated wheat associated with the active agricultural fields; limited areas are occupied by native trees and shrubs.

3.2 - SUITABLE BURROWING OWL HABITAT

Presently, the majority of Project Site contains cultivated wheat (*Triticum aestivum*) and is routinely disked and maintained for agriculture purposes. The western property is characterized by three plant communities, extensive agriculture, intensive agriculture, and disturbed habitat. Limited portions of the eastern property are characterized by mule fat scrub, coastal sage scrub, and southern willow scrub plant communities, with the remaining habitat characterized by disturbed habitat and extensive

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agriculture. In addition, portions of the Project Site contain existing development and in this report are referred to as disturbed/developed. Habitat within the Project Site was divided into three categories defined by the potential for burrowing owl to occur: low potential, moderate potential, and high potential.

3.2.1 - Low Potential Habitat

Portions of the northwestern quarter of the western property are occupied by abandoned equestrian facilities that include an arrangement of rural residences, corals, stables, and fields. The vegetation in this area includes scattered stands of ornamental trees and a few abandoned areas used as a pasture. These disturbed areas typically contain approximately 100 percent vegetation coverage and provide poor habitat for burrowing owls due to limited visibility for the ground dwelling species. These areas were not surveyed due to the lack of suitable habitat for burrowing owl. Additionally, a rural residence located at the northwest corner of the intersection of Theodore Street and Dracaea Avenue includes small, fragmented patches of non-native grasses and weeds, intermittent to isolated stands of ornamental trees and shrubs. These areas were minimally surveyed and provide low quality habitat; burrowing owls have a low potential for occurrence within these areas (Exhibit 4).

3.2.2 - Moderate Potential Habitat

The majority of the Project Site consists of disturbed lands cultivated for wheat and maintained for agricultural practices. These portions contribute to the moderate potential habitat on the Site and are characterized by extensive agriculture. Moderate potential habitat occupies the majority of land within the eastern and western property, as well as the small isolated 63-acre property immediately west of Gilman Springs Road and south of Eucalyptus Avenue. Moderate potential habitat also occurs within the disturbed portions of the southwestern quarter of the western property, north of Alessandro Street and west of Theodore Street, and the disturbed portions of the eastern property that occur to the west of Victoria Street. These disturbed areas are occupied by abandoned concrete pads and property fences and have been overgrown with non-native grasses and weeds.

There are two, small, isolated patches of Riversidean sage scrub (RSS) that occur along the eastern Project Site boundary immediately adjacent to Gilman Springs Road and the Badlands. These patches of RSS are relatively small and sparse. Good quality RSS habitat occurs adjacent, and to the north of Gilman Springs Road within The Badlands. Dominant native plant species within these two patches include California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), brittlebush (*Encelia farinosa*), black sage (*Salvia mellifera*), and jimson weed (*Datura discolor*). Other plant species observed include California aster (*Lessingia filaginifolia*) and mayweed (*Anthemis cotula*).

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There is moderate density of vegetation coverage and presence of suitable perching areas within the two small patches of RSS. These two areas plus the disturbed lands cultivated for wheat, the disturbed portions of the southwestern quarter of the western property, and the disturbed portions of the eastern property to the west of Victoria Street, are considered moderate quality habitat for burrowing owl. The majority of land contained within these areas provides suitable habitat for burrowing owl; burrowing owls have a moderate potential to occur within these areas of the Project Site (Exhibit 4).

3.2.3 - High Potential Habitat

The Project Site contains four drainage features that were determined to contain the highest potential and best quality nesting habitat for burrowing owls within the Project Site. Dominant plant species observed within these drainage features include mule fat (*Baccharis viminea*), common sunflower (*Helianthus annuus*), jimson weed), and California everlasting (*Gnaphalium californicum*). Other plant species observed within these drainage features include tree tobacco (*Nicotiana glauca*), short-podded mustard (*Hirschfeldia incana*), Russian thistle (*Salsola tragus*), giant reed (*Arundo donax*), cheeseweed (*Malva parviflora*), scalebroom (*Lepidospartum squamatum*), wild radish (*Raphanus raphanistrum*), red brome (*Bromus rubens*) and oats (*Avena* sp.). Due to the presence of suitable perching features and soft, sandy soils containing existing burrows, these four drainage features provide high quality habitat for burrowing owl; burrowing owls have a high potential to occur within these areas of the Project Site (Exhibit 4).

3.3 - WILDLIFE

Avian activity was high during the focused surveys within the Project Site. Common avian species observed during the focused surveys include western meadowlark (*Sturnella neglecta*), black phoebe (*Sayornis nigricans*), American crow (*Corvus brachyrhynchos*), lesser goldfinch (*Carduelis psaltria*), European starling (*Sturnus vulgaris*), common raven (*Corvus corax*), Cassin's kingbird (*Tyrannus vociferans*), and mourning dove (*Zenaida macroura*). Other avian species observed during the focused surveys include rock wren (*Salpinctes obsoletus*), loggerhead shrike (*Lanius ludovicianus*), red-winged blackbird (*Agelaius phoeniceus*), red-tailed hawk (*Buteo jamaicensis*), barn owl (*Tyto alba*), and burrowing owl (*Athene cunicularia*). Other common wildlife species observed during the survey include reptilian species such as side-blotched lizard (*Uta Stansburiana*), and mammalian species such as California ground squirrel (*Spermophilus beecheyi*) and Audubon's cottontail (*Sylvilagus audubonii*).

A few raptor species were observed during the focused surveys, including one pair of burrowing owls. The pair of burrowing owls was observed within a non-jurisdictional ephemeral drainage

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feature that longitudinally traverses the central portions of the west property, immediately south of Dracaea Avenue (Exhibit 4). This portion of the drainage feature has been previously disturbed by trash dumping and other human-related disturbances. Numerous small mammal burrows utilized by California ground squirrel were observed throughout portions of the banks of the drainage feature. These burrows provide suitable habitat for nesting burrowing owls. Burrowing owls were observed utilizing the same portion of the drainage feature during three separate surveys: twice during this focused burrowing owl survey, and once during the jurisdictional delineation conducted for the proposed project on May 10, 2005.

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SECTION 4:
CONCLUSIONS

A formal protocol survey for burrowing owl was successfully completed for the 2005 spring season on the 1,778-acre Project Site. A single breeding pair of burrowing owls was observed within an ephemeral drainage feature that longitudinally traverses the western property. The owls were observed in perch and in flight along the western bank of the drainage, immediately south of its intersection with Dracaea Avenue. The exact location of the burrow(s) belonging to the pair of burrowing owls was not determined during the focused survey; however, a number of suitable burrows exist in the immediate and general vicinity of the observation.

Due to the presence of burrowing owls within the Project Site, the proposed project has the potential to adversely affect or directly impact burrowing owls in violation of the MBTA and CDFG Code. The proposed project will require consultation with CDFG. Potential impacts to burrowing owl resulting from the proposed project will likely be subject to burrowing owl mitigation measures established by the Burrowing Owl Consortium (1993) and CDFG (1995).

Due to the presence of suitable habitat onsite, a preconstruction survey will be required no more than 30 days prior to ground disturbing activity associated with the proposed project. The preconstruction survey should be conducted according to the survey protocol established by the Burrowing Owl Consortium (1993) and CDFG (1995). Additional surveys will be required if construction activities do not commence within 30-days immediately following the preconstruction survey.

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SECTION 5:
CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: September 1, 2005 Signed _____
Scott A. Crawford

Draft

SECTION 6:
REFERENCES

California Department of Fish and Game (CDFG). 2004 (July). *Special Animals.* The Resources Agency State of California, Department of Fish and Game, Natural Heritage Division, Natural Diversity Data Base. Sacramento, California.

California Department of Fish and Game (CDFG). 2004 (July). *Natural Communities.* The Resources Agency State of California, Department of Fish and Game, Natural Heritage Division, Natural Diversity Data Base. Sacramento, California. 119 pp.

California Department of Fish and Game (CDFG). 1995 (October). *Staff Report on Burrowing Owl Mitigation*. The Resources Agency State of California, Department of Fish and Game. Sacramento, California.

California Department of Fish and Game (CDFG). 1988a. *California's Wildlife*. Volume II: Birds. The Resources Agency State of California. Sacramento, California.

California Natural Diversity Data Base. 2005. RareFind 3.0.5 personal computer program. Data Base Record Search for Information on Threatened, Endangered, Rare, or Otherwise Sensitive Species for the Sunnymead and El Casco USGS Topographic Quadrangles. California Department of Fish and Game, State of California Resources Agency. Sacramento, California.

Michael Brandman Associates. September 12, 2005. *Biological Resources Assessment, 1,778-Acre Bel Lago Property*.

Michael Brandman Associates. September 12, 2005. *Habitat Assessment, MSHCP Consistency Analysis, and HANS Review, 1,778-Acre Bel Lago Property*.

National Geographic Society. 1987. *National Geographic Society Field Guide to the Birds of North America*. 2nd Edition. National Geographic Society, Washington D.C.

Smith, Peroni, and Fox. 1992. *Draft Environmental Impact Report for Moreno Highlands Specific Plan #212-1*. City of Moreno Valley.

The California Burrowing Owl Consortium. 1993 (April). *Burrowing Owl Survey Protocol and Mitigation Guidelines.*

Udvardy, M.D. 1994. *National Audubon Society Field Guide to North American Birds.* Alfred A. Knopf, Inc. New York, New York.

U.S. Department of Agriculture (USDA). 1978. *Soil Survey of Western Part of Riverside County, California.* Department of the Interior. U.S. Government Printing Office. Washington, D.C.

Draft

U.S. Fish and Wildlife Service (USFWS). 2002. Birds of conservation concern 2002. Division of Migratory Bird Management, Arlington, Virginia. 99 pp.

Draft

Appendix A: Faunal Compendia

Draft

Faunal Compendia

Reptiles

Iguanidae	**Iguanids**
Uta stansburiana	side-blotched lizard

Birds

Accipitridae	**Kites, Hawks, and Eagles**
Buteo jamaicensis	red-tailed hawk
Columbidae	**Pigeons, Doves**
Zenaida macroura	mourning dove
Tytonidae	**Owls**
Athene cunicularia	burrowing owl
Tyto alba	barn owl
Tyrannidae	**Tyrant Flycatchers**
Sayornis nigricans	black phoebe
Tyrannus vociferans	Cassin's kingbird
Corvidae	**Jays and Crows**
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Troglodytidae	**Wrens**
Salpinctes obsoletus	rock wren
Laniidae	**Shrikes**
Lanius ludovicianus	loggerhead shrike
Sturnidae	**Starlings**
Sturnus vulgaris	European starling
Icteridae	**Blackbirds**
Sturnella neglecta	western meadowlark
Agelaius phoeniceus	red-winged blackbird
Fringillidae	**Finches**
Carduelis psaltria	lesser goldfinch

Mammals

Sciuridae	**Squirrels**
Spermophilus beecheyi	California ground squirrel

Draft

Leporidae	**Hares and Rabbits**
Sylvilagus audubonii	Audubon's cottontail

Draft

Burrowing Owl Focused Survey
Highland Fairview Corporate Park
City of Moreno Valley, Riverside County, California

Sunnymead, California USGS 7.5-minute Topographic Quadrangle Map
Sections 1 and 12, Township 3 South, Range 3 West

Prepared for:

Highland Fairview Operating Company
3070 South Bristol Street, Suite 320
Costa Mesa, CA 92626

Contact: Mr. Wayne Peterson, Vice President, Community Planning

Prepared by:

Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA 92602
714.508.4100

Contact: Kenneth J. Lord, Ph.D., Director, Natural and Cultural Resources
Author: Steve Norton, Project Ecologist

Michael Brandman Associates

Surveys Conducted By: Kyle Workman, Steve Hongola, Karl Osmundson, Scott Crawford, and Steve Norton
Surveys Conducted on: May 1, 2, 3, and 4
Report Date: February 5, 2008

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SECTION 1: EXECUTIVE SUMMARY

Michael Brandman Associates (MBA) conducted focused surveys for the western burrowing owl (*Athene cunicularia hypugaea*) on 158.4-acre Highland Fairview Corporate Park property and relative 106.3-acre offsite properties (study area), located in the City of Moreno Valley, Riverside County, California. This effort was intended to assess the presence/absence of suitable burrows and burrowing owls and identify the potential for impacts to this species resulting from the proposed development of the study area.

The burrowing owl focused surveys are part of the survey requirements for Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) consistency and compliance with the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFG Code) §3503. The surveys were conducted according to standard protocols set forth by the Burrowing Owl Consortium, California Department of Fish and Game (CDFG) and the MSHCP to determine the presence of potential burrows, burrowing owls, and evaluate burrowing owl use of the study area.

No burrowing owl or evidence of burrowing owl was observed in the study area during the focused surveys. The study area is considered unoccupied by burrowing owl. However, due to the presence of suitable habitat a 30-day pre-construction clearance survey will be required prior to any ground disturbance activity onsite.

SECTION 2: INTRODUCTION

At the request of Highland Fairview Operating Company, MBA conducted focused surveys for burrowing owl within and immediately adjacent the study area located in the City of Moreno Valley, Riverside County, California. The study area occurs within the Reche Canyon/Badlands Area Plan of the MSHCP but is not located within any Criteria Cells. The study area is located within an MSHCP-designated habitat assessment area for burrowing owl.

2.1 - Study Area Location

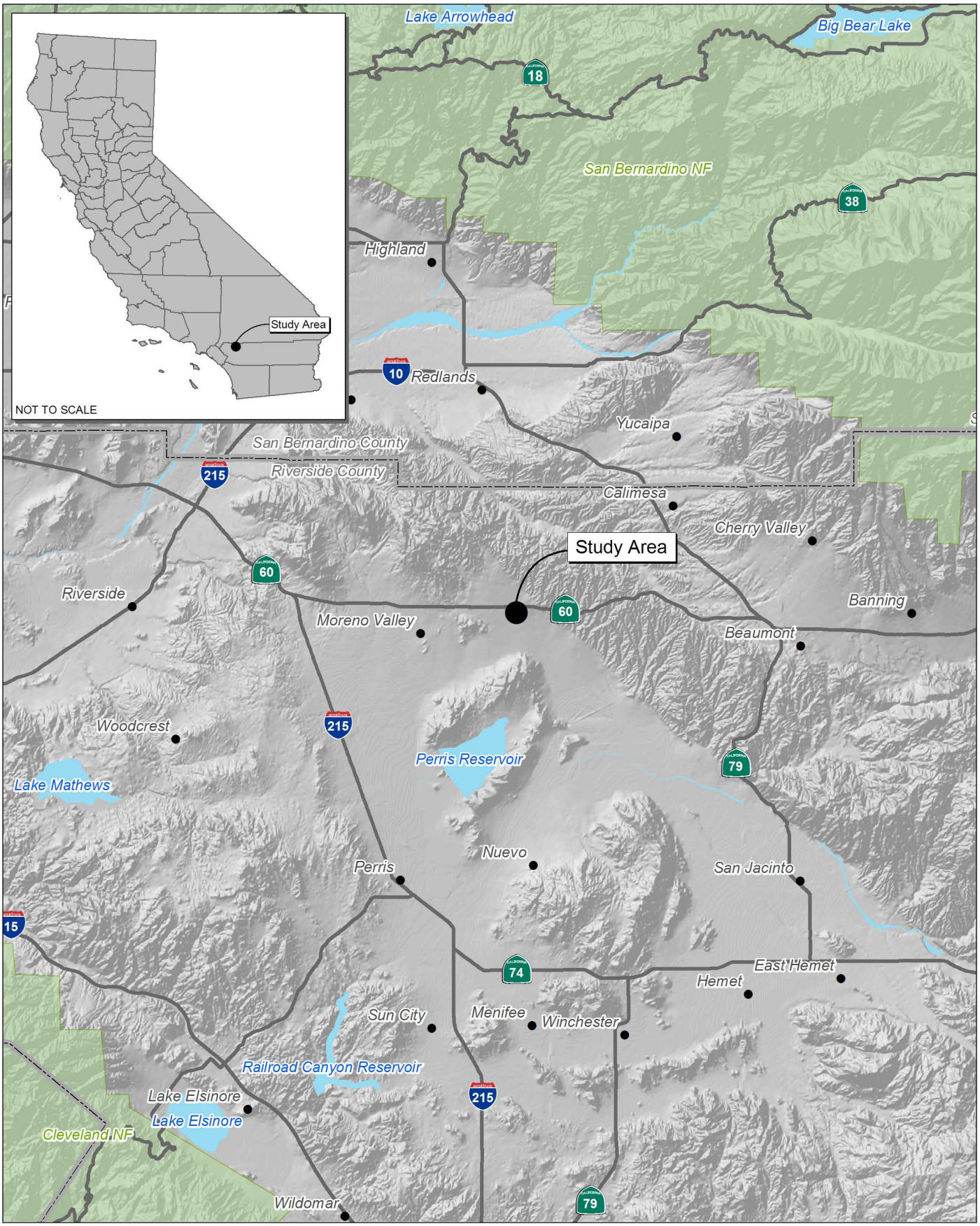
The study area includes the Highland Fairview Corporate Park property as well as offsite improvement areas that may be used in support of any future project implemented on the parcel map. The study area is generally located north of State Route (SR) 74, south of SR-60, east of Interstate (I) 215, and west of SR-79, in the City of Moreno Valley, Riverside County, California (Exhibit 1). The study area is depicted in Township 3 South, Range 3 West, Sections 1 and 12 of the Sunnymead, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle map (Exhibit 2). More specifically it is located north of Alessandro Boulevard, east of Redlands Boulevard, and west of Theodore Street (Exhibit 3).

The study area occurs on the following Assessor's Parcel Numbers (APN):

- 488-350-001
- 488-350-002
- 488-350-005
- 478-220-005
- 478-220-010
- 478-220-018
- 478-220-023
- 478-230-003
- 478-230-004
- 478-230-019
- 478-230-020
- 488-080-017
- 488-080-005
- 488-360-001
- 488-360-002
- 488-360-003
- 488-360-004
- 488-360-005
- 488-360-006
- 488-360-007
- 488-360-008
- 488-360-009
- 488-360-010
- 488-360-011
- 488-360-012

The Highland Fairview Corporate Park property is a 158.4-acre rectangular area dominated by agricultural land. Additional offsite areas totaling 106.3 acres were also surveyed. The first offsite area is a rectangular-shaped area south of the Highland Fairview Corporate Park property, north of Alessandro Avenue, east of Redlands Boulevard, and west of Theodore Street. The remaining offsite areas include relatively narrow strips of land surrounding the Highland Fairview Corporate Park property and then extending south along Redlands Boulevard (for approximately 5,000 linear feet) and Theodore Street (for approximately 1,000 linear feet).

Historically, the study area has been used for agricultural purposes for many decades. Currently, it is dominated by disked and heavily grazed fields. General land use in the vicinity of the study area includes SR-60 and agricultural lands to the north, agricultural lands intermixed with rural residences to the west and south, and undeveloped land to the east.



Source: Census 2000 Data, The CaSIL, MBA GIS 2007.

Michael Brandman Associates

NORTH

5 2.5 0 5 Miles

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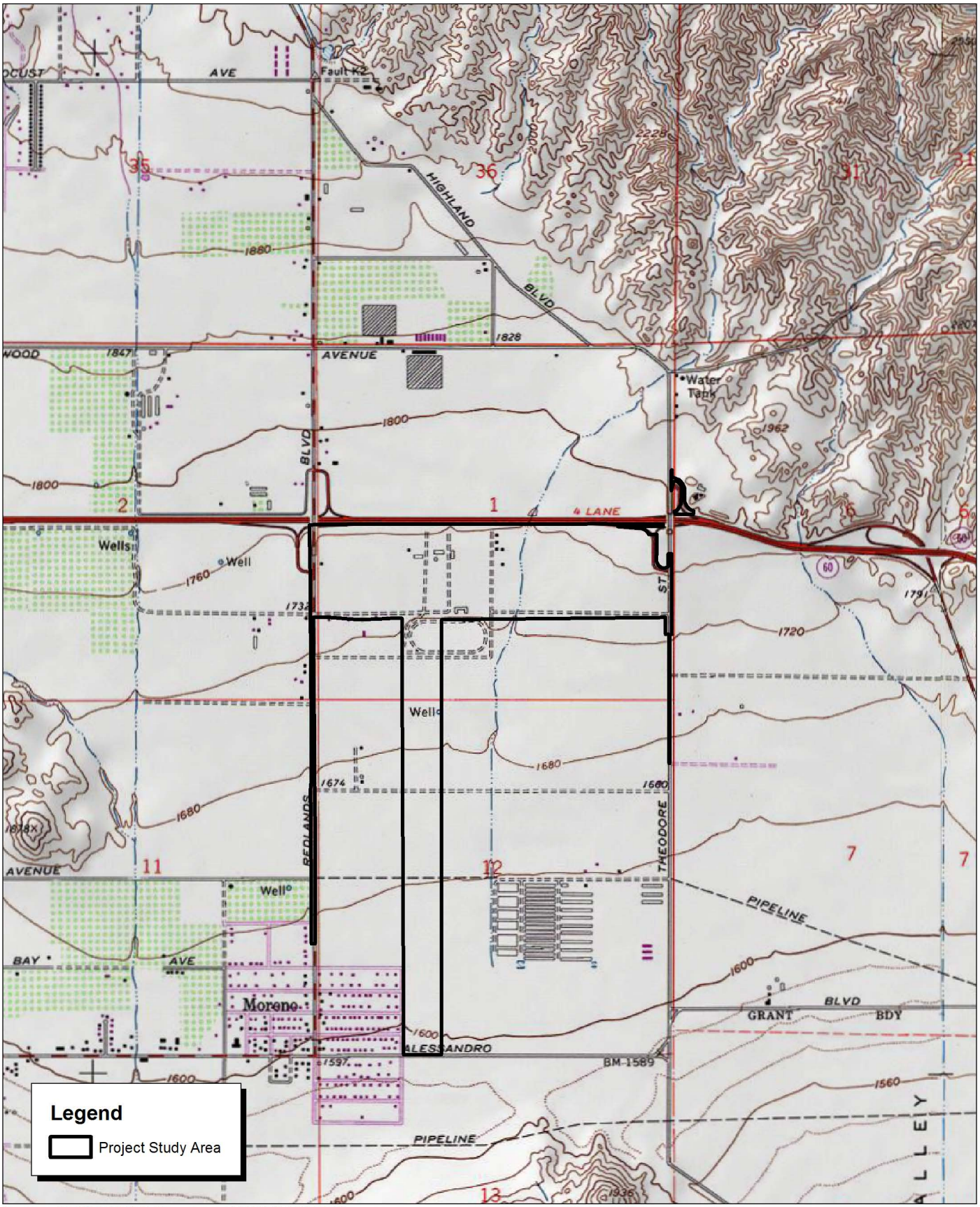
Exhibit 1
Regional Location Map

HIGHLAND FAIRVIEW CORPORATE PARK
BURROWING OWL FOCUSED SURVEY



Source: TOPO! USGS Sunnymead (1978) 7.5' DRG.

Exhibit 2
Local Vicinity Map
Topographic Base

Michael Brandman Associates

NORTH

2,000 1,000 0 2,000 Feet

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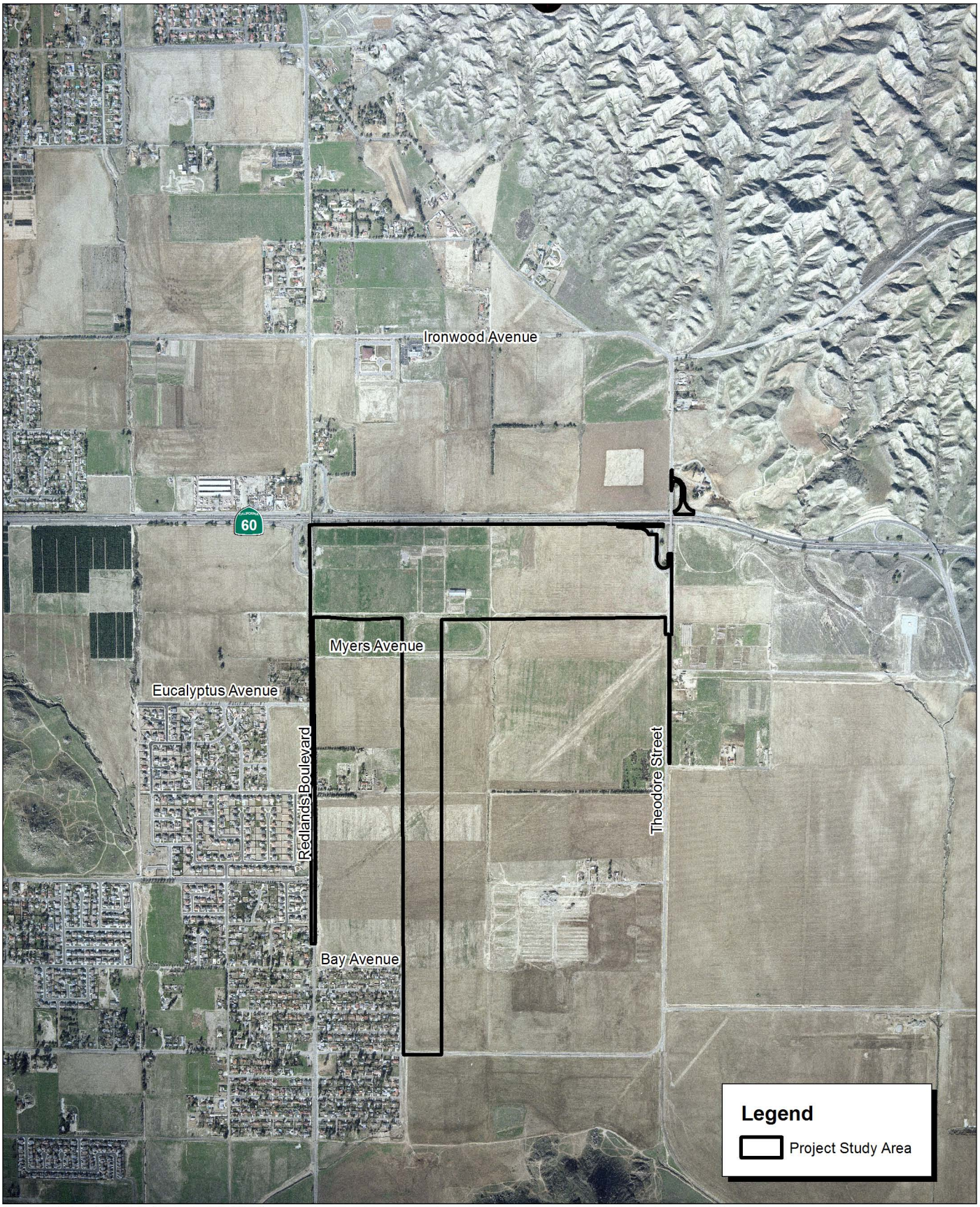
HIGHLAND FAIRVIEW CORPORATE PARK
BURROWING OWL FOCUSED SURVEY



Source: Inland Aerial, January 11, 2008.

Michael Brandman Associates

NORTH

2,000 1,000 0 2,000 Feet

Exhibit 3
Local Vicinity Map
Aerial Base

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HIGHLAND FAIRVIEW CORPORATE PARK
BURROWING OWL FOCUSED SURVEY

SECTION 3: BACKGROUND

3.1 - Burrowing Owl Biology

The burrowing owl is designated as a California Species of Special Concern due to its alarming decline in the state of over the past 30 years. Burrowing owls require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. Typical habitat associated with the species includes short-grass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a year-round resident. Burrowing owls may also use golf courses, cemeteries, road allowances within cities, airports, vacant lots in residential areas, and irrigation ditches. Although open areas with short vegetation are critical for nesting, there is some evidence that the owls prefer a vegetation mosaic with nesting habitat interspersed with taller vegetation for hunting. However, the primary requirement for suitable burrowing owl foraging habitat appears to be low vegetation cover that allows visibility and access to prey.

Due to an inability to construct their own burrows, burrowing owls often require the use of existing rodent or other burrows for roosting and nesting cover. They may also use pipes, culverts, and nest boxes where burrows are scarce. One burrow is typically selected for use as the nest; however, satellite burrows are usually found within the immediate vicinity of the nest burrow within the defended territory of the owl. If left undisturbed, a burrowing owl pair will use the same burrow year after year for nesting. A clutch of seven to nine eggs is laid between March and July. Burrowing owls are generally considered a monogamous species. Both parents take part in incubation for about 28 days. The young emerge from the nest and spend daylight hours at the burrow entrance with one or both adults.

Burrowing owls are crepuscular owls, being most active during the early morning and evening hours. Their diet is predominantly large insects and small rodents, but they will also take small birds, reptiles, amphibians, fish, scorpions, and other available prey. Burrowing owls are often observed perched on fence posts or utility wires. Reasons for their decline include habitat destruction, insecticide poisoning, rodenticide (particularly squirrel eradication), and shooting.

3.2 - Western Riverside County MSHCP

The MSHCP is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on conservation of species and their associated habitats in western Riverside County. According to the MSHCP, surveys for the burrowing owl are to be conducted as part of the environmental review process. The MSHCP Additional Surveys Needs and Procedures (Section 6.3.2) identify a specific burrowing owl survey area within the MSHCP Plan Area (Burrowing Owl Survey Area Map, Figure

6-4 of the MSHCP, Volume I). The MSHCP also identifies species-specific objectives for the burrowing owl surveys if suitable habitat occurs on a proposed project site.

Under the MSHCP, "if a site (including adjacent buffer areas) supports three or more pairs of burrowing owls, supports greater than 35 acres of suitable habitat, and is non-contiguous with MSHCP Conservation Area lands, at least 90 percent of the area with long-term conservation value and burrowing owl pairs will be conserved onsite." If it is determined that the 90 percent threshold cannot be met, the permittee(s) must submit a determination of biologically equivalent or superior preservation (DBESP).

SECTION 4: METHODS

4.1 - Literature Review

MBA reviewed available documents and graphics regarding burrowing owl biology, habitat requirements, and previous mapped distribution within the study area. The literature review included a review of field guides, websites, and Geographic Information Systems (GIS) data. A complete list of references is included at the end of this report.

4.2 - Field Surveys

A focused burrow survey was conducted prior to the first focused burrowing owl survey. Subsequent focused burrowing owl surveys did not include a focused burrow survey. The focused burrow and burrowing owl surveys were conducted by qualified MBA biologists Kyle Workman, Steve Hongola, Karl Osmundson, Scott Crawford, and Steve Norton. Due to the large size of the study area, two surveyors were present during each of the focused burrowing owl surveys. Focused surveys were conducted in accordance with survey protocols developed by the California Burrowing Owl Consortium (CBOC 1993) and the Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area (Riverside County 2006) per the Riverside County survey requirements. Suitable habitat within the study area and a 500-foot buffer including any natural burrows were surveyed. The location of all suitable burrowing owl habitats, potential owl burrows, including suitable man made structures that could support owls, burrowing owl sign, and any owls observed were recorded and mapped, with global positioning system (GPS) coordinates. All observations during the surveys were recorded on field data sheets which are available upon request.

4.2.1 - Focused Burrow Survey

Within the suitable habitat areas of the study area, a systematic survey for potential burrows and burrowing owl sign was conducted by walking through suitable habitat throughout the study area and a 500-foot buffer surrounding the study area. This 500-foot buffer is included to account for adjacent burrows and foraging habitat outside the study area and impacts from factors such as noise and vibration due to heavy equipment, which could indirectly impact resources outside the study area (Exhibit 4).

Areas excluded from surveys within the 500-foot buffer include the area that contains SR-60, which does not contain suitable habitat for burrowing owl. Also, the portion of the buffer area east of the study area is within a chain-link fence, which is owned and maintained by the Metropolitan Water District, and was considered inaccessible during the surveys. This area is flat and was surveyed using binoculars. All remaining areas containing suitable habitat, including the buffer area to the north, south, and west, were included in the survey.

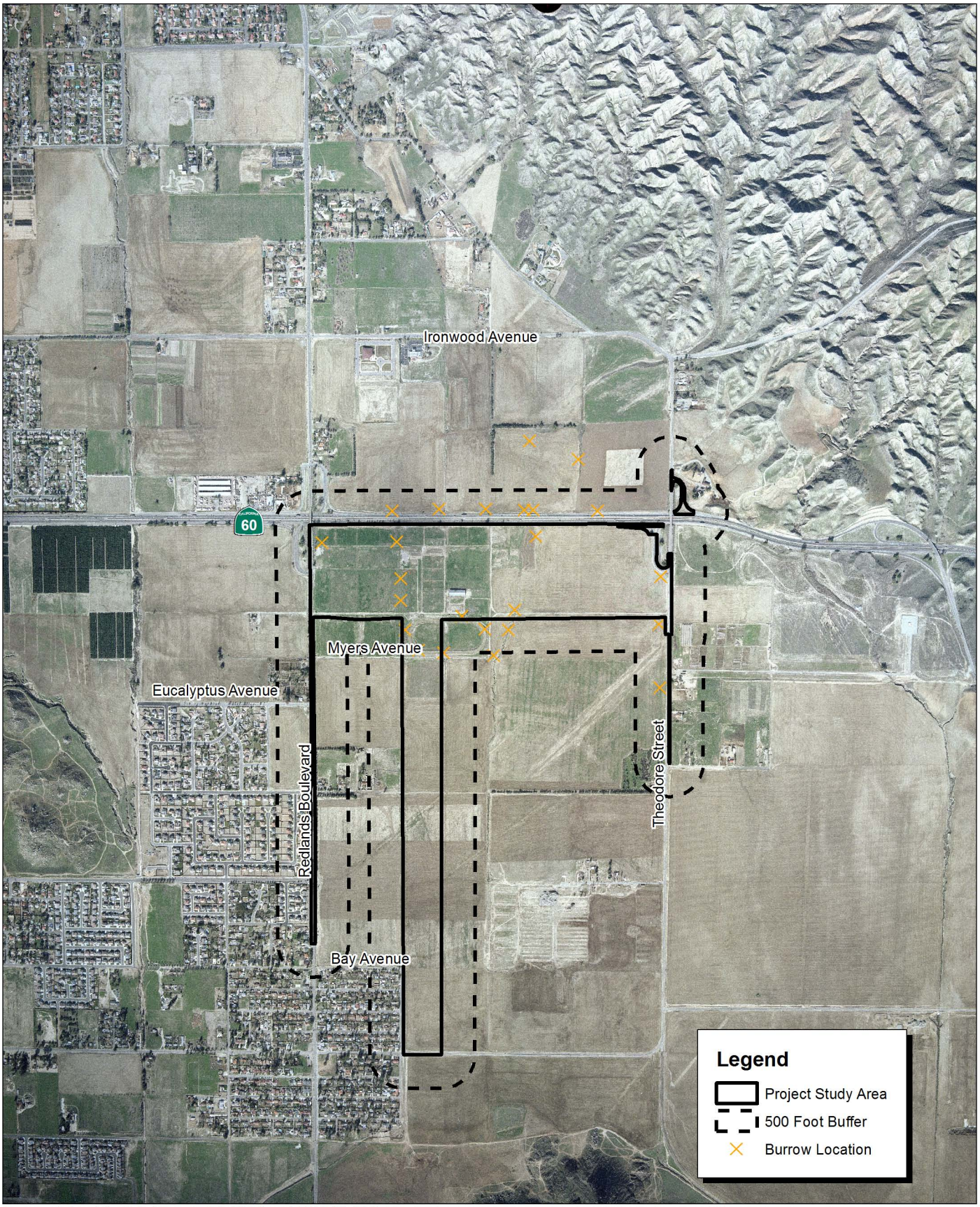
Pedestrian survey transects were spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines were no more than 100 ft and when necessary were reduced to account for differences in terrain, vegetation density, and ground surface visibility.

All suitable burrows were thoroughly examined for presence of sign and suitable perches were inspected for burrowing owl pellets and whitewash. If occupied burrows or individual owls were observed during the survey, a minimum distance of 50 meters was maintained between owls or occupied burrows and the observer, to minimize any potential harassment or disturbance.

Exhibit 4 shows the suitable burrowing owl habitat within the study area and the 500-foot buffer area. Suitable habitat located off the study area within the buffer area was examined both on foot and through binoculars due to restricted access.

4.2.2 - Focused Burrowing Owl Surveys

Four focused surveys were conducted to determine the presence or absence of burrowing owls within the study area. The area to the east that was inaccessible was surveyed using binoculars. Presence of owls was determined by direct observation and/or presence of sign, including pellets, white wash, tracks, feathers, and/or prey remains within the immediate vicinity of a suitable burrow.



Source: Inland Aerial, January 11, 2008 and MBA Field Survey.

Michael Brandman Associates

NORTH

2,000 1,000 0 2,000 Feet

Exhibit 4
Survey Area Map

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HIGHLAND FAIRVIEW CORPORATE PARK
BURROWING OWL FOCUSED SURVEY

SECTION 5: EXISTING CONDITIONS

5.1 - General Conditions

The study area is located in the northeast portion of Moreno Valley, south and west of The Badlands, and north of Mount Russell. Overall, the entire study area is relatively flat, and gently slopes from north to the south, with an elevation range of approximately 1,820 to 1,580 feet (ft) above mean sea level.

The study area contains five drainage features that include two agricultural ditches, one gully, and two roadside ditches. The two roadside ditches run along the east side of Redlands Boulevard and the west side of Theodore Street. The two agricultural ditches are adjacent to each other in the center of the study area and run south. The isolated gully appears within the central portion of the study area and flows south from the study area and eventually sheet flows into the agricultural fields.

The study area contains five different soil series. A soil series is a group of soils with similar profiles. These profiles include major horizons with similar thickness, arrangement, and other important characteristics. The study area contains Metz gravelly sandy loam, Metz loamy fine sand, Hanford coarse sandy loam, San Emigdio fine sandy loam, and San Emigdio loam (USDA 1971). No other mapped soil series are present onsite.

The entire study area contains significant evidence of previous disturbance. Most of the study area was disked at the time of the focused survey for burrowing owl. Non-native plant species are prevalent throughout the entire study area. Much of the northwest portion of the study area showed evidence of past grazing disturbance, with a small area still actively grazed. In addition, numerous building, fences, and trees have recently been removed from the northwest portion of the study area.

5.2 - Plant Communities

Two plant communities, identified as extensive agriculture and urban/developed, occur within the study area. The extensive agriculture community is heavily disturbed due to disking and grazing and currently contains very little vegetative cover. The vegetation present is dominated by ruderal (weedy) species, such as short-podded mustard (*Hirschfeldia incana*), cheeseweed (*Malva parviflora*), bindweed (*Convolvulus arvensis*), and non-native grasses such as slender oats (*Avena barbata*) and rip-gut brome (*Bromus diandrus*). The urban/developed community is comprised of structures, roadways, and associated ornamental vegetation, such as European olive (*Olea europaea*), and gum tree (*Eucalyptus* sp.). The vegetation in the urban/developed community occurs along SR-60 on the northern portion of the study area.

5.3 - Burrowing Owl Habitat Classification

Burrowing owl habitat suitability within the study area was classified as Low, Moderate, or High Potential Habitat. The following definitions were used to distinguish habitat suitability.

5.3.1 - Low Potential Habitat

Low Potential Habitat includes areas within the study area and buffer area not suitable for burrowing owls. These habitat areas are typically characterized by steep topography, high density of rocky outcroppings, tall/ dense vegetation, and/or heavy disturbance. Low Potential Habitat areas identified within the study area include the urban/developed portion of the study area along the SR-60 which contains ornamental trees.

5.3.2 - Moderate Potential Habitat

Moderate Potential Habitat includes areas within the study area and buffer area where burrowing owls could potentially reside. The majority of the study area falls under this classification. The study area is disturbed due to recent disking and grazing, but provides open area, and contains areas of loose soils, low-growing vegetation, low-lying perches, and existing burrows. California ground squirrel (*Spermophilus beecheyi*) burrows were throughout the entire study area.

5.3.3 - High Potential Habitat

High Potential Habitat is area within the study area and buffer area where the habitat is considered desirable by burrowing owls. Due to the study area's disturbance from disking and historical use for extensive agriculture, no High Potential Habitat was identified onsite.

5.4 - General Wildlife

The study area provides habitat for wildlife species that occur in extensive agriculture and disturbed/developed communities. No amphibian species were observed onsite during the focused surveys. Common wildlife species observed or detected include:

- Black phoebe (*Sayornis nigricans*)
- California ground squirrel (*Spermophilus beecheyi*)
- Common raven (*Corvus corax*)
- Desert cottontail (*Sylvilagus audubonii*)
- House finch (*Carpodacus mexicanus*)
- Killdeer (*Charadrius vociferus*)
- Northern mockingbird (*Mimus polyglottos*)
- Western meadowlark (*Sturnella neglecta*)

A complete list of wildlife species observed is located in Appendix A.

SECTION 6: SURVEY RESULTS

6.1 - Burrowing Owl

6.1.1 - Burrow Assessment Survey

The initial focused burrow survey was conducted on April 20, 2007. The survey was conducted between 0930 and 1100 hours. Weather conditions during the survey were cloudy with light rain with an average temperature of 56 degrees Fahrenheit and winds of 0 to 1 mile per hour. Ground squirrel and rabbit burrows were observed throughout the study area; however, no evidence of burrowing owls was found at any of the burrows.

6.1.2 - Focused Burrowing Owl Surveys

Focused burrowing owl surveys were conducted throughout the entire study area, including the 500 foot buffer area surrounding the study area. The survey conditions and results are summarized in Table 1 below.

Table 1: Burrowing Owl Focused Surveys

Survey Number	Date	Time	Temperature (Fahrenheit)	Skies	Results
1	May 1, 2007	0600 - 0930	59	Overcast	Negative
2	May 2, 2007	0615 - 0915	57	Overcast	Negative
3	May 3, 2007	0620 - 0900	53	Partly Cloudy	Negative
4	May 4, 2007	0615 - 0855	50	Partly Cloudy	Negative

Study Area

No burrowing owl or sign of burrowing owl such as pellets, whitewash, or feathers were observed during the focused surveys.

Buffer Area

Based on both hiking accessible portions of the buffer area on foot and a horizon scan with binoculars of inaccessible areas, no evidence of burrowing owls was detected in the buffer area.

6.2 - Nesting Birds

The study area provides suitable nesting habitat for species such as the burrowing owl that use burrows for nesting. In addition, the ornamental trees along the SR-60 right-of-way in the study area are potentially suitable nesting habitat for several other avian species, such as mourning dove (*Zenaida macroura*) and lesser goldfinch (*Carduelis psaltria*).

SECTION 7: CONCLUSIONS AND RECOMMENDATIONS

No burrowing owls or evidence of burrowing owls were observed during either the burrow survey or the focused surveys. The study area is considered unoccupied by burrowing owls. However, due to the presence of suitable habitat within the study area, a 30-day preconstruction survey is recommended to ensure burrowing owls have not occupied the study area prior to ground disturbing activities. If burrowing owls are located within the study area during the 30-day preconstruction survey, direct impacts to burrowing owls must be avoided. If the burrowing owls are not nesting, they should be passively relocated prior to the initiation of ground disturbing activities. If the burrowing owls are nesting, the burrow and a 500-foot buffer must be flagged and avoided until a qualified biologist has determined that the young have left the nest. Any avoidance and mitigation activities should be coordinated with CDFG.

The ornamental trees on the northern boundary of study area is potentially suitable nesting habitat for several avian species. Therefore, MBA recommends that construction activities avoid the avian nesting season from February through August, if possible. If construction activity must take place during the nesting season, a pre-construction nesting bird survey should be conducted prior to any vegetation disturbance activities. The survey can be conducted in conjunction with the pre-construction survey for burrowing owl.

If passerine birds are found to be nesting or there is evidence of nesting behavior inside or within 250 feet of the impact area, a 250-foot buffer will be required around the nest where no vegetation disturbance would be permitted. For raptor species, such as hawks and owls, this buffer should be expanded to 500 ft. A qualified biologist will be required to closely monitor nests until it is determined that they are no longer active, at which time construction activity in the vicinity of nests could continue.

SECTION 8: CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: February 5, 2008 Signed: _____

Steve Norton, Project Ecologist
Michael Brandman Associates
Irvine, CA

SECTION 9: REFERENCES

CBOC (California Burrowing Owl Consortium). 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines.

CDFG (California Department of Fish and Game). 2005. California Habitat Wildlife Relationships. Software (Version 8).

CDFG (California Department of Fish and Game). 2006. California Natural Diversity Database. Wildlife and Habitat Data Analysis Branch.

California, State of. 1989. Fish And Game Code.

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Non-game - Heritage Program. California Department of Fish and Game, Sacramento, CA.

MBA (Michael Brandman Associates). 2005. Focused Burrowing Owl Survey Report for the 1,778-Acre Bel Lago Property, City of Moreno Valley, Riverside County, California. On file at Michael Brandman Associates.

Munz, P.A. 1974. A Flora of Southern California. University of California Press, Berkeley, California.

Oberbauer, T. 1996. Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions. San Diego Association of Governments. San Diego, CA.

Riverside County. 2006. Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area. Riverside County, CA.

USDA (United States Department of Agriculture). 1971. Soil Survey of Western Part of Riverside County, California. Department of the Interior. U.S. Government Printing Office. Washington, D.C

USGS (United States Geological Survey). 1988. Sunnymead, California 7.5-minute USGS Quadrangle Map. Department of the Interior. Washington, D.C.: U.S. Government Printing Office.

USFWS (United States Fish and Wildlife Service). 2002. Birds of conservation concern 2002. Division of Migratory Bird Management, Arlington, Virginia. 99 pp.

Appendix A: Faunal Compendium

FAUNAL COMPENDIUM

Reptiles

Phrynosomatidae	**Spiny Lizards**
Uta stansburiana	side-blotched lizard

Birds

Accipitridae	**Hawks**
Buteo jamaicensis	red-tailed hawk
Charadriidae	**Plovers**
Charadrius vociferus	killdeer
Columbidae	**Pigeons and Doves**
Zenaida macroura	mourning dove
Columba livia	rock dove
Cuculidae	**Cuckoos and Roadrunners**
Geococcyx californianus	greater roadrunner
Trochilidae	**Hummingbirds**
Calypte anna	Anna’s hummingbird
Picidae	**Woodpeckers**
Picoides nuttallii	Nuttall’s woodpecker
Tyrannidae	**Tyrant Flycatchers**
Sayornis nigricans	black phoebe
Myiarchus cinerascens	ash-throated flycatcher
Tyrannus vociferans	Cassin's kingbird
Sayornis saya	Say’s phoebe
Alaudidae	**Larks**
Eremophila alpestris	horned lark
Hirundinidae	**Swallows**
Hirundo rustica	barn swallow
Corvidae	**Jays and Crows**
Corvus corax	common raven
Aegithalidae	**Bushtits**
Psaltriparus minimus	bushtit
Troglodytidae	**Wrens**
Thryomanes bewickii	Bewick’s wren
Mimidae	**Thrashers**
Mimus polyglottos	northern mockingbird

FAUNAL COMPENDIUM CONT.

Sturnidae	**Starlings**
Sturnus vulgaris	European starling
Emberizidae	**Emberizids**
Pipilo crissalis	California towhee
Icteridae	**Blackbirds**
Sturnella neglecta	western meadowlark
Euphagus cyanocephalus	Brewer's blackbird
Fringillidae	**Finches**
Carpodacus mexicanus	house finch
Carduelis psaltria	lesser goldfinch

Mammals

Leporidae	**Hares and Rabbits**
Lepus californicus	black-tailed jackrabbit
Sylvilagus audubonii	desert cottontail
Geomyidae	**Pocket Gophers**
Thomomys bottae	Botta's pocket gopher
Sciuridae	**Squirrels**
Spermophilus beecheyi	California ground squirrel

*non-native species

Appendix B: Site Photographs

Photograph 1: View of southern portion of the study area north of Myers Avenue, facing west. The majority of the study area has recently been disked and contains sparse ruderal vegetation.

Photograph 2: View of western portion of the study area, facing southeast. Scattered rural residences are present in the background.

Source: Michael Brandman Associates, 2007.

Michael Brandman Associates

Appendix B
Site Photographs 1 and 2

Photograph 3: View of eastern portion of the study area along Theodore Street, facing south. The drainage ditch located on the south eastern portion of the study area, occurs along the side of the road on the left side of the photograph.

Source: Michael Brandman Associates, 2007.

Michael Brandman Associates

Appendix B
Site Photograph 3

Appendix C: Riverside County Integrated Project (RCIP) Conservation Summary Report

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
478220005	Not A Part	Independent	9.29	Reche Canyon / Badlands	Not a Part
478220010	Not A Part	Independent	9.33	Reche Canyon / Badlands	Not a Part
478220018	Not A Part	Independent	9.25	Reche Canyon / Badlands	Not a Part
478220023	Not A Part	Independent	9.38	Reche Canyon / Badlands	Not a Part
478230003	Not A Part	Independent	9.27	Reche Canyon / Badlands	Not a Part
478230004	Not A Part	Independent	8.88	Reche Canyon / Badlands	Not a Part
478230019	Not A Part	Independent	9.1	Reche Canyon / Badlands	Not a Part
478230020	Not A Part	Independent	8.7	Reche Canyon / Badlands	Not a Part
488080005	Not A Part	Independent	8.58	Reche Canyon / Badlands	Not a Part
488080017	Not A Part	Independent	7.54	Reche Canyon / Badlands	Not a Part
488350001	Not A Part	Independent	17.16	Reche Canyon / Badlands	Not a Part
488350002	Not A Part	Independent	95.49	Reche Canyon / Badlands	Not a Part
488350005	Not A Part	Independent	9.39	Reche Canyon / Badlands	Not a Part
488360001	Not A Part	Independent	0.38	Reche Canyon / Badlands	Not a Part
488360002	Not A Part	Independent	0.94	Reche Canyon / Badlands	Not a Part
488360003	Not A Part	Independent	0.45	Reche Canyon / Badlands	Not a Part
488360004	Not A Part	Independent	7.06	Reche Canyon / Badlands	Not a Part
488360005	Not A Part	Independent	9.37	Reche Canyon / Badlands	Not a Part
488360006	Not A Part	Independent	9.25	Reche Canyon / Badlands	Not a Part
488360007	Not A Part	Independent	5.14	Reche Canyon / Badlands	Not a Part

---

HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
478220005	NO	**YES**	NO	NO	NO	NO
478220010	NO	**YES**	NO	NO	NO	NO
478220018	NO	**YES**	NO	NO	NO	NO
478220023	NO	**YES**	NO	NO	NO	NO
478230003	NO	**YES**	NO	NO	NO	NO
478230004	NO	**YES**	NO	NO	NO	NO
478230019	NO	**YES**	NO	NO	NO	NO
478230020	NO	**YES**	NO	NO	NO	NO
488080005	NO	**YES**	NO	NO	NO	NO
488080017	NO	**YES**	NO	NO	NO	NO
488350001	NO	**YES**	NO	NO	NO	NO
488350002	NO	**YES**	NO	NO	NO	NO

488350005	NO	**YES**	NO	NO	NO	NO
488360001	NO	**YES**	NO	NO	NO	NO
488360002	NO	**YES**	NO	NO	NO	NO
488360003	NO	**YES**	NO	NO	NO	NO
488360004	NO	**YES**	NO	NO	NO	NO
488360005	NO	**YES**	NO	NO	NO	NO
488360006	NO	**YES**	NO	NO	NO	NO
488360007	NO	**YES**	NO	NO	NO	NO

Burrowing Owl

Burrowing owl.

If potential habitat for these species is determined to be located on the property, focused surveys may be required during the appropriate season.

Background

The final MSHCP was approved by the County Board of Supervisors on June 17, 2003. The federal and state permits were issued on June 22, 2004 and implementation of the MSHCP began on June 23, 2004.

For more information concerning the MSHCP, contact your local city or the County of Riverside for the unincorporated areas. Additionally, the Western Riverside County Regional Conservation Authority (RCA), which oversees all the cities and County implementation of the MSHCP, can be reached at:

Western Riverside County Regional Conservation Authority
4080 Lemon Street, 12th Floor
Riverside, CA 92502-1604

Phone: 951-955-9700
Fax: 951-955-8873

www.wrc-rca.org

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
488360008	Not A Part	Independent	8.69	Reche Canyon / Badlands	Not a Part
488360009	Not A Part	Independent	4.67	Reche Canyon / Badlands	Not a Part
488360010	Not A Part	Independent	4.69	Reche Canyon / Badlands	Not a Part
488360011	Not A Part	Independent	9.43	Reche Canyon / Badlands	Not a Part
488360012	Not A Part	Independent	9.01	Reche Canyon / Badlands	Not a Part

---

HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
488360008	NO	**YES**	NO	NO	NO	NO
488360009	NO	**YES**	NO	NO	NO	NO
488360010	NO	**YES**	NO	NO	NO	NO
488360011	NO	**YES**	NO	NO	NO	NO
488360012	NO	**YES**	NO	NO	NO	NO

Burrowing Owl

Burrowing owl.

If potential habitat for these species is determined to be located on the property, focused surveys may be required during the appropriate season.

Background

The final MSHCP was approved by the County Board of Supervisors on June 17, 2003. The federal and state permits were issued on June 22, 2004 and implementation of the MSHCP began on June 23, 2004.

For more information concerning the MSHCP, contact your local city or the County of Riverside for the unincorporated areas. Additionally, the Western Riverside County Regional Conservation Authority (RCA), which oversees all the cities and County implementation of the MSHCP, can be reached at:

Western Riverside County Regional Conservation Authority
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Phone: 951-955-9700
Fax: 951-955-8873

www.wrc-rca.org

Burrowing Owl Focused Survey
Highlands Specific Plan
City of Moreno Valley, Riverside County, California

Sunnymead and El Casco, California USGS 7.5-minute Topographic Quadrangle Map
Sections 1, 2, 11, 12, 13, and 14; Township 3 South; Range 3 West
Sections 5, 6, 7, 8, 16, 17, 18, 19, 20, and 21; Township 3 South; Range 4 West

Prepared for:

Highland Fairview Operating Company
3070 South Bristol Street, Suite 320
Costa Mesa, CA 92626
951.242.9180

Contact: Mr. Wayne Peterson, Vice President, Community Planning

Prepared by:

Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA 92602
714.508.4100

Contact: Kenneth J. Lord, Ph.D.
Director of Natural and Cultural Resources

Michael Brandman Associates

Report Prepared By: Scott A. Crawford, Sr. Biologist
Survey(s) Conducted: June 9 through June 24, 2010
Report Date: December 13, 2010

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SECTION 1: SUMMARY

Michael Brandman Associates (MBA) conducted a focused burrow and burrowing owl survey on the 4,321-acre Highland Fairview project site (project site or site), located in the City of Moreno Valley, Riverside County, California. This effort assessed the presence/absence of suitable burrows and burrowing owls and identify the potential for impacts to this species resulting from the proposed development of the site.

The burrowing owl focused surveys are part of the survey requirements for Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) consistency and compliance with the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFG Code) §3503. The surveys were conducted according to standard protocols set forth by the Burrowing Owl Consortium, California Department of Fish and Game (CDFG) and the MSHCP to determine the presence of potential burrows, burrowing owls, and evaluate burrowing owl use of the project site.

The project site plus a 500-foot buffer (evaluation area) was evaluated to determine suitable habitat for burrowing owl. Based on two previous burrowing owl surveys and the current existing conditions within the project site and buffer area, a survey area was selected that provides suitable habitat for burrowing owls within the highly disturbed project site.

No burrowing owl or evidence of burrowing owl was observed in the survey area during the focused surveys. The project site is considered unoccupied by burrowing owl. However, due to the presence of suitable habitat, a 30-day pre-construction clearance survey will be required prior to any ground disturbance activity onsite.

SECTION 2: INTRODUCTION

At the request of Highland Fairview Operating Company, MBA conducted focused surveys for burrowing owl (*Athene cunicularia hypugaea*) within the project site located in the City of Moreno Valley, Riverside County, California. The project site occurs within the Reche Canyon/Badlands Area Plan of the MSHCP but is not located within any Criteria Cells. The project site is located within an MSHCP-designated habitat assessment area for burrowing owl.

2.1 - Survey Purpose

The 2010 surveys were conducted as part of the ongoing effort documenting sensitive plant and wildlife species for the project site since 2005. The 2010 sensitive plant surveys were based on a finalized Highlands Specific Plan footprint clearly indicating all related impact areas associated with the Highlands Specific Plan Area.

2.2 - Project Description

The Highland Fairview Operating Company property is a 4,321-acre project site dominated by dry-land farming agricultural land. Additional offsite areas include freeway interchanges, water quality basins, as well as other project infrastructure. Historically, the project site has been used for agricultural purposes for many decades. Currently, it is dominated by disked agricultural fields. General land use in the vicinity of the project site includes State Route (SR) 60 and agricultural lands to the north, agricultural lands intermixed with rural residences to the west and south, and undeveloped land to the east.

2.3 - Project Location and Study Area

The project site includes the Highland Fairview Operating Company property as well as offsite improvement areas that may be used in support of any future project implemented on the parcel map. The study area is generally located north of State Route (SR) 74, south of SR-60, east of Interstate (I) 215, and west of SR-79, in the City of Moreno Valley, Riverside County, California (Exhibit 1). The project site is depicted within Sections 1, 2, 11, 12, 13, and 14 of Township 3 South, Range 3 West and Sections 5, 6, 7, 8, 16, 17, 18, 19, 20, and 21 of Township 3 South, Range 4 West of the Sunnymead and El Casco, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle map (Exhibit 2). More specifically, it is located south of Ironwood Avenue, east of Moreno Beach Drive, and west of Gillman Springs Road (Exhibit 3).

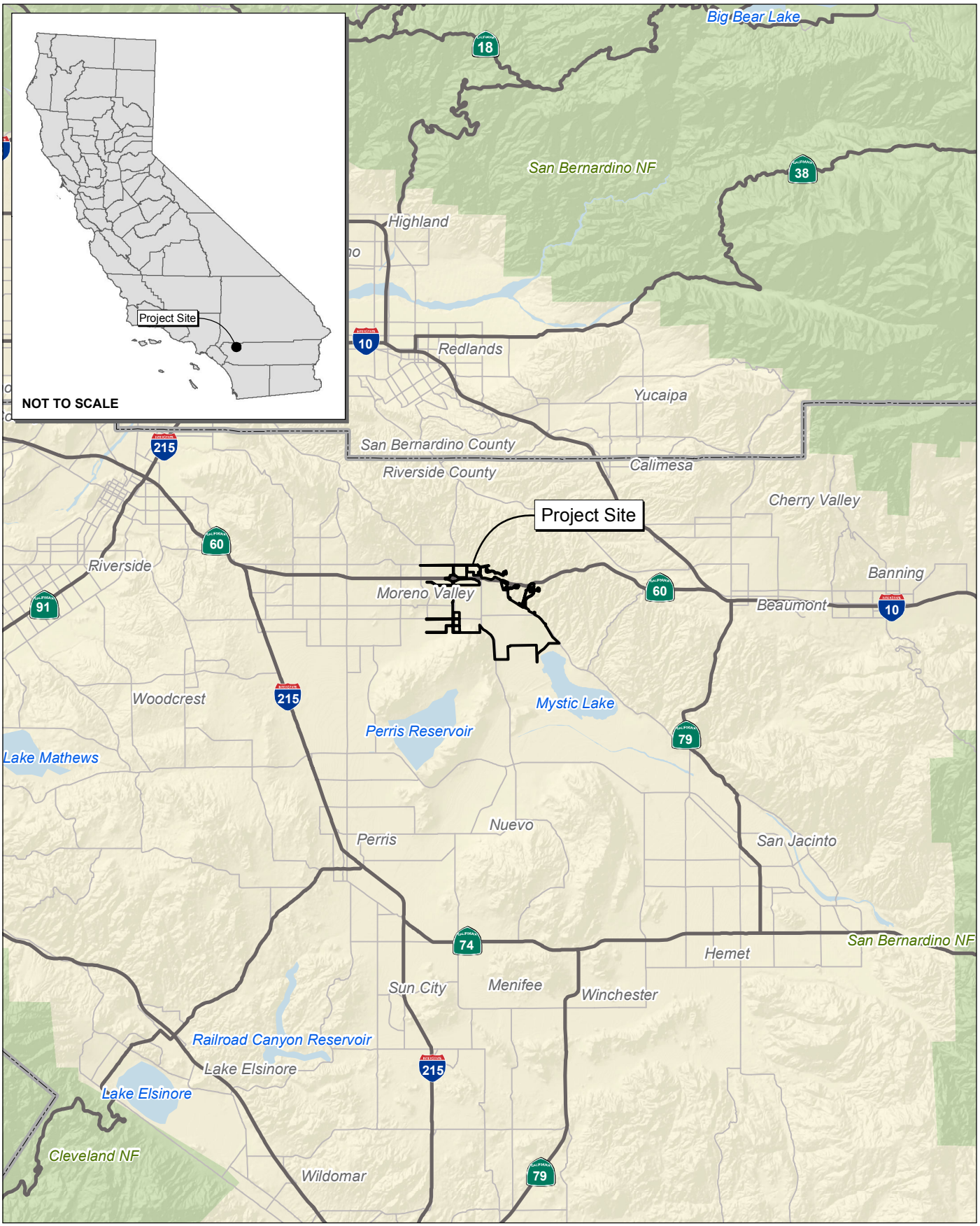
The survey area occurs on the Assessor's Parcel Numbers (APNs) shown in Table 1.

Table 1: Study Area Assessor's Parcel Numbers

Study Area Assessor's Parcel Numbers				
304020006	304020008	304041014	304041015	304041016
304041029	304041030	304051005	304051006	304051012
304052026	304053001	304053006	304053007	304053010
304053011	304053012	304053013	304053014	304053015
304053016	304053017	304053018	304053019	304053020
304053021	304060001	304060002	304060003	304060004
304060005	304060006	304060007	304060008	304060009
304060020	304060021	304070001	304070002	304070003
304070004	304070005	304070006	304070007	304070008
304070009	304070010	304070011	304070012	304070013
304070014	304070015	304070016	304070017	304070052
304070053	304070054	304070055	304070056	304290063
304290064	304420001	304420002	304420003	304420004
304420005	304420006	304420007	304421001	304421002
304421003	304421004	304421005	304421006	304421007
304421008	304421009	304421010	304421011	304421012
304421029	304421043	304431005	304431006	304431007
304431008	304431009	312020006	312041011	312050015
312061001	312063019	312063020	312063021	312063022
312063023	312063024	312063025	422020003	422020004
422020005	422020006	422020007	422020009	422020010
422030002	422030003	422030007	422030008	422030012
422030013	422040008	422040009	422040010	422040012
422040013	422040014	422040015	422050006	422070005
422070006	422070010	422070014	422070017	422070018
422070019	422070020	422070021	422070022	422070023
422070024	422070029	422070030	422070031	422070032
422070033	422070034	422070035	422070036	422070037
422080001	422080002	422080003	422080004	422090001
422100001	422100002	422100003	422100006	422100007
422100010	422100012	422100013	422100014	422100015
422100016	422100021	422100022	422110001	422110002
422110003	422110004	422110005	422110006	422110007
422110008	422110009	422120001	422120002	422120003
422120004	422120007	422120008	422120011	422120012
422120015	422120016	422120017	422130001	422130002
422130003	422140001	422140002	422140003	422140004
422140006	422140007	422140008	422140009	422140010
422150004	422150006	422150007	422150008	422150010
422160008	422160009	422160010	422180002	422190003
423070005	423070008	423070009	423250001	423250002

Study Area Assessor's Parcel Numbers				
423250007	423250008	423250009	423250010	423250011
423250012	423250013	423250018	423260001	423260002
423260003	423260004	423260005	423260006	423260007
423260008	423260009	423270003	423270004	423270006
423270007	423270008	423270009	423270017	423270018
423270019	423280001	423280002	423280003	423280004
423280005	423280006	423280007	423280008	423280009
423290007	423300002	423300004	423300005	423300009
423300010	423310001	423310002	423310003	423310004
423310005	423310006	423310007	423310008	423320001
473220016	473220017	473220024	473220025	478020040
478070004	478070005	478070006	478070007	478070008
478070010	478070011	478070012	478070016	478070017
478070025	478080007	478080008	478100002	478100003
478100009	478100012	478100017	478100018	478110001
478110004	478110005	478110006	478120001	478120002
478120003	478120004	478120007	478120008	478120017
478120018	478120020	478120021	478120024	478131039
478131041	478131056	478132020	478132021	478132030
478141002	478141045	478142025	478142028	478142029
478151001	478151002	478151003	478151004	478151012
478151014	478151016	478151018	478151024	478151036
478151037	478151038	478151040	478152012	478152052
478165075	478165077	478166001	478166002	478166003
478166004	478166006	478166007	478166008	478166009
478166010	478166013	478166014	478166015	478166016
478166017	478166018	478166019	478166031	478166032
478166033	478166036	478166037	478173029	478173034
478173042	478173043	478174016	478174017	478174018
478181059	478181060	478182022	478182023	478182042
478182047	478182048	478182054	478182058	478182061
478182062	478191029	478191030	478191031	478191032
478191033	478191034	478191035	478191036	478191037
478192055	478192056	478201039	478201047	478201063
478202052	478202090	478210032	478210033	478210044
478210045	478210046	478210054	478210055	478210056
478220001	478220002	478220003	478220004	478220005
478220006	478220007	478220009	478220010	478220011
478220012	478220013	478220014	478220015	478220016
478220017	478220018	478220019	478220020	478220021
478220022	478220023	478220024	478220025	478220026
478220027	478220028	478220029	478220030	478220031
478230001	478230002	478230003	478230004	478230005

Study Area Assessor's Parcel Numbers				
478230006	478230007	478230008	478230009	478230010
478230011	478230014	478230015	478230016	478230017
478230019	478230020	478240002	478240003	478240005
478240006	478240007	478240008	478240011	478240012
478240013	478240014	478240015	478240016	478240017
478240019	478240021	478240022	478240023	478240024
478240025	478240026	478240027	478240028	478240029
478240030	478240031	478240032	478240033	478240034
478370005	478370006	478370007	478370008	478370014
486160037	486160038	486340029	486480001	486480026
486480027	486480042	486480043	486480044	486480047
486481001	486481002	486481003	486481004	486481005
486481006	488080006	488080007	488230001	488230012
488231001	488231002	488231003	488231004	488231005
488231006	488231007	488231008	488250001	488250002
488250003	488250004	488250005	488250006	488250007
488260001	488260002	488260003	488260006	488260009
488260012	488260014	488260018	488260019	488260020
488260021	488260022	488260023	488260024	488260025
488260026	488260027	488260028	488260031	488260032
488260033	488260034	488260035	488260036	488260037
488260038	488310004	488310009	488310010	488310011
488320001	488320006	488320007	488320008	488320009
488330001	488330004	488330013	488330019	488330022
488330023	488330024	488330025	488330026	488330027
488330028	488330029	488330030	488330031	488340001
488340002	488340003	488340004	488350001	488350002
488350003	488350004	488350005	488350006	488350007
488350008	488350009	488350010	488350011	488350012
488350013	488350014	488360001	488360002	488360004
488360005	488360006	488360007	488360008	488360009
488360010	488360011	488360012		



Source: Census 2000 Data, The CaSIL, MBA GIS 2009.

Michael Brandman Associates

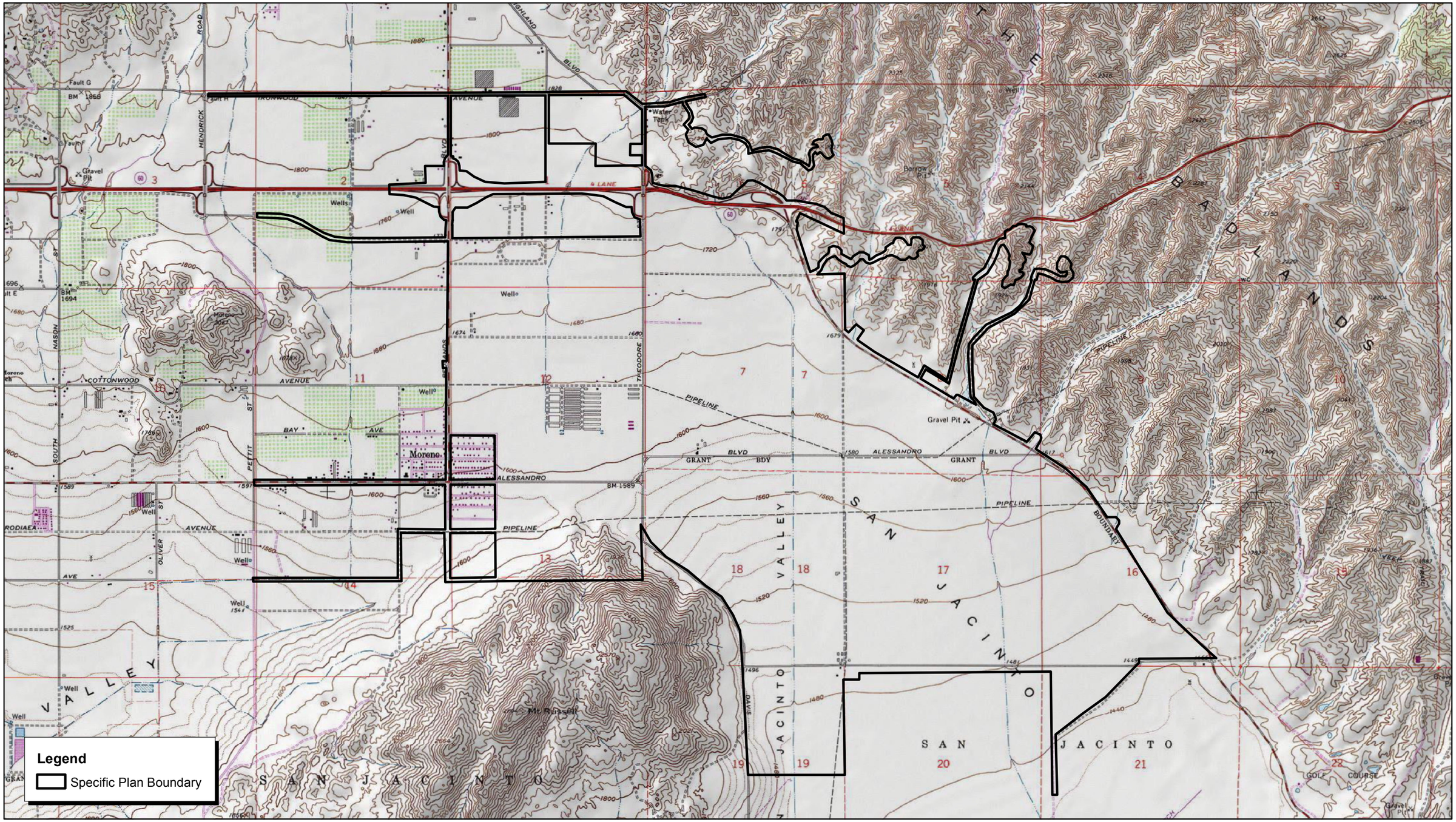
NORTH

5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

26100022 • 07/2010 | 1_regional.mxd

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN
BURROWING OWL FOCUSED SURVEY



Source: TOPO! USGS Sunnymead (1978) and El Casco (1976) 7.5' DRG.

NORTH

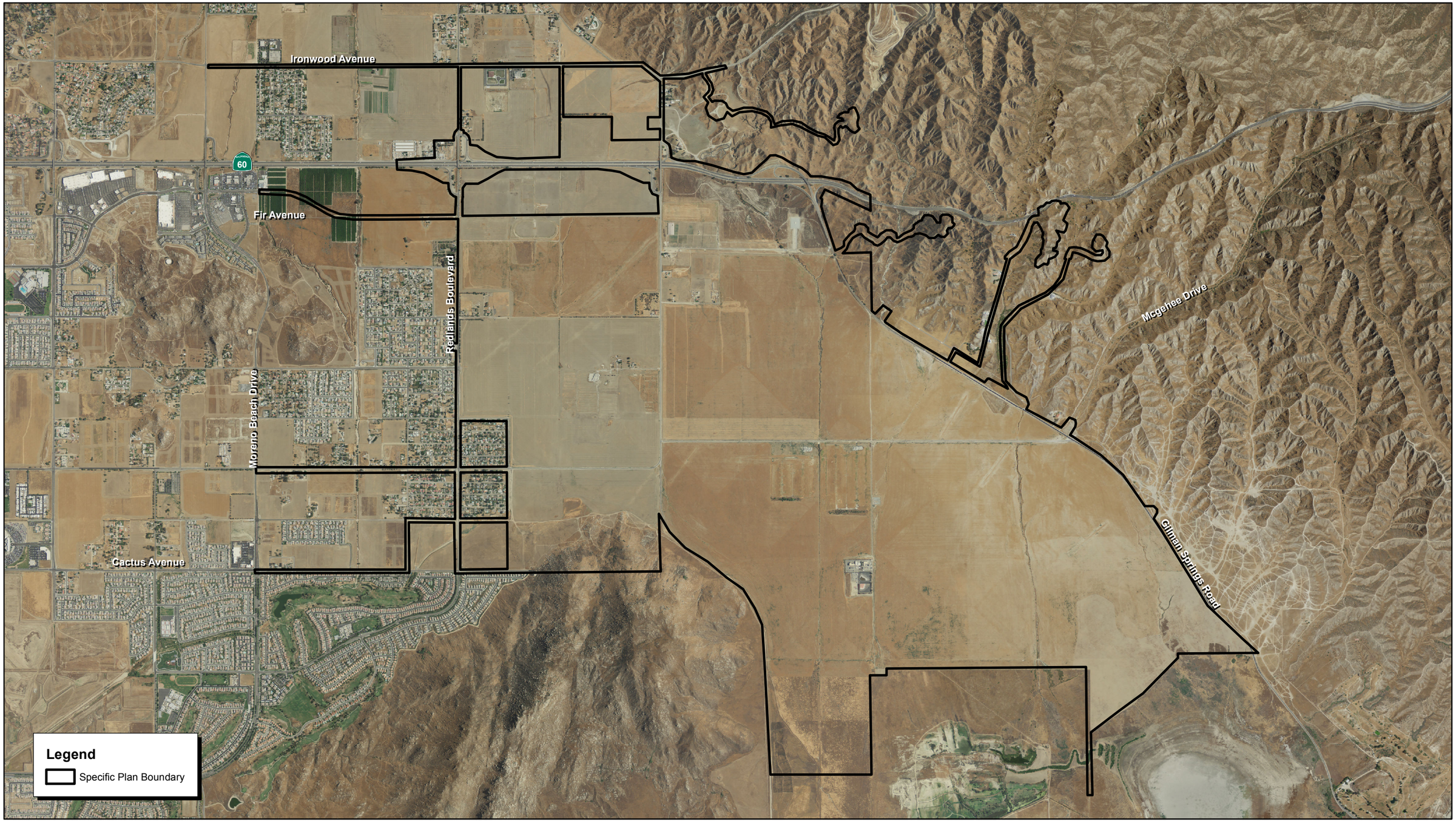
2,500 1,250 0 2,500 Feet

Michael Brandman Associates

26100022 • 08/2010 | 2_local_topo.mxd

Exhibit 2
Local Vicinity Map
Topographic Base

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN
BURROWING OWL FOCUSED SURVEY



Source: Riverside County NAIP, 2009.

NORTH

2,400 1,200 0 2,400
Feet

Michael Brandman Associates

26100022 • 08/2010 | 3_local_aerial.mxd

Exhibit 3
Local Vicinity Map
Aerial Base

SECTION 3: BACKGROUND

3.1 - Burrowing Owl

The burrowing owl is designated as a California species of concern due to its great decrease in numbers in the State over the past 30 years. These owls require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. Typical habitat associated with burrowing owls includes short-grass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas. Burrowing owls may also use golf courses, cemeteries, road allowances within cities, airports, vacant lots in residential areas, and irrigation ditches. Although open areas with short vegetation are critical for nesting, there is some evidence that the owls prefer a vegetation mosaic with nesting habitat interspersed with taller vegetation for hunting. However, the primary requirement for suitable burrowing owl foraging habitat appears to be low vegetation cover that allows visibility and access to prey.

Due to a burrowing owls inability to construct its own burrow, they often require the use of existing rodent burrows or other burrows for roosting and nesting cover. Burrowing owls may also use pipes, culverts, and nest boxes where burrows are scarce. One burrow is typically selected for use as the nest; however, satellite burrows are usually found within the immediate vicinity of the nest burrow within the defended territory of the owl. If left undisturbed, they will use the same burrow year after year for nesting. Typically, a clutch of seven to nine eggs is laid between March and July. Burrowing owls are generally considered a monogamous species. Both parents take part in incubation for about 28 days. The young emerge from the nest and spend daylight hours at the burrow entrance with one or both adults.

Burrowing owls are crepuscular owls, being most active during the early morning and evening hours. Their diet is predominantly large insects and small rodents, but they will also take small birds, reptiles, amphibians, fish, scorpions, and other available prey. They are often observed perched on fence posts or utility wires. Reasons for the decline in their numbers include habitat destruction, insecticide poisoning, rodenticide (particularly squirrel eradication), and shooting.

3.2 - Western Riverside County MSHCP

The MSHCP is a comprehensive, multi-jurisdictional Habitat Conservation Plan focusing on conservation of species and their associated habitats in western Riverside County. According to the MSHCP, surveys for the burrowing owl are to be conducted as part of the environmental review process. The MSHCP Additional Surveys Needs and Procedures (Section 6.3.2) identify a specific burrowing owl survey area within the MSHCP Plan Area (Burrowing Owl Survey Area Map, Figure 6-4 of the MSHCP, Volume I). The MSHCP also identifies species-specific objectives for the burrowing owl surveys if suitable habitat occurs on a proposed project site.

Under the MSHCP, "if a site (including adjacent buffer areas) supports three or more pairs of burrowing owls, supports greater than 35 acres of suitable habitat, and is non-contiguous with MSHCP Conservation Area lands, at least 90 percent of the area with long-term conservation value and burrowing owl pairs will be conserved onsite." If it is determined that the 90 percent threshold cannot be met, the Permittee(s) must submit a Determination of Biologically Equivalent or Superior Preservation (DBESP) to provide information on how the proposed plan would protect the nesting owls.

SECTION 4: METHODS

4.1 - Literature Review

MBA reviewed available documents and graphics regarding burrowing owl biology, habitat requirements, and previously mapped distribution within the project site. The literature review included a review of field guides, web sites, and Geographic Information Systems (GIS) data. References used are shown in Section 9 of this report.

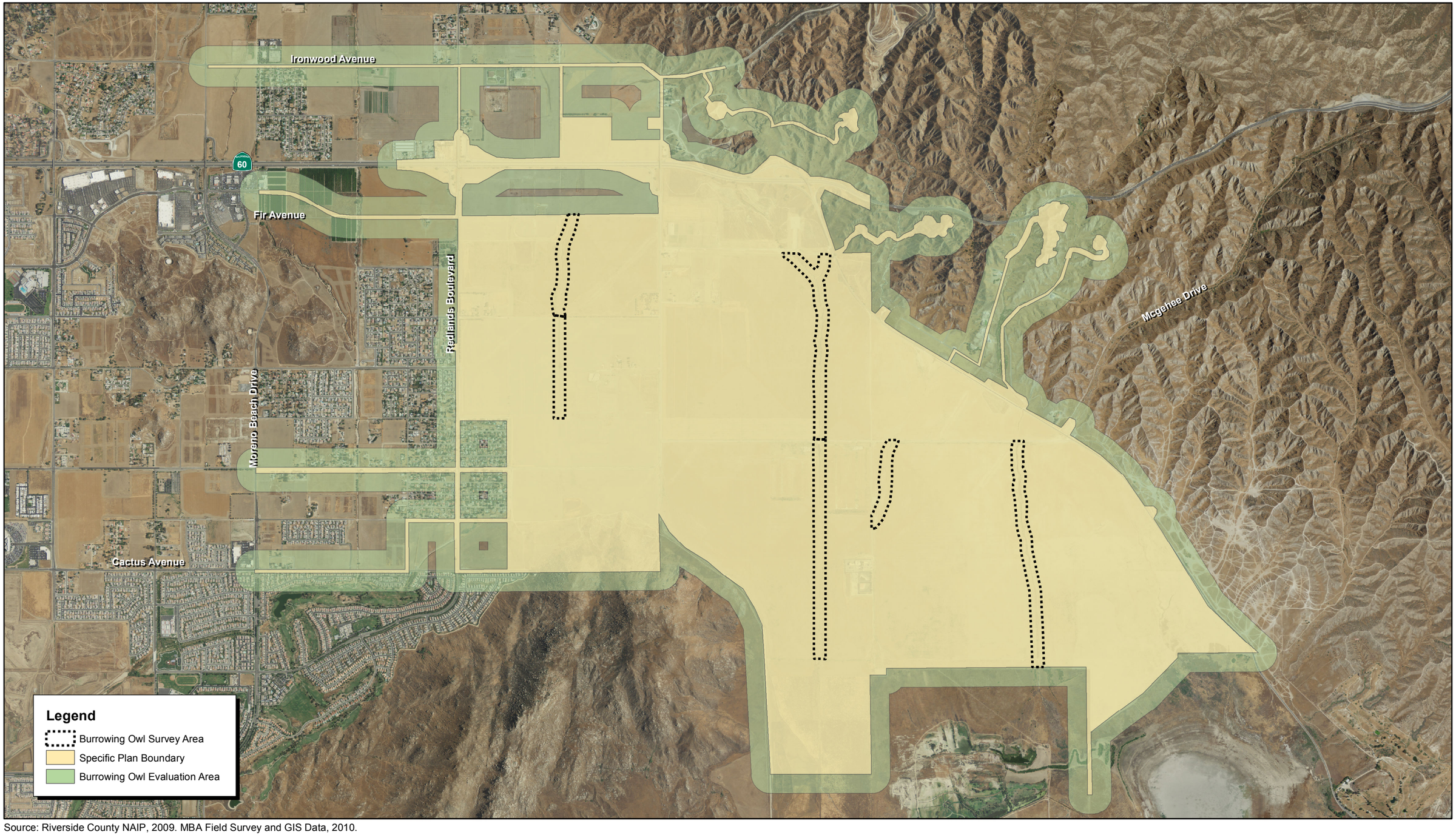
4.2 - Focused Surveys

A focused burrow and burrowing owl survey was conducted by qualified MBA biologists, Scott A. Crawford and Diana Lloyd. Focused surveys were conducted in accordance with survey protocols developed by the California Burrowing Owl Consortium (CBOC 1993) and the "Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area" (Riverside County 2006) per the Riverside County survey requirements. The project site plus a 500-foot buffer surrounding the site, also known as the evaluation area, was surveyed to determine the suitable habitat areas (Exhibit 4). All observations during the surveys were recorded on field data sheets, which are available upon request.

4.2.1 - Focused Burrow Survey

The survey for potential burrows and burrowing owl sign was conducted by walking through suitable habitat throughout the site and a 500-foot buffer surrounding the suitable habitat. This 500-foot buffer is included to account for adjacent burrows and foraging habitat outside the suitable habitat areas and impacts from factors such as noise and vibration due to heavy equipment, which could indirectly affect biological resources during project construction. Pedestrian survey transects were spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines were no more than 100 feet and when necessary were reduced to account for differences in terrain, vegetation density, and ground surface visibility.

All suitable burrows were thoroughly examined for presence of sign and suitable perches were inspected for burrowing owl pellets and whitewash. If occupied burrows or individual owls were observed during the survey, a minimum distance of 50 meters was maintained between owls or occupied burrows and the observer, to minimize any potential harassment or disturbance.



Source: Riverside County NAIP, 2009. MBA Field Survey and GIS Data, 2010.

NORTH

2,400 1,200 0 2,400
Feet

Michael Brandman Associates

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Exhibit 4
Burrowing Owl Survey Area Map

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN
BURROWING OWL FOCUSED SURVEY

4.2.2 - Focused Burrowing Owl Survey

Following the results of the burrow survey, four focused surveys were conducted within the suitable habitat areas to determine the presence of burrowing owl within the project site. The initial burrowing owl survey was conducted concurrently with the focused burrow survey. Only areas identified in the initial survey as having potential burrows and adjacent foraging habitat for owls were surveyed during the remaining three surveys.

Presence of owls was determined by direct observations and/or presence of sign, including pellets, white wash, tracks, feathers, and/or prey remains within the immediate vicinity of a suitable burrow.

SECTION 5: EXISTING CONDITIONS

5.1 - General Conditions

The study area is located in the northeast portion of Moreno Valley, south and west of The Badlands, and north of Mount Russell. Overall, the entire study area is relatively flat, and gently slopes from north to the south, with an elevation range of approximately 1,580 to 1,820 feet above mean sea level.

The study area contains several erosion features and a few roadside ditches. These areas provide the most suitable habitat for burrows potentially used by burrowing owl. These areas are not regularly impacted by active agricultural activities. It is highly unlikely that burrowing owl will occupy areas within the active agricultural fields. However, burrowing owl are known to occur within the margins of these areas within roadside berms and ditches.

The study area contains five different soil series. A soil series is a group of soils with similar profiles. These profiles include major horizons with similar thickness, arrangement, and other important characteristics. The study area contains Metz gravelly sandy loam, Metz loamy fine sand, Hanford coarse sandy loam, San Emigdio fine sandy loam, and San Emigdio loam (USDA 1971). No other mapped soil series are present onsite.

The entire project site contains significant evidence of previous disturbance. Most of the project site was ready for harvesting or recently harvested during the focused survey effort for burrowing owl. Non-native plant species are prevalent throughout the entire project site. Much of the northwest portion of the project site has been harvested. In addition, numerous abandoned buildings, fences, and trees associated with the previous agricultural activities, have recently been removed from the project site.

5.2 - Plant Communities

Two plant communities, identified as extensive agriculture and urban/developed, occur within the project site. The extensive agriculture community is heavily disturbed due to disking and grazing and currently contains winter wheat. Additional vegetation present is dominated by ruderal (weedy) species, such as short-podded mustard (*Hirschfeldia incana*), cheeseweed (*Malva parviflora*), bindweed (*Convolvulus arvensis*), and non-native grasses such as slender oats (*Avena barbata*) and rip-gut brome (*Bromus diandrus*). The urban/developed community is comprised of structures, roadways, and associated ornamental vegetation, such as European olive (*Olea europaea*) and gum tree (*Eucalyptus* sp.). The vegetation in the urban/developed community occurs along SR-60 on the northern portion of the project site.

5.3 - Burrowing Owl Habitat Classification

A previous burrowing owl habitat assessment and focused survey was completed by MBA in 2005. An additional burrowing owl survey was conducted in 2007. Based on the survey findings and the knowledge of the existing habitat onsite, MBA was able to narrow the survey area to previously known occupied areas and areas with moderate to high quality habitat for burrowing owl. These areas include the banks of erosion features within the project site. These areas are not disturbed during agricultural activities and provide suitable burrow habitat for burrowing owls. Exhibit 5 illustrates the burrowing owl habitat suitability for the project site.

5.3.1 - Low Potential Habitat

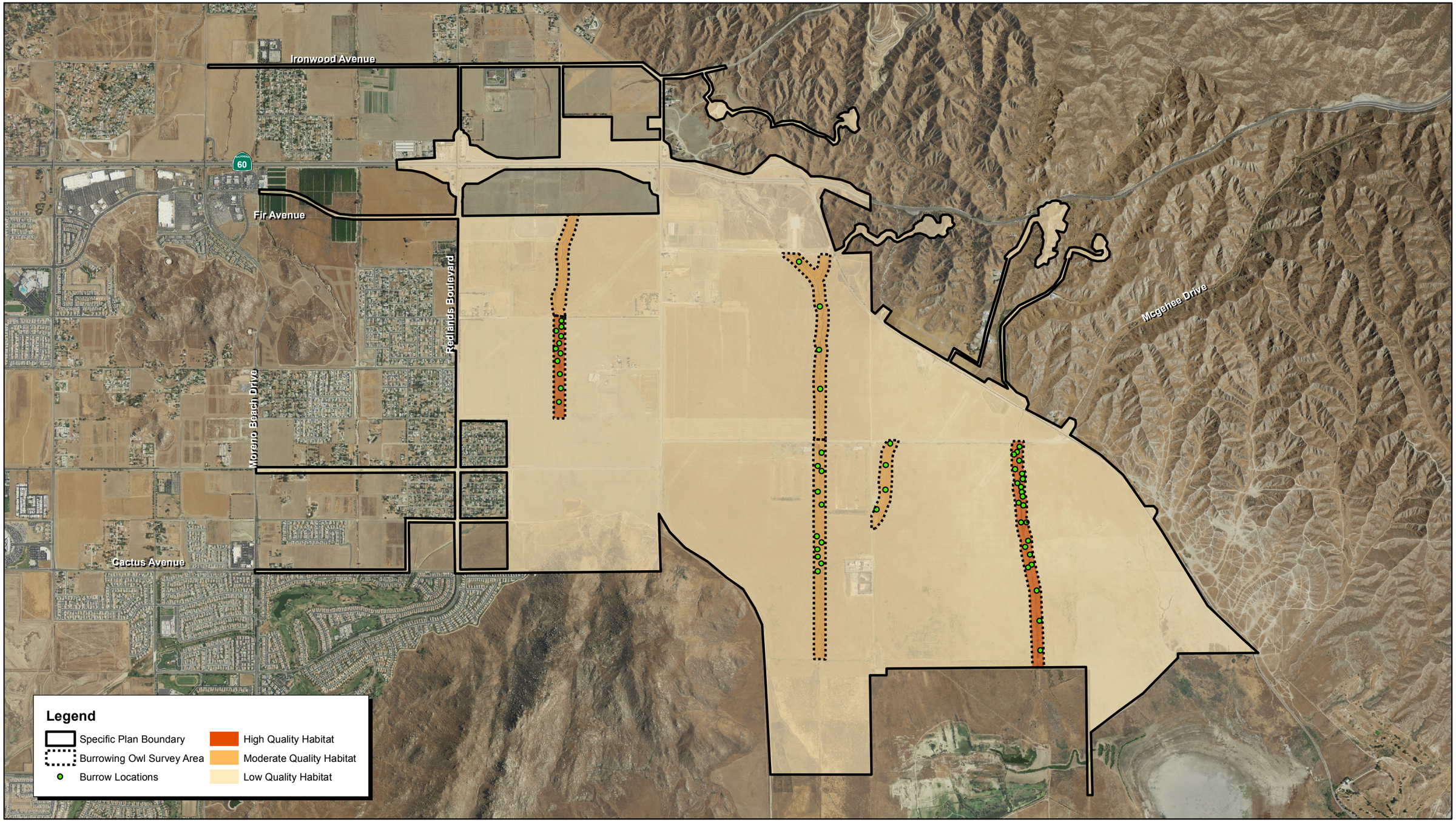
Low potential habitat includes areas within the evaluation area not suitable for burrowing owls. These habitat areas exhibit characteristics such as steep topography, high density of rocky outcroppings, tall/dense vegetation, and/or heavy disturbance. Low potential habitat areas identified within the study area include the active agricultural areas and the urban/developed portions of the study area, and the area along SR-60 with several ornamental trees. The majority of the project site falls under this classification.

5.3.2 - Moderate Potential Habitat

Moderate potential habitat includes areas within the study area and buffer area where vegetation is sparse and burrowing owl are more likely to use as an active use area. The majority of the erosion features within the project site fall under this classification. These erosion features are relatively undisturbed by agricultural activity, but are highly disturbed during major rain events. These erosion features are relatively shallow and typically provide limited vegetative cover. California ground squirrel (*Spermophilus beecheyi*) burrows were observed throughout this portion of the project site.

5.3.3 - High Potential Habitat

The only area within the project site with high potential habitat is associated with the major erosion features within the project site. The habitat in these areas is similar to the habitat in moderate potential habitat mentioned above; however, this portion of the project site contains deeper erosion features. These deep erosional features are completely avoided by large farm equipment, and have previously been considered occupied by burrowing owl and barn owl. The presence of a desert cottontail (*Sylvilagus audobonii*) burrows as well as numerous California ground squirrel burrows provide suitable burrows for burrowing owl.



Source: Riverside County NAIP, 2009. MBA Field Survey and GIS Data, 2010.

NORTH

2,400 1,200 0 2,400 Feet

Michael Brandman Associates

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Exhibit 5
Suitable Habitat Map

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN
BURROWING OWL FOCUSED SURVEY

5.4 - General Wildlife

The project site provides habitat for wildlife species that occur in extensive agriculture and disturbed/developed plant communities. No amphibian species were observed onsite during the focused surveys. Common wildlife species observed or detected include:

- Black phoebe (*Sayornis nigricans*)
- Common raven (*Corvus corax*)
- House finch (*Carpodacus mexicanus*)
- Killdeer (*Charadrius vociferus*)
- Northern mockingbird (*Mimus polyglottos*)
- Western meadowlark (*Sturnella neglecta*)
- California ground squirrel (*Spermophilus beecheyi*)
- Desert cottontail (*Sylvilagus audubonii*)

A complete list of wildlife species observed is located in Appendix A, Faunal Compendium.

SECTION 6: SURVEY RESULTS

6.1 - Burrowing Owl

6.1.1 - Burrow Assessment Survey

MBA biologist Scott A. Crawford conducted the initial focused burrow survey in conjunction with the first focused burrowing owl survey on June 9, 2010. The survey was conducted between 0630 and 0730 hours. Weather conditions during the survey ranged from clear to overcast with an average temperature of approximately 3 degrees Fahrenheit and winds of 0 to 2 miles per hour. Wildlife activity was moderate during the survey. There had been no recorded rain in the region for a minimum of 7 days prior to initiating the burrowing owl surveys.

Project Site

The majority of the project site is covered with dense stands of winter wheat and does not provide suitable habitat for burrowing owl. The survey area consists of several small and one large erosional feature that provides moderate to high quality habitat. Numerous desert cottontail and California ground squirrel burrows were observed scattered throughout the moderate to high quality habitat. In addition, several pipes and other human-made debris also provided suitable burrows within the drainage features.

Buffer Area

There is no additional suitable habitat within 500 feet surrounding the project site. Therefore, although evaluated, protocol burrowing owl surveys were not conducted within the 500-foot buffer area.

6.1.2 - Focused Burrowing Owl Survey

Scott A. Crawford and Diana Lloyd focused on the moderate- to high-quality habitat that previously provided suitable habitat for a single burrowing owl in 2005. Burrowing owls were not observed during the 2007 protocol survey and were not observed during the 2010 surveys. No burrowing owl or evidence of burrowing owl was observed during the focused surveys conducted in 2010 (Table 2).

Table 2: Burrowing Owl Focused Surveys - 2010

Survey Number	Date	Time	Temperature (Fahrenheit)	Skies	Area/Results
1	June 9, 2010	0630 - 0730	66	Overcast	Area 1/Absent
2	June 10, 2010	0600 – 0700	68	Overcast	Area 1/Absent
3	June 11, 2010	0650 - 0750	60	Overcast	Area 1/Absent
4	June 16, 2010	0630 - 0730	60	Overcast	Area 1 and 2/Absent

Table 2 (cont.): Burrowing Owl Focused Surveys - 2010

Survey Number	Date	Time	Temperature (Fahrenheit)	Skies	Area/Results
5	June 22, 2010	0600 - 0700	60	Clear	Area 2/Absent
6	June 23, 2010	0630 - 0730	64	Clear	Area 2/Absent
7	June 24, 2010	0630 - 0730	63	Clear	Area 2/Absent

6.2 - Nesting Birds

The project site supports active agricultural lands consisting of dry-land farming. There are several scattered eucalyptus (*Eucalyptus sp*) and olive (*Olea europaea)* trees and other landscape vegetation associated with the existing residence in the western and central portions of the project site. No evidence of any nesting activity was observed within the trees located on the project site during the survey. There is a significant eroded drainage feature in the eastern portion of the project site that provides nesting habitat for barn owls. Two active barn owl nests were identified within burrows along the steep banks of the large erosion feature located on the eastern portion of the project site. Twelve active nests were previously identified in the 2005 burrowing owl survey. This indicates a dramatic decrease in barn owl nesting activity within the project site. However, 2005 was recorded as a very high rainfall year, which may have contributed to the high numbers of active nests. 2010 is currently considered an average to below average rainfall year.

6.3 - Other Species

Appendix A, Faunal Compendium, provides a complete list of the wildlife species observed on the project site and immediate vicinity during the burrowing owl protocol surveys.

SECTION 7: CONCLUSIONS AND RECOMMENDATIONS

No burrowing owls or evidence of burrowing owls were observed during either the burrow survey or the focused surveys. The project site is considered unoccupied by burrowing owls. However, due to the presence of suitable habitat within portions of the project site, a 30-day preconstruction survey is recommended to ensure burrowing owls have not occupied the study area prior to ground disturbing activities. If burrowing owls are located within the study area during the 30-day preconstruction survey, direct impacts to burrowing owls must be avoided. If the burrowing owls are not nesting, they should be passively relocated prior to the initiation of ground disturbing activities. If the burrowing owls are nesting, the burrow and a 500-foot buffer must be flagged and avoided until a qualified biologist has determined that the young have left the nest. Any avoidance and mitigation activities should be coordinated with CDFG.

The ornamental trees and eroded drainage feature provide potentially suitable nesting habitat for several avian species, including barn owls. Therefore, MBA recommends that construction activities avoid the avian nesting season from February through August, if possible. If construction activity must take place during the nesting season, a pre-construction nesting bird survey should be conducted prior to any vegetation disturbance activities. The survey can be conducted in conjunction with the pre-construction survey for burrowing owl.

If passerine birds are found to be nesting or there is evidence of nesting behavior inside or within 250 feet of the impact area, a 250-foot buffer will be required around the nest where no vegetation disturbance would be permitted. For raptor species, such as hawks and owls, this buffer should be expanded to 500 ft. A qualified biologist will be required to closely monitor nests until it is determined that they are no longer active, at which time construction activity in the vicinity of nests could continue.

SECTION 8: CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: December 13, 2010 Signed: _____

Scott A. Crawford
Michael Brandman Associates
Irvine, California

SECTION 9: REFERENCES

California Burrowing Owl Consortium (CBOC). 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines.

California Department of Fish and Game. 2010. California Habitat Wildlife Relationships. Software (Version 8).

California Department of Fish and Game. 2010. California Natural Diversity Database. Wildlife and Habitat Data Analysis Branch.

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Non-game- Heritage Program. California Department of Fish and Game, Sacramento, California.

Jennings, M.R. and M.P. Hayes. 1994. Amphibians and Reptile Species of Special Concern in California. Inland Fisheries Division, California Department of Fish and Game.

Laudenslayer, Jr., W.F., W.E. Grenfell, Jr., and D.C. Zeiner. 1991. "A Check-list of the Amphibians, Reptiles, Birds and Mammals of California." California Fish and Game 77:109-141.

Michael Brandman Associates (MBA). 2005. Biological Resources Assessment for the 1,778-acre Bel Lago Property. City of Moreno Valley, Riverside County, California. On file at MBA.

Michael Brandman Associates (MBA). 2007. Burrowing Owl Focused Survey, Highland Fairview Corporate Park. City of Moreno Valley, Riverside County, California. On file at MBA.

Michael Brandman Associates (MBA). 2008. Habitat Assessment and MSHCP Consistency Analysis. Highland Fairview Corporate Park. City of Moreno Valley, Riverside County, California. On file at MBA.

Munz, P.A. 1974. A Flora of Southern California. University of California Press, Berkeley, California.

National Geographic Society. 1987. National Geographic Society Field Guide to the Birds of North America. 2nd Edition. National Geographic Society, Washington D.C.

Riverside County. 2006. Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area. Riverside County, California.

Skinner, M.W. and B.M. Pavlik. 1994. Inventory of Rare and Endangered Vascular Plants of California. California Native Plant Society, Spec. Pub. No. 1 (5th edition), Berkeley, California.

Stebbins, R.C. 1985. A Field Guide to Western Reptiles and Amphibians, Houghton Mifflin Company, Boston, Massachusetts

Udvardy, M.D. 1994. National Audubon Society Field Guide to North American Birds. Alfred A. Knopf, Inc. New York, New York.

United States Department of Agriculture (USDA). 1978. Soil Survey of Western Part of Riverside County, California. Department of the Interior. U.S. Government Printing Office. Washington, D.C.

United States Fish and Wildlife Service (USFWS). 1996. "Review of plant and animal taxa for listing as endangered or threatened species; notice of review." Federal Register Vol. 61, No. 40.

United States Fish and Wildlife Service (USFWS). 2002. Birds of conservation concern 2002. Division of Migratory Bird Management, Arlington, Virginia.

United States Geological Survey (USGS). 1976. Lakeview, California 7.5-Minute Topographic Quadrangle Map. Department of the Interior. Washington D.C.: US Government Printing office.

Appendix A:
Faunal Compendium

Faunal Compendium

Cathartidae		**Vultures**
Cathartes	*aura*	turkey vulture
Columbidae		**Pigeons/Doves**
Columba	*livia*	rock pigeon
Zenaida	*macroura*	mourning dove
Tytonidae		**Barn owls**
Tyto	*alba*	barn owl
Trochilidae		**Hummingbirds**
Calypte	*anna*	Anna's hummingbird
Cardinalidae		**Cardinals**
Passerina	*caerulea*	blue grosbeak
Sayornis	*nigricans*	black phoebe
Tyrannus	*verticalis*	western kingbird
Corvidae		**Jays/Crows**
Corvus	*brachyrhynchos*	American crow
Corvus	*corax*	common raven
Hirundinidae		**Swallows**
Stelgidopteryx	*serripennis*	northern rough-winged swallow
Hirundo	*rustica*	barn swallow
Mimidae		**Mockingbirds/Thrashers**
Mimus	*polyglottos*	northern mockingbird
Sturnidae		**Starlings**
Sturnus	*vulgaris*	European starling
Parulidae		**New world warblers**
Wilsonia	*citrina*	hooded warbler
Emberizidae		**Warblers, sparrow, etc.**
Pipilo	*crissalis*	California towhee
Icteridae		**New world blackbirds**
Sturnella	*neglecta*	western meadowlark
Fringillidae		**Finches**
Carpodacus	*mexicanus*	house finch
Carduelis	*psaltria*	lesser goldfinch
Canidae		**Wolves and Foxes**
Canis	*familiaris*	domestic dog

Appendix B:
Site Photographs

Photograph 1: Looking southwest at the central portion of the project site. Photo was taken from the west side of Theodore Road. Active disking of the field is occurring in the background.

Photograph 2: Looking south at the small erosion feature located in the central portion of the project site. This is the location of the previous recorded observation of burrowing owl in 2005.

Photograph 3: Looking south at the large erosion feature in the eastern portion of the project site. Two barn owl nests were observed within the eastern bank of the feature.

Photograph 4: Looking east at one of the two active barn owl nests within the large erosion area. An adult and juvenile were observed at this nesting location.

Source: Michael Brandman Associates (2010).

Michael Brandman Associates

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Appendix B
Site Photographs

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN
BURROWING OWL FOCUSED SURVEY

Appendix E:
Sensitive Plants Surveys

Sensitive Plant Focused Survey
Highlands Specific Plan
City of Moreno Valley, Riverside County, California

Sunnymead and El Casco, California USGS 7.5-minute Topographic Quadrangle Map
Sections 1, 2, 11, 12, 13, and 14; Township 3 South; Range 3 West
Sections 5, 6, 7, 8, 16, 17, 18, 19, 20, and 21; Township 3 South; Range 4 West

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Director of Natural and Cultural Resources

Michael Brandman Associates

Report Prepared By: Scott A. Crawford, Sr. Biologist
Survey(s) Conducted: June 9 through July 2, 2010
Report Date: December 13, 2010

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SECTION 1: SUMMARY

The purpose of this study is to determine the presence/absence of any special status plant species within the proposed Highlands Specific Plan in the City of Moreno Valley, Riverside County, California. A literature review initiated the search and was followed by site visits to suitable habitat areas as well as known reference populations. The list of potentially occurring plant species is based on species range, known recorded occurrence within the vicinity, and the presence of marginal to suitable habitat.

Fifteen sensitive plant species were listed in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) report generator within or immediate adjacent to the Highlands Specific Plan, herein referred to as project site, including Munz's onion, San Diego ambrosia, many-stemmed dudleya, spreading navarretia, California orcutt grass, Wright's trichocoronis, San Jacinto Valley crownscale, Parish's brittlescale, Davidson's saltscale, thread-leaved brodiaea, smooth tarplant, round-leaved filaree, Coulter's goldfields, little mousetail, and mud nama.

Based on the known recorded occurrence and existing habitat onsite, three of the sensitive plant species listed above have a moderate potential to occur including Coulter's goldfields, smooth tarplant, and thread-leaved brodiaea. Therefore, sensitive plant surveys were limited to these three species.

This report describes the assessment and results of a focused survey for fifteen sensitive plants species as required by the MSHCP. No sensitive plant species were observed during the focused plant survey. Therefore, the project site is considered absent of all potentially occurring sensitive plant species.

SECTION 2: INTRODUCTION

As requested by the Highland Fairview Operating Company, Michael Brandman Associates (MBA) completed a sensitive plant assessment and surveys for the Highlands Specific Plan within the City of Moreno Valley, Riverside County, California.

2.1 - Survey Purpose

The 2010 surveys were conducted as part of the ongoing effort documenting sensitive plant and wildlife species for the project sites since 2005. The 2010 sensitive plant surveys were based on a finalized Highlands Specific Plan footprint clearly indicating all related impact areas associated with the Highlands Specific Plan Area.

2.2 - Project Description

The Highland Fairview Operating Company property is a 4,321-acre project site dominated by dry-land farming agricultural land. Additional offsite areas include freeway interchanges, water quality basins, as well as other project infrastructure. Historically, the project site has been used for agricultural purposes for many decades. Currently, it is dominated by disked agricultural fields. General land use in the vicinity of the project site includes State Route (SR) 60 and agricultural lands to the north, agricultural lands intermixed with rural residences to the west and south, and undeveloped land to the east.

2.3 - Project Site Location and Study Area

The project site includes the Highland Fairview Operating Company property as well as offsite improvement areas that may be used in support of any future project implemented on the parcel map. The study area is generally located north of SR-74, south of SR-60, east of Interstate (I) 215, and west of SR-79, in the City of Moreno Valley, Riverside County, California (Exhibit 1). The project site is depicted within Sections 1, 2, 11, 12, 13, and 14 of Township 3 South, Range 3 West and Sections 5, 6, 7, 8, 16, 17, 18, 19, 20, and 21 of Township 3 South, Range 4 West of the Sunnymead and El Casco, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle map (Exhibit 2). More specifically, it is located south of Ironwood Avenue, east of Moreno Beach Drive, and west of Gillman Springs Road (Exhibit 3).

The study area occurs on the following Assessor's Parcel Numbers (APNs) shown in Table 1.

Table 1: Study Area Assessor's Parcel Numbers

Study Area Assessor's Parcel Numbers				
304020006	304020008	304041014	304041015	304041016
304041029	304041030	304051005	304051006	304051012

Study Area Assessor's Parcel Numbers				
304052026	304053001	304053006	304053007	304053010
304053011	304053012	304053013	304053014	304053015
304053016	304053017	304053018	304053019	304053020
304053021	304060001	304060002	304060003	304060004
304060005	304060006	304060007	304060008	304060009
304060020	304060021	304070001	304070002	304070003
304070004	304070005	304070006	304070007	304070008
304070009	304070010	304070011	304070012	304070013
304070014	304070015	304070016	304070017	304070052
304070053	304070054	304070055	304070056	304290063
304290064	304420001	304420002	304420003	304420004
304420005	304420006	304420007	304421001	304421002
304421003	304421004	304421005	304421006	304421007
304421008	304421009	304421010	304421011	304421012
304421029	304421043	304431005	304431006	304431007
304431008	304431009	312020006	312041011	312050015
312061001	312063019	312063020	312063021	312063022
312063023	312063024	312063025	422020003	422020004
422020005	422020006	422020007	422020009	422020010
422030002	422030003	422030007	422030008	422030012
422030013	422040008	422040009	422040010	422040012
422040013	422040014	422040015	422050006	422070005
422070006	422070010	422070014	422070017	422070018
422070019	422070020	422070021	422070022	422070023
422070024	422070029	422070030	422070031	422070032
422070033	422070034	422070035	422070036	422070037
422080001	422080002	422080003	422080004	422090001
422100001	422100002	422100003	422100006	422100007
422100010	422100012	422100013	422100014	422100015
422100016	422100021	422100022	422110001	422110002
422110003	422110004	422110005	422110006	422110007
422110008	422110009	422120001	422120002	422120003
422120004	422120007	422120008	422120011	422120012
422120015	422120016	422120017	422130001	422130002
422130003	422140001	422140002	422140003	422140004
422140006	422140007	422140008	422140009	422140010
422150004	422150006	422150007	422150008	422150010
422160008	422160009	422160010	422180002	422190003
423070005	423070008	423070009	423250001	423250002

Study Area Assessor's Parcel Numbers				
423250007	423250008	423250009	423250010	423250011
423250012	423250013	423250018	423260001	423260002
423260003	423260004	423260005	423260006	423260007
423260008	423260009	423270003	423270004	423270006
423270007	423270008	423270009	423270017	423270018
423270019	423280001	423280002	423280003	423280004
423280005	423280006	423280007	423280008	423280009
423290007	423300002	423300004	423300005	423300009
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478070025	478080007	478080008	478100002	478100003
478100009	478100012	478100017	478100018	478110001
478110004	478110005	478110006	478120001	478120002
478120003	478120004	478120007	478120008	478120017
478120018	478120020	478120021	478120024	478131039
478131041	478131056	478132020	478132021	478132030
478141002	478141045	478142025	478142028	478142029
478151001	478151002	478151003	478151004	478151012
478151014	478151016	478151018	478151024	478151036
478151037	478151038	478151040	478152012	478152052
478165075	478165077	478166001	478166002	478166003
478166004	478166006	478166007	478166008	478166009
478166010	478166013	478166014	478166015	478166016
478166017	478166018	478166019	478166031	478166032
478166033	478166036	478166037	478173029	478173034
478173042	478173043	478174016	478174017	478174018
478181059	478181060	478182022	478182023	478182042
478182047	478182048	478182054	478182058	478182061
478182062	478191029	478191030	478191031	478191032
478191033	478191034	478191035	478191036	478191037
478192055	478192056	478201039	478201047	478201063
478202052	478202090	478210032	478210033	478210044
478210045	478210046	478210054	478210055	478210056
478220001	478220002	478220003	478220004	478220005
478220006	478220007	478220009	478220010	478220011
478220012	478220013	478220014	478220015	478220016

Study Area Assessor's Parcel Numbers				
478220017	478220018	478220019	478220020	478220021
478220022	478220023	478220024	478220025	478220026
478220027	478220028	478220029	478220030	478220031
478230001	478230002	478230003	478230004	478230005
478230006	478230007	478230008	478230009	478230010
478230011	478230014	478230015	478230016	478230017
478230019	478230020	478240002	478240003	478240005
478240006	478240007	478240008	478240011	478240012
478240013	478240014	478240015	478240016	478240017
478240019	478240021	478240022	478240023	478240024
478240025	478240026	478240027	478240028	478240029
478240030	478240031	478240032	478240033	478240034
478370005	478370006	478370007	478370008	478370014
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486480027	486480042	486480043	486480044	486480047
486481001	486481002	486481003	486481004	486481005
486481006	488080006	488080007	488230001	488230012
488231001	488231002	488231003	488231004	488231005
488231006	488231007	488231008	488250001	488250002
488250003	488250004	488250005	488250006	488250007
488260001	488260002	488260003	488260006	488260009
488260012	488260014	488260018	488260019	488260020
488260021	488260022	488260023	488260024	488260025
488260026	488260027	488260028	488260031	488260032
488260033	488260034	488260035	488260036	488260037
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488330001	488330004	488330013	488330019	488330022
488330023	488330024	488330025	488330026	488330027
488330028	488330029	488330030	488330031	488340001
488340002	488340003	488340004	488350001	488350002
488350003	488350004	488350005	488350006	488350007
488350008	488350009	488350010	488350011	488350012
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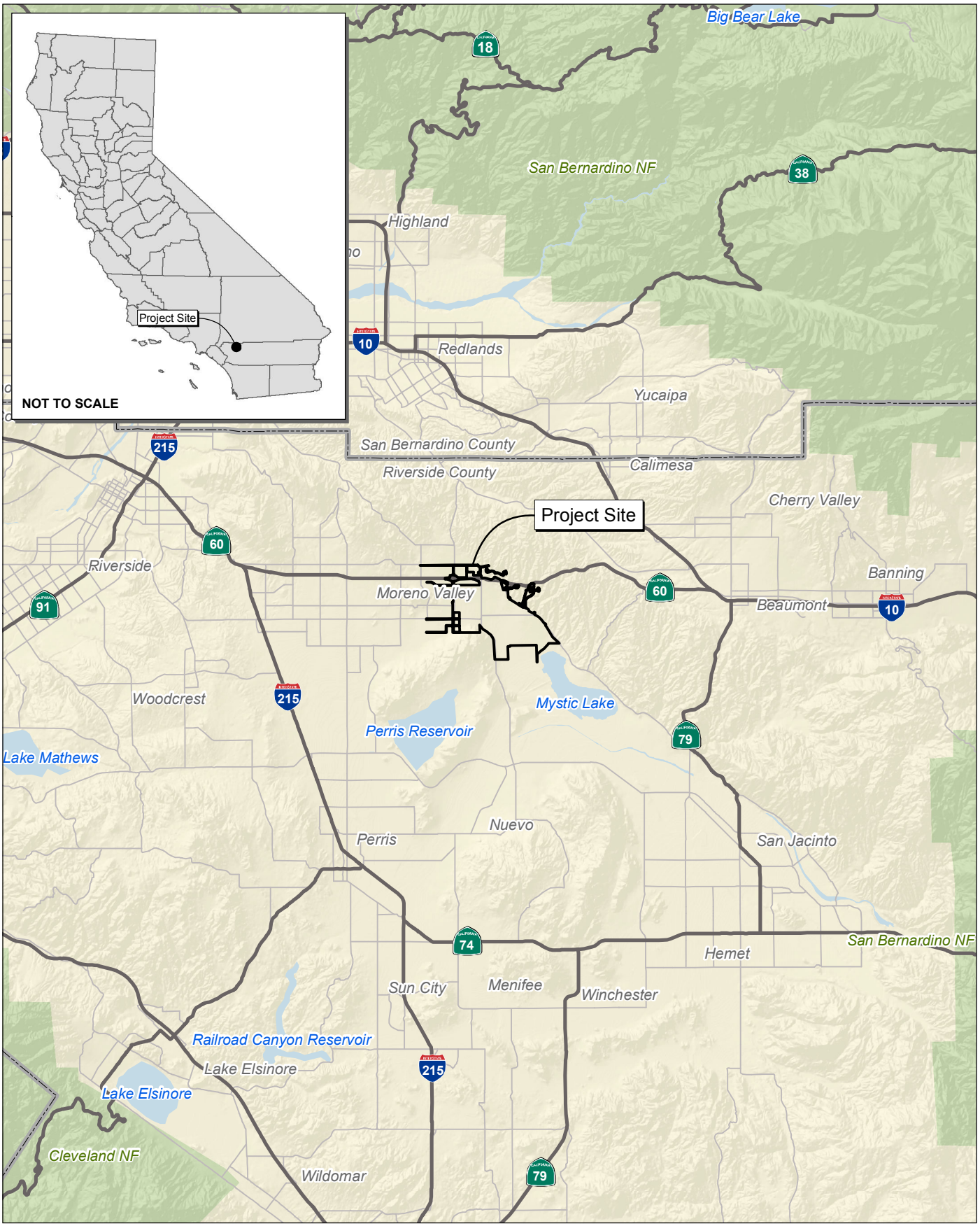
488360010	488360011	488360012		



Source: Census 2000 Data, The CaSIL, MBA GIS 2009.

Michael Brandman Associates

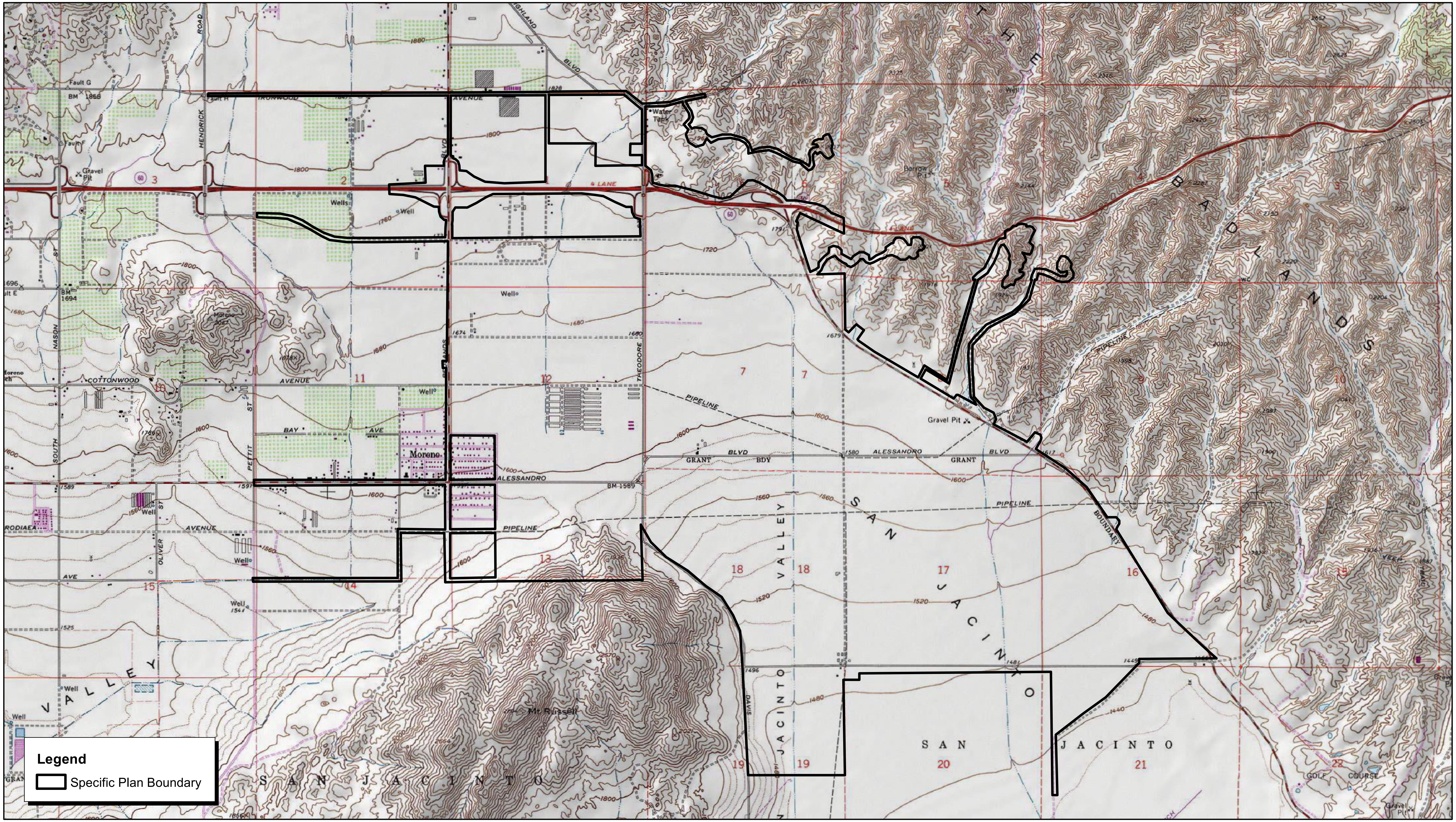
NORTH

5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

26100022 • 08/2010 | 1_regional.mxd

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN
SENSITIVE PLANT FOCUSED SURVEY



Source: TOPO! USGS Sunnymead (1978) and El Casco (1976) 7.5' DRG.

Michael Brandman Associates

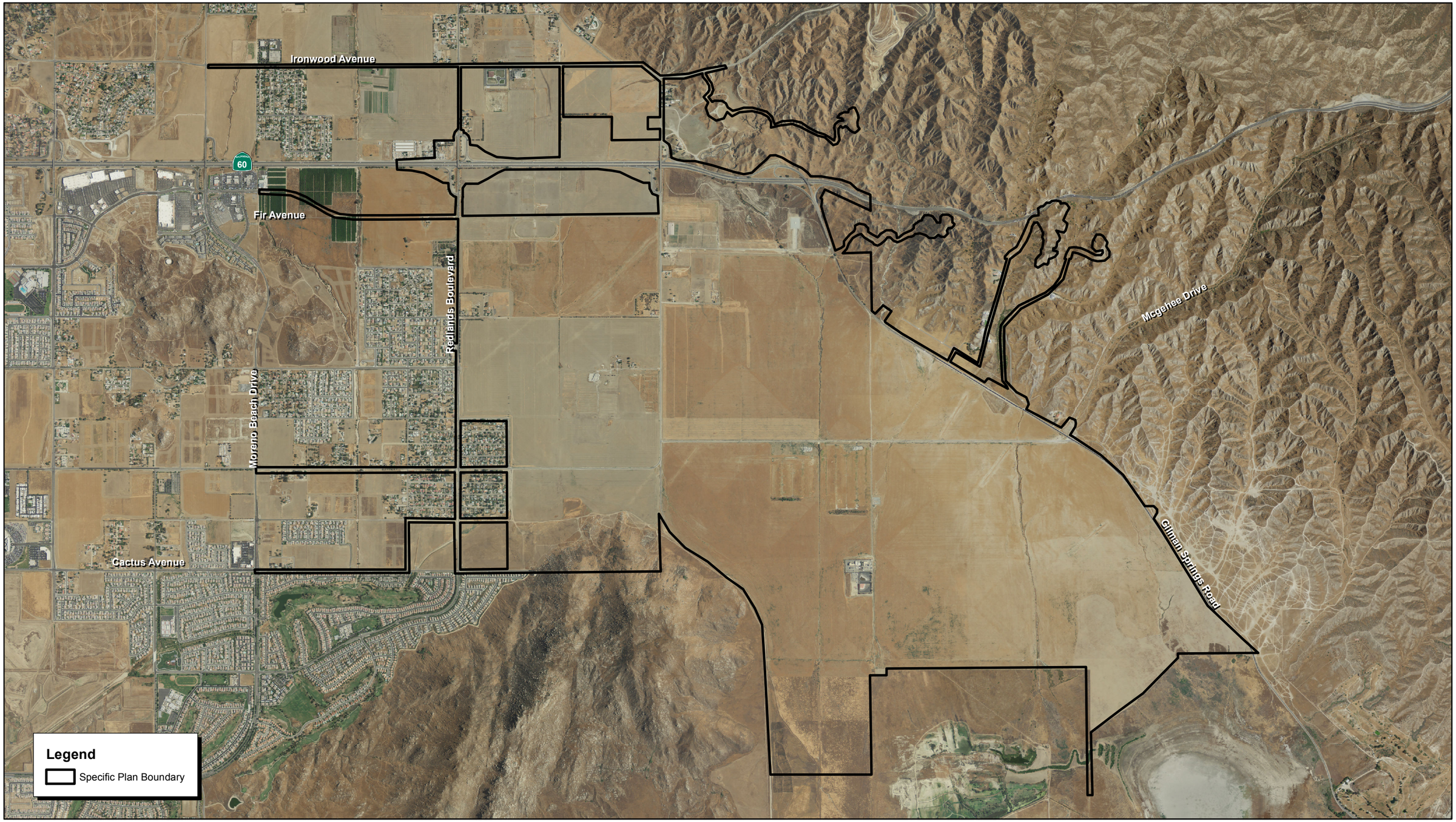
NORTH

2,500 1,250 0 2,500 Feet

Exhibit 2
Local Vicinity Map
Topographic Base

26100022 • 08/2010 | 2_local_topo.mxd

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN
SENSITIVE PLANT FOCUSED SURVEY



Source: Riverside County NAIP, 2009.

NORTH

2,400 1,200 0 2,400
Feet

Michael Brandman Associates

26100022 • 08/2010 | 3_local_aerial.mxd

Exhibit 3
Local Vicinity Map
Aerial Base

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN
SENSITIVE PLANT FOCUSED SURVEY

SECTION 3: METHODS

A review of MSHCP report generator, California Department of Fish and Games California Natural Diversity Database (CNDDB) and the Inventory of Rare and Endangered Vascular Plants of California by MBA biologists resulted in a list of special status plant species that are known to occur within the vicinity of the project site. Each species was evaluated to determine if the plant has a moderate to high potential to occur onsite based on the presence of suitable habitat and distance from a known recorded occurrence of the species.

The list of potentially occurring plant species and their flowering periods were assessed to determine the order in which suitable habitat areas within the project site should be surveyed. Many of the sensitive plants have different survey windows depending on their flowering period. MBA designed a survey strategy to survey sensitive plants from earliest flowering period to those that flower later in the growing season.

3.1 - Survey Protocol

The majority of the project site is located within active agricultural fields, which provides limited suitable habitat for any natural occurring plant species. The plant surveys generally followed the United States Department of Agriculture (USDA) Forest Service's Threatened, Endangered, and Sensitive Plant Survey Field Guide, March 2005. Data collected during the site visits were recorded in field notebooks. Survey location areas were hand drawn on aerial photographs and transferred to ArcView as survey area polygons (Exhibit 2).

All accessible areas containing suitable habitat for sensitive plants were covered during the focused surveys. In addition, sensitive plant species were also surveyed during all other visits to the proposed project sites, such as focused surveys for burrowing owl (*Athene cunicularia*) and Los Angeles pocket mouse (*Perognathus longimembris brevinasus*).

Parallel transects were walked throughout all suitable habitats as well as marginal habitat areas, even though the potential for the plants to occur was considered extremely low. Special attention was given to areas of high potential that contained all necessary microhabitat requirements such as soil type, plant community, and elevation limits. Areas with impenetrable 100 percent cover of chaparral, private property areas, and extremely steep areas were not surveyed due to inaccessibility. All plant species observed within the project sites were recorded in field notebooks and are included in Appendix A, Floral Compendium.

The 2010 surveys were conducted within the known flowering period of the special status species potentially occurring with the proposed project footprint. The focused plant survey targeted sensitive plants species and is not considered a comprehensive botanical survey to record all observed species within the survey areas. Common plant species observed were noted and any sensitive plants, if

observed, were mapped. Focused plant surveys were conducted on June 9, 10, 11, 16, 22, 23, and 24, 2010 by MBA Senior Biologist Scott A. Crawford. Surveys were made within suitable habitat areas most likely to support the three sensitive plant species determined to have a moderate potential to occur onsite. Table 2, Special Status Plant Species, below provides general information regarding the sensitive plant species assessed and the necessary information used to determine their potential to occur within the suitable habitat on site.

3.2 - Literature Review

The sensitive plant surveys began with a literature review to establish a list of plant species that could potentially occur within the project sites. Based on information reviewed in the MSHCP for the project site, a list of narrow endemic plants and cell criteria plants was established. This list was cross-referenced with CDFG's CNDDB and the California Native Plant Society Electronic Inventory of Rare and Endangered Vascular Plants of California (Skinner and Pavlik 1994) resulting in a list of 15 plant species to further evaluate to determine if surveys are warranted and include the following:

- Munz's onion (*Allium munzii*)
- San Diego ambrosia (*Ambrosia pumila*)
- Spreading navarretia (*Navarretia fossalis*)
- California Orcutt grass (*Orcuttii californica*)
- Wright's trichocoronis (*Trichocoronis wrightii*)
- San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*),
- Parish's brittlescale (*Atriplex parishii*)
- Davidson's saltscale (*Atriplex serenana* var. *davidsonii*)
- Thread-leaved brodiaea (*Brodiaea filifolia*)
- Round-leafed filaree (*California macrophylla*)
- Coulter's goldfields (*Lasthenia glabrata* spp. *coulteri*)
- Little mousetail (*Myosurus minimus* ssp. *apus*)
- Mud nama (*Nama stenocarpum*)
- Smooth tarplant (C*entromadia pungens* ssp. *laevis*)
- Many-stemmed dudleya (*Dudleya multicaulis*)

The list of sensitive plant species was evaluated and based on suitable habitat requirements and distance from known recorded occurrences, three special status plant species potentially occur within the project site. The remaining 12 species have a low potential to occur within the project site and are not likely to occur based on the distance from a known recorded occurrence and the lack of suitable habitat (Table 2).

Table 2: Special Status Plant Species

Species		Status			Blooming Period		Habitat Association (and elevation range)	Potential for Occurrence in Project site
Scientific Name	Common Name	USFWS	CDFG	Other				
Allium munzii	Munz's onion	FE	ST	1B.1	Perennial herb (bulbiferous)	Mar - May	Chaparral, coastal scrub, cismontane woodland, pinyon-juniper woodland, grassland (1,000-3,400 ft.)	**Low -** Closest recorded occurrence is 12 miles southwest of the project site. . Marginally suitable habitat present.
Ambrosia pumila	San Diego ambrosia	FE	None	1B.1	Perennial herb (rhizomatous)	Jun - Sep	Upper terraces of rivers, openings in coastal scrub and grassland, occ. adjacent to vernal pools. (<1,300 ft.)	**Low -** Known from one disjunct population NE of Lake Elsinore.. Marginal habitat potentially present.
Atriplex coronata var. *notatior*	San Jacinto Valley crownscale	FE	None	1B.1	Annual herb	Apr - Aug	Playas, chenopod scrub, grassland, vernal pools. (1,300-1,700 ft.)	**Low -** Known recorded occurrence is approximately 17 miles to the west, but only marginally suitable habitat occurs in the project site.

Species		Status			Blooming Period		Habitat Association (and elevation range)	Potential for Occurrence in Project site
Scientific Name	Common Name	USFWS	CDFG	Other				
Atriplex serenan var. davidsonii	Davidson's saltscale	None	None	1B.2	Annual herb	Apr – Oct	Coastal bluff scrub and coastal scrub in alkaline soils.	**Low -** Known recorded occurrence is approximately 13 miles to the south, but only marginally suitable habitat occurs in the project site.
Atriplex parishii	Parish's brittlescale	None	None	1B.1	Annual herb	June – Oct	Chenopod scrub, playas, vernal pools (100 - 6,000 ft.)	**Low -** Known recorded occurrence is approximately 4 miles to the south, but only marginally suitable habitat occurs in the project site.
Brodiaea filifolia	thread-leaf brodiaea	FT	SE	1B.1	Perennial herb (bulbiferous)	Mar - Jun	Coastal scrub, cismontane woodland, grasslands, vernal pools, clay soils. (<2,800 ft.)	**Moderate–** Previously recorded within 3 miles to the west of the project site. Marginally suitable habitat onsite.

Species		Status			Blooming Period		Habitat Association (and elevation range)	Potential for Occurrence in Project site
Scientific Name	Common Name	USFWS	CDFG	Other				
California macrophylla	round-leaved filaree	None	None	1B.1	Annual herb	Mar - May	Cismontane woodland and valley and foothill grassland.	**Low –** Closest recorded occurrence is approximately 13 mile south of the project site. Marginally suitable grassland habitat occurs onsite.
Centromadia pungens ssp. *laevis*	smooth tarplant	None	None	1B.1	Annual herb	Apr - Sep	Chenopod scrub, wet meadows, seeps, playas, riparian woodlands, alkaline soils. (<1,600 ft.)	**Moderate –** Known to occur within 2 miles south of the project site. Marginal suitable riparian habitat occurs onsite.
Dudleya multicaulis	many-stemmed dudleya	None	None	1B.2	Perennial herb	May - Jul	Chaparral, coastal scrub. (<2600 ft.)	**Low –** Known to occur within 20 miles southwest of the project site. Marginal suitable habitat occurs onsite.

Species		Status			Blooming Period		Habitat Association (and elevation range)	Potential for Occurrence in Project site
Scientific Name	Common Name	USFWS	CDFG	Other				
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None	None	1B.1	Annual herb	Feb - Jun	Vernal pools, playas, marshes. (<5,000 ft.)	**Moderate -** Known from the immediate vicinity. Suitable habitat occurs just off-site, and the project site lies well within the species' range.
Myosurus minimus ssp. *apus*	little mousetail	None	None	3.1	Annual herb	Mar - Jun	Vernal pools. (<2,100 ft.)	**Low-** Observed approximately 12 miles south of the project site. No suitable habitat occurs within the project site.
Nama stenocarpum	Mud nama	—	—	2.2	Annual / perennial herb	Jan - Jul	Marshes, swamps, lake shores, river banks, intermittently wet areas. Elevation limits: 5 to 500m.	**Low.** Observed approximately 5 miles southeast of project site. No suitable habitat present.

Species		Status			Blooming Period		Habitat Association (and elevation range)	Potential for Occurrence in Project site
Scientific Name	Common Name	USFWS	CDFG	Other				
Navarretia fossalis	spreading navarretia	None	None	1B.1	Annual herb	Apr – Jul	Coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools.	**Low –** Closest recorded occurrence is less than 2 miles to the south. Marginally suitable habitat occurs onsite.
Orcuttia californica	California orcutt grass	FE	SE	1B.1	Annual herb	Apr - Jun	Vernal pools. (50 - 2200 ft.)	**Low-** Not known from the immediate vicinity. No suitable habitat occurs within the project site.
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	—	—	2.1	Annual herb	May - Sep	Marshes and swamps, riparian forest, meadows and seeps, vernal pools. Found in mud flats of vernal lakes, drying riverbeds, and alkali meadows. Elevation limits: 5 to 435m.	**Low-** Observed approximately 12 miles south of the Project Site. No suitable habitat present.

U.S. Fish and Wildlife Service
FE Federal Endangered
FT Federal Threatened
FPE Proposed Endangered

California Department of Fish & Game
SE California Endangered
ST California Threatened

California Native Plant Society
1A Plant species presumed extinct in California.
1B Rare, threatened, or endangered in California and elsewhere.
2 Rare, threatened, or endangered in California, but more common elsewhere.

Species		Status			Blooming Period	Habitat Association (and elevation range)	Potential for Occurrence in Project site
Scientific Name	Common Name	USFWS	CDFG	Other			
					3 More information is required regarding status. 4 Species with limited distribution, a “watch” list.		

SECTION 4: SURVEYS

4.1 - Survey Findings

Focused surveys were conducted in areas containing suitable habitat on the project sites to ascertain presence/absence of the above-mentioned sensitive species. A detailed description of the survey area, target species, and habitat elements is discussed below.

4.1.1 - Survey Area

MBA conducted surveys on June 9, 10, 11, 16, 22, 23, and 24, 2010. Weather conditions during the surveys were recorded in field notebooks and summarized below in Table 3.

Table 3: Sensitive Plant Focused Surveys

Survey Number	Date	Time	Temperature (Fahrenheit)	Skies
1	June 9, 2010	0630 - 0730	66	Overcast
2	June 10, 2010	0600 – 0700	68	Overcast
3	June 11, 2010	0650 - 0750	60	Overcast
4	June 16, 2010	0630 - 0730	60	Overcast
5	June 22, 2010	0600 - 0700	60	Clear
6	June 23, 2010	0630 - 0730	64	Clear
7	June 24, 2010	0630 - 0730	63	Clear

The majority of the project site is used for dry-land farming and is actively disturbed on a regular basis for planting wheat. There are small undisturbed areas within a few large erosional features that provide some native scrub habitat as well as non-native grassland habitat scattered along the edges of the agricultural fields.

The study area is located in the northeast portion of Moreno Valley, south and west of The Badlands, and north of Mount Russell. Overall, the entire study area is relatively flat, and gently slopes from north to the south, with an elevation range of approximately 1,580 to 1,820 feet above mean sea level.

The study area contains several erosion features and a few roadside ditches. These areas provide the most suitable habitat for sensitive plant species within the project site. These areas are not regularly impacted by active agricultural activities. It is highly unlikely that sensitive plants will occur in areas within the active agricultural fields.

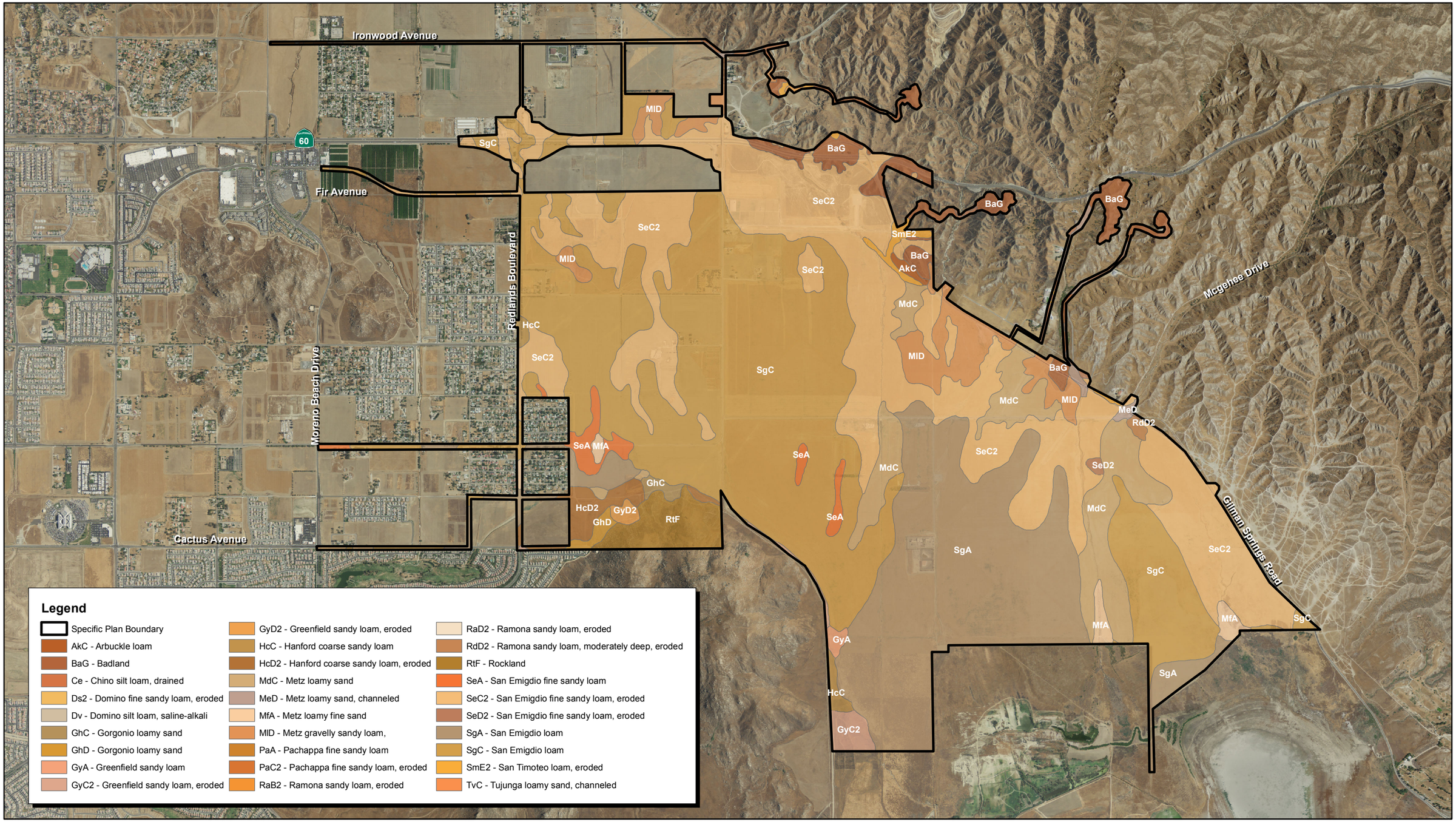
The suitable habitat areas contain five different soil series (Exhibit 4). A soil series is a group of soils with similar profiles. These profiles include major horizons with similar thickness, arrangement, and other important characteristics. Many sensitive plant species are known to occur in specific soil

types. The MSHCP lists three soils series as important soils for sensitive plant species including Willow-Domino-Travers soils. The study area contains Metz gravelly sandy loam, Metz loamy fine sand, Hanford coarse sandy loam, San Emigdio fine sandy loam, and San Emigdio loam (USDA 1971). No other mapped soil series are present onsite, therefore the project site does not contain any soil series known to provide suitable habitat for sensitive plants.

The entire project site contains significant evidence of previous disturbance. Most of the project site was ready for harvesting or recently harvested during the focused survey effort for sensitive plants. Non-native plant species are prevalent throughout the entire project site. Much of the northwest portion of the project site has been harvested. In addition, numerous abandoned buildings, fences, and trees associated with the previous agricultural activities, have recently been removed from the project site.

The following target species share some suitable habitat elements with the habitat found within the project site.

- Coulter's goldfields
- Smooth tarplant
- Thread-leaved brodiaea



Source: Riverside County NAIP, 2009. USDA Soils Data.

NORTH

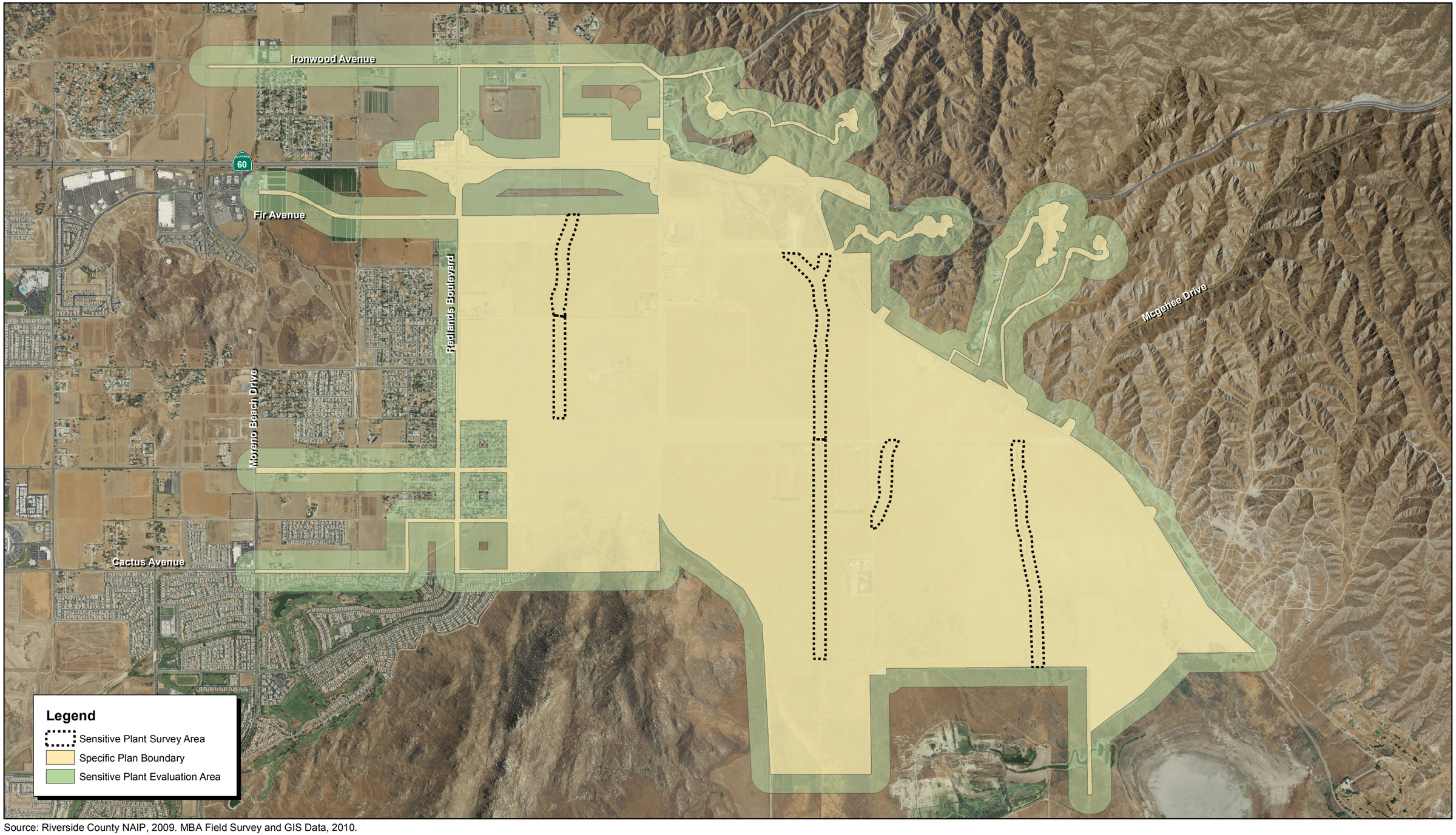
2,400 1,200 0 2,400 Feet

Michael Brandman Associates

26100022 • 08/2010 | 4_soils.mxd

Exhibit 4
Soils Map

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN
SENSITIVE PLANT FOCUSED SURVEY



Source: Riverside County NAIP, 2009. MBA Field Survey and GIS Data, 2010.

NORTH

2,400 1,200 0 2,400
Feet

Michael Brandman Associates

26100022 • 08/2010 | 5_sens_plant_survey_area.mxd

Exhibit 5
Sensitive Plant Survey Area Map

HIGHLAND FAIRVIEW OPERATING COMPANY • HIGHLANDS SPECIFIC PLAN
SENSITIVE PLANT FOCUSED SURVEY

SECTION 5: EXISTING CONDITIONS

5.1 - General Conditions

The study area is located in the northeast portion of Moreno Valley, south and west of The Badlands, and north of Mount Russell. Overall, the entire study area is relatively flat, and gently slopes from north to the south, with an elevation range of approximately 1,580 to 1,820 feet above mean sea level.

The study area contains several erosion features and a few roadside ditches. These areas provide the most suitable habitat sensitive plants. These areas are not regularly impacted by active agricultural activities and therefore native plants species would not be impacted during planting or harvesting. It is highly unlikely that sensitive plant species would occupy areas within the active agricultural fields.

The entire project site contains significant evidence of previous disturbance. Most of the project site was ready for harvesting or recently harvested during the focused survey effort. Non-native plant species are prevalent throughout the entire project site. Much of the northwest portion of the project site has been harvested. In addition, numerous abandoned buildings, fences, and trees associated with the previous agricultural activities, have recently been removed from the project site.

5.2 - Plant Communities

Two plant communities, identified as extensive agriculture and urban/developed, occur within the project site. The extensive agriculture community is heavily disturbed due to disking and grazing and currently contains winter wheat. Additional vegetation present is dominated by ruderal (weedy) species, such as short-podded mustard (*Hirschfeldia incana*), cheeseweed (*Malva parviflora*), bindweed (*Convolvulus arvensis*), and non-native grasses such as slender oats (*Avena barbata*) and rip-gut brome (*Bromus diandrus*). The urban/developed community is comprised of structures, roadways, and associated ornamental vegetation, such as European olive (*Olea europaea*), and gum tree (*Eucalyptus* sp.). The vegetation in the urban/developed community occurs along SR-60 on the northern portion of the project site.

SECTION 6: CONCLUSIONS AND RECOMMENDATIONS

Three sensitive plant species were documented during focused sensitive plant surveys for special status plant species that potentially occur within the project site. MBA biologists determined that no special status plant species were considered present within some portion of the project site. Although several of the habitat elements needed for the three sensitive plants with a moderate potential to occur onsite, such as Riversidean sage scrub, non-native grasslands, and riparian habitat, these species were not observed during the surveys. The project site is considered absent of all sensitive plant species

6.1 - Conclusions

The plant species observed within the project site during the focused survey are common and known to occur throughout the region.

6.2 - Recommendations

Since there are no observed or recorded occurrences of sensitive plant species within the project site, no additional surveys or mitigation measures will be required prior to project construction. In the event that the Highlands Specific Plan is not implemented with the next two to three years, additional surveys may be required if the habitat with the project site changes. For example, if the agricultural fields are left fallow for a number of years, this may provide the necessary habitat components to establish a population of sensitive plant species.

SECTION 7: CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: December 13, 2010 Signed: _____

Scott A. Crawford
Michael Brandman Associates
Irvine, California

SECTION 8: REFERENCES

California Department of Fish and Game (CDFG). 2010. California Department of Fish and Game, Natural Diversity Data Base. The Resources Agency of California. Sacramento, California. (July.

Hickman, J.C. 1993. The Jepson Manual: Higher Plants of California. University of California Press. Berkeley, California.

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Non-game Heritage Program. California Department of Fish and Game. Sacramento, California.

McAuley, M. 1996. Wildflowers of the Santa Monica Mountains. Canyon Publishing Company, Canoga Park, California.

Munz, P.A. 1974. A Flora of Southern California. University of California Press. Berkeley, California.

Native Plant Society 2000. Flowering Plants of The Santa Monica Mountains, Coastal & Chaparral Regions of Southern California. California Native Plant Society. Sacramento, California.

Skinner, M.W., and B. M. Pavlik. 1994. California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California. California Native Plant Society. Special publication, No. 1, 5th ed.

Appendix A:
Floral Compendium

Floral Compendium

Amaranthaceae		**Amaranth Family**
Amaranthus	*arenicola*	pigweed
Asteraceae		**Sunflower Family**
Anthemis	*cotula*	mayweed
Baccharis	*salicifolia*	mule fat
Centaurea	*solstitialis*	yellow star-thistle
Conyza	*canadensis*	horseweed
Helianthus	*annuus*	common sunflower
Sonchus	*oleraceus*	common sow thistle
Boraginaceae		**Borage Family**
Amsinckia	*menziesii*	Menzies' fiddleneck
Brassicaceae		**Mustard Family**
Brassica	*nigra*	black mustard
Brassica	*tournefortii*	Asian mustard
Hirschfeldia	*incana*	short-podded mustard
Raphanus	*raphanistrum*	wild radish
Chenopodiaceae		**Goosefoot Family**
Salsola	*tragus*	Russian thistle
Convolvulaceae		**Morning-Glory Family**
Convolvulus	*arvensis*	field bindweed
Lamiaceae		**Mint Family**
Marrubium	*vulgare*	horehound
Oleaceae		**Olive Family**
Olea	*europaea*	olive
Solanaceae		**Nightshade Family**
Nicotiana	*glauca*	tree tobacco
Poaceae		**Grass Family**
Avena	*barbata*	slender oat
Cynodon	*dactylon*	Bermuda grass
Hordeum	*murinum ssp. leporinum*	leporinum barley
Phalaris	*canariensis*	annual canary grass

Appendix B:
Regulatory Framework

The Federal Endangered Species Act (ESA) of 1973 defines an endangered species as "any species, which is in danger of extinction throughout all or a significant portion of its range…" Threatened species are defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the ESA, it is unlawful to "take" any listed species. "Take" is defined as follows in Section 3(18) of the Act: "…harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

Further, the United States Fish and Wildlife Service (USFWS), through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action, which could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the ESA addresses the protections afforded to listed plants. Due to the jurisdictional areas within the Project Sites, the property owner will require a federal permit with regard to the jurisdictional waters within the sites.

The California Department of Fish and Game (CDFG) administers the California Endangered Species Act (CESA). The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A rare species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens. Rare species applies to California native plants. State threatened and endangered species, as defined above, are fully protected against take. Species of Special Concern is an informal designation used by CDFG for some declining wildlife species that are not state candidates. This designation does not provide legal protection, but signifies that these species are recognized as sensitive by CDFG.

The California Native Plant Society (CNPS) has developed an inventory of California's sensitive plant species (Skinner and Pavlik 1994). This inventory summarizes information on the distribution, rarity, and endangerment of California's vascular plants. The inventory is divided into four lists based on the rarity of the species. In addition, the CNPS provides an inventory of plant communities that are considered sensitive by the state and federal resource agencies, academic institutions, and various conservation groups. Determination of the level of sensitivity is based on the number and size of remaining occurrences as well as recognized threats.

The CNPS created five lists of plant species reflecting their rarity and vulnerability. List 1A is for plants presumed extinct in California. List 1B includes species that are rare, threatened, or endangered in California or elsewhere. Although plant species in this latter category do not possess any legal protection, it is recommended that they are included in the analysis of project impacts and mitigation measures. Plants designated as 1B meet the definitions of §1901, Chapter 10 (Native Plant

Protection Act) or §2062 and 2067 (CESA) of the CDFG, and must also be fully considered during preparation of environmental documents relating to CEQA. List 2 plants are rare, threatened, or endangered in the State of California but are more common elsewhere. Plants designated as List 2 meets the definitions of §1901, Chapter 10 (Native Plant Protection Act). List 3 plants are species that need more information and are placed on a review list. All of these species lack the necessary information that would allow the federal or state listing or rejection of the species as a rare, threatened, or endangered species. List 4 plants are species that have a limited distribution and are placed on a watch list. These plants typically have low vulnerability or susceptibility to threat and should be monitored regularly.

Appendix C:
Riverside County Integrated Project's Report

RIVERSIDE COUNTY TLMA TRANSPORTATION & LAND MANAGEMENT AGENCY

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
423270003	Not A Part	Independent	0.37	Reche Canyon / Badlands	Not a Part
423270003	1364	D'	1.22	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270003	1370	D'	39.92	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270004	Not A Part	Independent	0.49	Reche Canyon / Badlands	Not a Part
423270004	1370	D'	37.39	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270006	1370	D'	35.45	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270006	1483	D'	1.95	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270007	Not A Part	Independent	0.24	Reche Canyon / Badlands	Not a Part
423270007	1370	D'	10.95	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270007	1377	D'	0.15	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270008	1370	D'	4.82	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270008	1377	D'	0.48	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270017	Not A Part	Independent	0.06	Reche Canyon / Badlands	Not a Part
423270017	1364	D'	20.45	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270018	Not A Part	Independent	0.04	Reche Canyon / Badlands	Not a Part
423270018	1364	D'	2.06	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270018	1370	D'	37.45	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270018	1483	D'	1.92	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280001	Not A Part	Independent	1.26	Reche Canyon / Badlands	Not a Part
423280001	1377	D'	44.72	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280002	Not A Part	Independent	1.84	Reche Canyon / Badlands	Not a Part
423280002	1377	D'	46.19	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280003	Not A Part	Independent	2.38	Reche Canyon / Badlands	Not a Part
423280003	1377	D'	0.42	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake

423280003	1386	D'	45.37	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280004	Not A Part	Independent	3.03	Reche Canyon / Badlands	Not a Part
423280004	1297	X	0.81	Reche Canyon / Badlands	SU3 - Badlands North
423280004	1386	D'	46.94	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280004	1389	D'	11.41	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280005	1482	D'	1.28	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280006	1377	D'	33.79	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280006	1482	D'	2.09	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280007	1377	D'	35.16	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280007	1482	D'	2.48	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280008	Not A Part	Independent	2.74	Reche Canyon / Badlands	Not a Part
423280008	1377	D'	0.39	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280008	1386	D'	34.65	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280008	1482	D'	0.03	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280009	Not A Part	Independent	3.16	Reche Canyon / Badlands	Not a Part
423280009	1386	D'	36.02	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280009	1389	D'	8.21	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280009	1477	D'	0.78	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423300002	1483	D'	39.59	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423300004	1483	D'	36.33	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423300004	1577	D'	6.52	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423300009	Not A Part	Independent	0.1	Reche Canyon / Badlands	Not a Part
423300009	1483	D'	40.95	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423300010	1483	D'	36.71	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423300010	1577	D'	6.29	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423310003	Not A Valid Parcel Number				
423310004	Not A Valid Parcel Number				
423310005	Not A Valid Parcel Number				
423310006	Not A Valid Parcel Number				
423310008	Not A Valid Parcel Number				

HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
423270003	NO	**YES**	NO	NO	NO	NO
423270004	NO	**YES**	NO	NO	NO	NO
423270006	NO	**YES**	NO	NO	NO	NO
423270007	NO	**YES**	NO	NO	NO	NO
423270008	NO	**YES**	NO	NO	NO	NO
423270017	NO	**YES**	NO	**YES**	NO	NO
423270018	NO	**YES**	NO	**YES**	NO	NO
423280001	NO	**YES**	NO	NO	NO	NO
423280002	NO	**YES**	NO	NO	NO	NO
423280003	NO	**YES**	NO	NO	NO	NO
423280004	NO	**YES**	NO	NO	NO	NO
423280005	NO	**YES**	**YES**	NO	**YES**	NO
423280006	NO	**YES**	**YES**	NO	**YES**	NO
423280007	NO	**YES**	**YES**	NO	**YES**	NO
423280008	NO	**YES**	**YES**	NO	**YES**	NO
423280009	NO	**YES**	**YES**	NO	**YES**	NO
423300002	NO	**YES**	**YES**	**YES**	**YES**	NO
423300004	NO	**YES**	**YES**	**YES**	**YES**	NO
423300009	NO	**YES**	NO	**YES**	NO	NO
423300010	NO	**YES**	NO	**YES**	NO	NO

Burrowing Owl

Burrowing owl.

Criteria Area Species

3) San Jacinto Valley Crownscale, Parish's brittlescale, Davidson's saltscale, Thread-leaved brodiaea, Smooth Tarplant, Round-leaved filaree, Coulter's Goldfields, Little Mousetail, Mud Nama

Mammalian Species

2) L.A. pocket mouse.

Narrow Endemic Plant Species

3) Munz's onion, San Diego ambrosia, Many-stemmed dudleya, Spreading navarretia, California Orcutt grass, Wright's trichocoronis

If potential habitat for these species is determined to be located on the property, focused surveys may be required during the appropriate season.

Background

The final MSHCP was approved by the County Board of Supervisors on June 17, 2003. The federal and state permits were issued on June 22, 2004 and implementation of the MSHCP began on June 23, 2004.

For more information concerning the MSHCP, contact your local city or the County of Riverside for the unincorporated areas. Additionally, the Western Riverside County Regional Conservation Authority (RCA), which oversees all the cities and County implementation of the MSHCP, can be reached at:

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Riverside, CA 92501

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Fax: 951-955-8873

www.wrc-rca.org

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Appendix F:
Regulatory Background

REGULATORY BACKGROUND

Sensitive Plant and Wildlife Species

Sensitive species are native species that have been accorded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

Federal Endangered Species Act

The United States Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (ESA). The ESA provides a process for listing species as either threatened or endangered, and methods of protecting listed species. The ESA defines as "endangered" any plant or animal species that is in danger of extinction throughout all or a significant portion of its known geographic range. A "threatened" species is a species that is likely to become endangered. A "proposed" species is one that has been officially proposed by the USFWS for addition to the federal threatened and endangered species list.

ESA Section 9 prohibits "take" of threatened or endangered species. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Take can include disturbance to habitats used by a threatened or endangered species during any portion of its life history. The presence of any federally threatened or endangered species in a project area generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. Under the regulations of the ESA, the USFWS may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act.

California Endangered Species Act

The California Department of Fish and Game (CDFG) administers the California Endangered Species Act (CESA). The State of California considers an "endangered" species one whose prospects of survival and reproduction are in immediate jeopardy. A "threatened" species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A "rare" species is one present in such small numbers throughout its portion of its known geographic range that it may become endangered if its present environment worsens. The rare species designation applies to California native plants. State threatened and endangered species are fully protected against take, as defined above. The term "species of special concern" is an informal designation used by CDFG for some declining wildlife species that are not state candidates for listing. This designation does not provide legal protection, but signifies that these species are recognized as sensitive by CDFG.

California Native Plant Society

The California Native Plant Society (CNPS) is a California resource conservation organization that has developed and inventory of California's sensitive plant species. This inventory summarizes information on the distribution, rarity, and endangerment of California's vascular plants. The inventory is divided into four lists based on the rarity of the species. In addition, the CNPS provides an inventory of plant communities that are considered sensitive by the state and federal resource agencies, academic institutions, and various conservation groups. Determination of the level of sensitivity is based on the number and size of remaining occurrences as well as recognized threats.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) protects all common wild birds found in the United States (U.S.) except the house sparrow, starling, feral pigeon, and resident game birds such as pheasant, grouse, quail, and wild turkey. Resident game birds are managed separately by each state. The MBTA makes it unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird including feathers, parts, nests, or eggs.

California Fish and Game Code - §3503 and §3511

The CDFG administers the California Fish and Game Code (CFG Code). There are particular sections of the CFG Code that are applicable to natural resource management. For example, §3503 of the CFG Code states it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird that is protected under the MBTA. CFG Code §3503.5 further protects all birds in the orders Falconiformes and Strigiformes, birds of prey such as hawks and owls, and their eggs and nests from any form of take. CFG Code §3511 lists fully protected bird species where the CDFG is unable to authorize the issuance of permits or licenses to take these species.

Jurisdictional Waters and Wetlands

Impacts to natural drainage features and wetland areas are regulated by the United States Army Corp of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFG based upon the policies and regulations discussed below.

United States Army Corps of Engineers Regulations

Federal Clean Water Act - §404

The USACE administers §404 of the federal Clean Water Act (CWA). This section regulates the discharge of dredge and fill material into waters of the U.S. USACE has established a series of nationwide permits that authorize certain activities in waters of the U.S., if a proposed activity can demonstrate compliance with standard conditions. Normally, USACE requires an individual permit for an activity that will affect an area equal to or in excess of 0.5 acre of waters of the U.S. Projects that result in impacts to less than 0.5 acre can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. USACE also has discretionary

authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.5 acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

Waters of the United States

Waters of the U.S., as defined in the Code of Federal Regulations (CFR) §328.3, include all waters or tributaries to waters such as lakes, rivers, intermittent and perennial streams, mudflats, sand-flats, natural ponds, wetlands, wet meadows, and other aquatic habitats. Frequently, waters of the U.S., with at least intermittently flowing water or tidal influences, are demarcated by an ordinary high water mark (OHWM). The OHWM is defined in CFR §328.3(e) as the 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 soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. In this region, the OHWM is typically indicated by the presence of an incised streambed with defined bank shelving.

In June 2001, the USACE South Pacific Division has issued *Guidelines for Jurisdictional Delineations for Waters of the United States in the Arid Southwest*. The purpose of this document was to provide background information concerning physical characteristics of dryland drainage feature systems. These guidelines were reviewed and used to identify jurisdictional drainage features within the study area.

Wetlands

According to the USACE Wetlands Delineation Manual, Technical Report, three criteria must be satisfied to classify an area as a jurisdictional wetland:

1. A predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation)
2. Soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils)
3. Permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology)

Wetland vegetation is characterized by vegetation in which more than 50 percent of the composition of dominant plant species are obligate wetland, facultative wetland, and/or facultative species that occur in wetlands. As a result of the 2001 Solid Waste Agency of North Cook County (SWANCC) case, a wetland must show connectivity to a stream course in order for such a feature to be considered jurisdictional. Although wetland criteria was used to identify if areas were considered wetlands, the exact limits of jurisdiction were not measured based on the standard wetland delineation protocol as described in the 1987 USACE manual.

United States Army Corp of Engineers Regulated Activities

The USACE regulates the discharge of dredged or fill material including, but not limited to, grading, placing of rip-rap for erosion control, pouring concrete, laying sod, and stockpiling excavated material. Activities that generally do not involve a regulated discharge, if performed specifically in a manner to avoid discharges, include driving pilings, drainage channel maintenance, temporary mining and farm/forest roads, and excavating without stockpiling.

Regional Water Quality Control Board Regulations

Clean Water Act - §401

Per §401 of the CWA, "any applicant for a Federal permit for activities that involve a discharge to waters of the State, shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act." Therefore, before the USACE will issue a §404 permit, applicants must apply for and receive a §401 water quality certification from the RWQCB.

Porter-Cologne Water Quality Act

The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the water of the state" (water code §13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (water code §13050 (e)).

Regional Water Quality Control Board Regulated Activities

Under §401 of the CWA, the RWQCB regulates all activities that are regulated by the USACE. Additionally, under the Porter-Cologne Water Quality Act, the RWQCB regulates all activities, including dredging, filling, or discharge of materials into waters of the state that are not regulated by the USACE due to a lack of connectivity with a navigable water body and/or lack of an OHWM.

California Department of Fish and Game Regulations

California Fish and Game Code - §1600 to §16003

The CFG Code mandates that "it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity." CDFG jurisdiction includes ephemeral, intermittent, and perennial watercourses, including dry washes, characterized by the presence of hydrophytic vegetation, the location of definable bed and banks, and the presence of existing fish or wildlife resources.

Furthermore, CDFG jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function as part of the riparian system. Historic court cases have further extended CDFG jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFG definition, a watercourse need not exhibit

evidence of an OHWM to be claimed as jurisdiction. However, CDFG does not regulate isolated wetlands; that is, those that are not associated with a river, stream, or lake.

California Department of Fish and Game Regulated Activities

The CDFG regulates activities that involve diversions, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife resources.

Appendix G:
Riverside County Integrated Project (RCIP) Conservation Summary Report and Attachment

Riverside County Transporation and Land Management Agency - TLMA

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
422070005	Not A Part	Independent	2.37	Reche Canyon / Badlands	Not a Part
422070006	Not A Part	Independent	42.49	Reche Canyon / Badlands	Not a Part
422070010	Not A Part	Independent	39.77	Reche Canyon / Badlands	Not a Part
422070014	Not A Part	Independent	10.11	Reche Canyon / Badlands	Not a Part
422070017	Not A Part	Independent	52.33	Reche Canyon / Badlands	Not a Part
422070018	Not A Part	Independent	26.17	Reche Canyon / Badlands	Not a Part
422070019	Not A Part	Independent	13.27	Reche Canyon / Badlands	Not a Part
422070020	Not A Part	Independent	26.84	Reche Canyon / Badlands	Not a Part
422070021	Not A Part	Independent	47.49	Reche Canyon / Badlands	Not a Part
422070022	Not A Part	Independent	10.47	Reche Canyon / Badlands	Not a Part

HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
422070005	NO	**YES**	NO	NO	NO	NO
422070006	NO	**YES**	NO	NO	NO	NO
422070010	NO	**YES**	NO	NO	NO	NO
422070014	NO	**YES**	NO	NO	NO	NO
422070017	NO	**YES**	NO	NO	NO	NO
422070018	NO	**YES**	NO	NO	NO	NO
422070019	NO	**YES**	NO	NO	NO	NO
422070020	NO	**YES**	NO	NO	NO	NO
422070021	NO	**YES**	NO	NO	NO	NO
422070022	NO	**YES**	NO	**YES**	NO	NO

Burrowing Owl

Burrowing owl.

Mammalian Species

2) L.A. pocket mouse.

If potential habitat for these species is determined to be located on the property, focused surveys may be required during the appropriate season.

Background

The final MSHCP was approved by the County Board of Supervisors on June 17, 2003. The federal and state permits were issued on June 22, 2004 and implementation of the MSHCP began on June 23, 2004.

For more information concerning the MSHCP, contact your local city or the County of Riverside for the unincorporated areas. Additionally, the Western Riverside County Regional Conservation Authority (RCA), which oversees all the cities and County implementation of the MSHCP, can be reached at:

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Fax: 951-955-8873

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Riverside County Transporation and Land Management Agency - TLMA

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
422070023	Not A Part	Independent	2.72	Reche Canyon / Badlands	Not a Part
422070024	Not A Part	Independent	14.37	Reche Canyon / Badlands	Not a Part
422070029	Not A Part	Independent	2.6	Reche Canyon / Badlands	Not a Part
422070030	Not A Part	Independent	2.66	Reche Canyon / Badlands	Not a Part
422070031	Not A Part	Independent	2.65	Reche Canyon / Badlands	Not a Part
422070032	Not A Part	Independent	2.59	Reche Canyon / Badlands	Not a Part
422070033	Not A Part	Independent	10.58	Reche Canyon / Badlands	Not a Part
422070034	Not A Part	Independent	2.18	Reche Canyon / Badlands	Not a Part
422070035	Not A Part	Independent	2.33	Reche Canyon / Badlands	Not a Part
422070036	Not A Part	Independent	2.4	Reche Canyon / Badlands	Not a Part
422070037	Not A Part	Independent	2.45	Reche Canyon / Badlands	Not a Part
422080001	Not A Part	Independent	4.17	Reche Canyon / Badlands	Not a Part
422080002	Not A Part	Independent	47.37	Reche Canyon / Badlands	Not a Part
422080003	Not A Part	Independent	223.69	Reche Canyon / Badlands	Not a Part
422080004	Not A Part	Independent	7.6	Reche Canyon / Badlands	Not a Part
422110001	Not A Part	Independent	17.49	Reche Canyon / Badlands	Not a Part
422130001	Not A Part	Independent	91.89	Reche Canyon / Badlands	Not a Part
422130002	Not A Part	Independent	64.8	Reche Canyon / Badlands	Not a Part
422130003	Not A Part	Independent	11.76	Reche Canyon / Badlands	Not a Part
423250001	Not A Part	Independent	0.1	Reche Canyon / Badlands	Not a Part

HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
422070023	NO	**YES**	NO	**YES**	NO	NO
422070024	NO	**YES**	NO	**YES**	NO	NO
422070029	NO	**YES**	NO	NO	NO	NO
422070030	NO	**YES**	NO	NO	NO	NO
422070031	NO	**YES**	NO	NO	NO	NO
422070032	NO	**YES**	NO	NO	NO	NO
422070033	NO	**YES**	NO	NO	NO	NO
422070034	NO	**YES**	NO	NO	NO	NO
422070035	NO	**YES**	NO	NO	NO	NO
422070036	NO	**YES**	NO	NO	NO	NO

422070037	NO	**YES**	NO	NO	NO	NO
422080001	NO	**YES**	NO	NO	NO	NO
422080002	NO	**YES**	NO	NO	NO	NO
422080003	NO	**YES**	NO	NO	NO	NO
422080004	NO	**YES**	NO	NO	NO	NO
422110001	NO	**YES**	NO	**YES**	NO	NO
422130001	NO	**YES**	NO	**YES**	NO	NO
422130002	NO	**YES**	NO	**YES**	NO	NO
422130003	NO	**YES**	NO	**YES**	NO	NO
423250001	NO	**YES**	NO	NO	NO	NO

Burrowing Owl

Burrowing owl.

Mammalian Species

2) L.A. pocket mouse.

If potential habitat for these species is determined to be located on the property, focused surveys may be required during the appropriate season.

Background

The final MSHCP was approved by the County Board of Supervisors on June 17, 2003. The federal and state permits were issued on June 22, 2004 and implementation of the MSHCP began on June 23, 2004.

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Riverside County Transporation and Land Management Agency - TLMA

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
423250002	Not A Part	Independent	20.26	Reche Canyon / Badlands	Not a Part
423250007	Not A Part	Independent	41.97	Reche Canyon / Badlands	Not a Part
423250008	Not A Part	Independent	51.71	Reche Canyon / Badlands	Not a Part
423250009	Not A Part	Independent	48.7	Reche Canyon / Badlands	Not a Part
423250010	Not A Part	Independent	0.04	Reche Canyon / Badlands	Not a Part
423250010	1364	D'	2.41	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423250011	Not A Part	Independent	41.41	Reche Canyon / Badlands	Not a Part
423250012	Not A Part	Independent	43.83	Reche Canyon / Badlands	Not a Part
423250013	Not A Part	Independent	40.91	Reche Canyon / Badlands	Not a Part
423250018	Not A Part	Independent	64.11	Reche Canyon / Badlands	Not a Part
423250018	1364	D'	0.4	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423260001	Not A Part	Independent	0.91	Reche Canyon / Badlands	Not a Part
423260002	Not A Part	Independent	46.26	Reche Canyon / Badlands	Not a Part
423260003	Not A Part	Independent	48.95	Reche Canyon / Badlands	Not a Part
423260004	Not A Part	Independent	48.78	Reche Canyon / Badlands	Not a Part
423260005	Not A Part	Independent	51.32	Reche Canyon / Badlands	Not a Part
423260005	1204	X	0.17	Reche Canyon / Badlands	SU3 - Badlands North
423260005	1297	X	2.71	Reche Canyon / Badlands	SU3 - Badlands North
423260006	Not A Part	Independent	39.5	Reche Canyon / Badlands	Not a Part
423260007	Not A Part	Independent	40.8	Reche Canyon / Badlands	Not a Part
423260008	Not A Part	Independent	40.47	Reche Canyon / Badlands	Not a Part
423260009	Not A Part	Independent	41.8	Reche Canyon / Badlands	Not a Part
423260009	1297	X	7.45	Reche Canyon / Badlands	SU3 - Badlands North
423270003	Not A Part	Independent	0.37	Reche Canyon / Badlands	Not a Part
423270003	1364	D'	1.22	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270003	1370	D'	39.92	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270004	Not A Part	Independent	0.49	Reche Canyon / Badlands	Not a Part
423270004	1370	D'	37.39	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake

HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
423250002	NO	**YES**	NO	NO	NO	NO
423250007	NO	**YES**	NO	NO	NO	NO

423250008	NO	**YES**	NO	NO	NO	NO
423250009	NO	**YES**	NO	NO	NO	NO
423250010	NO	**YES**	NO	**YES**	NO	NO
423250011	NO	**YES**	NO	**YES**	NO	NO
423250012	NO	**YES**	NO	NO	NO	NO
423250013	NO	**YES**	NO	NO	NO	NO
423250018	NO	**YES**	NO	**YES**	NO	NO
423260001	NO	**YES**	NO	NO	NO	NO
423260002	NO	**YES**	NO	NO	NO	NO
423260003	NO	**YES**	NO	NO	NO	NO
423260004	NO	**YES**	NO	NO	NO	NO
423260005	NO	**YES**	NO	**YES**	NO	NO
423260006	NO	**YES**	NO	NO	NO	NO
423260007	NO	**YES**	NO	NO	NO	NO
423260008	NO	**YES**	NO	NO	NO	NO
423260009	NO	**YES**	NO	NO	NO	NO
423270003	NO	**YES**	NO	NO	NO	NO
423270004	NO	**YES**	NO	NO	NO	NO

Burrowing Owl

Burrowing owl.

Mammalian Species

2) L.A. pocket mouse.

If potential habitat for these species is determined to be located on the property, focused surveys may be required during the appropriate season.

Background

The final MSHCP was approved by the County Board of Supervisors on June 17, 2003. The federal and state permits were issued on June 22, 2004 and implementation of the MSHCP began on June 23, 2004.

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APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
423270006	1370	D'	35.45	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270006	1483	D'	1.95	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270007	Not A Part	Independent	0.24	Reche Canyon / Badlands	Not a Part
423270007	1370	D'	10.95	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270007	1377	D'	0.15	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270008	1370	D'	4.82	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270008	1377	D'	0.48	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270009	Not A Part	Independent	0.27	Reche Canyon / Badlands	Not a Part
423270009	1370	D'	2.4	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270009	1377	D'	0.24	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270017	Not A Part	Independent	0.06	Reche Canyon / Badlands	Not a Part
423270017	1364	D'	20.45	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270018	Not A Part	Independent	0.04	Reche Canyon / Badlands	Not a Part
423270018	1364	D'	2.06	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270018	1370	D'	37.45	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423270018	1483	D'	1.92	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280001	Not A Part	Independent	1.26	Reche Canyon / Badlands	Not a Part
423280001	1377	D'	44.72	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280002	Not A Part	Independent	1.84	Reche Canyon / Badlands	Not a Part
423280002	1377	D'	46.19	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280003	Not A Part	Independent	2.38	Reche Canyon / Badlands	Not a Part
423280003	1377	D'	0.42	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280003	1386	D'	45.37	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280004	Not A Part	Independent	3.03	Reche Canyon / Badlands	Not a Part
423280004	1297	X	0.81	Reche Canyon / Badlands	SU3 - Badlands North
423280004	1386	D'	46.94	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280004	1389	D'	11.41	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280005	1482	D'	1.28	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280006	1377	D'	33.79	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280006	1482	D'	2.09	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280007	1377	D'	35.16	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280007	1482	D'	2.48	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280008	Not A Part	Independent	2.74	Reche Canyon / Badlands	Not a Part
423280008	1377	D'	0.39	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280008	1386	D'	34.65	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280008	1482	D'	0.03	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280009	Not A Part	Independent	3.16	Reche Canyon / Badlands	Not a Part
423280009	1386	D'	36.02	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake

423280009	1389	D'	8.21	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423280009	1477	D'	0.78	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423300002	1483	D'	39.59	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423300004	1483	D'	36.33	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423300004	1577	D'	6.52	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423300009	Not A Part	Independent	0.1	Reche Canyon / Badlands	Not a Part
423300009	1483	D'	40.95	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423300010	1483	D'	36.71	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423300010	1577	D'	6.29	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423310001	1204	X	3.14	Reche Canyon / Badlands	SU3 - Badlands North
423310001	1297	X	40.93	Reche Canyon / Badlands	SU3 - Badlands North

HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
423270006	NO	**YES**	NO	NO	NO	NO
423270007	NO	**YES**	NO	NO	NO	NO
423270008	NO	**YES**	NO	NO	NO	NO
423270009	NO	**YES**	NO	NO	NO	NO
423270017	NO	**YES**	NO	**YES**	NO	NO
423270018	NO	**YES**	NO	**YES**	NO	NO
423280001	NO	**YES**	NO	NO	NO	NO
423280002	NO	**YES**	NO	NO	NO	NO
423280003	NO	**YES**	NO	NO	NO	NO
423280004	NO	**YES**	NO	NO	NO	NO
423280005	NO	**YES**	**YES**	NO	**YES**	NO
423280006	NO	**YES**	**YES**	NO	**YES**	NO
423280007	NO	**YES**	**YES**	NO	**YES**	NO
423280008	NO	**YES**	**YES**	NO	**YES**	NO
423280009	NO	**YES**	**YES**	NO	**YES**	NO
423300002	NO	**YES**	**YES**	**YES**	**YES**	NO
423300004	NO	**YES**	**YES**	**YES**	**YES**	NO
423300009	NO	**YES**	NO	**YES**	NO	NO
423300010	NO	**YES**	NO	**YES**	NO	NO
423310001	NO	**YES**	NO	**YES**	NO	NO

Burrowing Owl

Burrowing owl.

Criteria Area Species

3) San Jacinto Valley Crownscale, Parish's brittlescale, Davidson's saltscale, Thread-leaved brodiaea, Smooth Tarplant, Round-leaved filaree, Coulter's Goldfields, Little Mousetail, Mud Nama

Mammalian Species

2) L.A. pocket mouse.

Narrow Endemic Plant Species

3) Munz's onion, San Diego ambrosia, Many-stemmed dudleya, Spreading navarretia, California Orcutt grass, Wright's trichocoronis

If potential habitat for these species is determined to be located on the property, focused surveys may be required during the appropriate season.

Background

The final MSHCP was approved by the County Board of Supervisors on June 17, 2003. The federal and state permits were issued on June 22, 2004 and implementation of the MSHCP began on June 23, 2004.

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APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
423310002	1297	X	41.29	Reche Canyon / Badlands	SU3 - Badlands North
423310003	1297	X	2.92	Reche Canyon / Badlands	SU3 - Badlands North
423310003	1389	D'	35.94	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423310004	1390	E'	11.64	Reche Canyon / Badlands	SU3 - Badlands North
423310004	1297	X	4.46	Reche Canyon / Badlands	SU3 - Badlands North
423310004	1389	D'	42.42	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423310005	1389	D'	26.7	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423310005	1477	D'	35.25	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423310006	1389	D'	27.96	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423310006	1477	D'	15.4	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423310008	1390	E'	34.69	Reche Canyon / Badlands	SU3 - Badlands North
423310008	1389	D'	4.04	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
423310008	1477	D'	0.12	Reche Canyon / Badlands	SU4 - San Jacinto Wildlife Area/Mystic Lake
478210054	Not A Part	Independent	9.8	Reche Canyon / Badlands	Not a Part
478210055	Not A Part	Independent	8.91	Reche Canyon / Badlands	Not a Part
478220001	Not A Part	Independent	27.74	Reche Canyon / Badlands	Not a Part
478220002	Not A Part	Independent	9.31	Reche Canyon / Badlands	Not a Part
478220003	Not A Part	Independent	8.95	Reche Canyon / Badlands	Not a Part
478220004	Not A Part	Independent	8.79	Reche Canyon / Badlands	Not a Part
478220005	Not A Part	Independent	9.29	Reche Canyon / Badlands	Not a Part
478220006	Not A Part	Independent	9.6	Reche Canyon / Badlands	Not a Part
478220007	Not A Part	Independent	8.4	Reche Canyon / Badlands	Not a Part
478220009	Not A Part	Independent	9.68	Reche Canyon / Badlands	Not a Part
478220010	Not A Part	Independent	9.33	Reche Canyon / Badlands	Not a Part
478220011	Not A Part	Independent	8.8	Reche Canyon / Badlands	Not a Part
478220012	Not A Part	Independent	8.94	Reche Canyon / Badlands	Not a Part
478220013	Not A Part	Independent	9.31	Reche Canyon / Badlands	Not a Part

HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
423310002	NO	**YES**	NO	**YES**	NO	NO
423310003	NO	**YES**	NO	NO	NO	NO
423310004	NO	**YES**	NO	**YES**	NO	NO

423310005	NO	**YES**	**YES**	**YES**	**YES**	NO
423310006	NO	**YES**	**YES**	**YES**	**YES**	NO
423310008	NO	**YES**	NO	**YES**	NO	NO
478210054	NO	**YES**	NO	NO	NO	NO
478210055	NO	**YES**	NO	NO	NO	NO
478220001	NO	**YES**	NO	NO	NO	NO
478220002	NO	**YES**	NO	NO	NO	NO
478220003	NO	**YES**	NO	NO	NO	NO
478220004	NO	**YES**	NO	NO	NO	NO
478220005	NO	**YES**	NO	NO	NO	NO
478220006	NO	**YES**	NO	NO	NO	NO
478220007	NO	**YES**	NO	NO	NO	NO
478220009	NO	**YES**	NO	NO	NO	NO
478220010	NO	**YES**	NO	NO	NO	NO
478220011	NO	**YES**	NO	NO	NO	NO
478220012	NO	**YES**	NO	NO	NO	NO
478220013	NO	**YES**	NO	NO	NO	NO

Burrowing Owl

Burrowing owl.

Criteria Area Species

3) San Jacinto Valley Crownscale, Parish's brittlescale, Davidson's saltscale, Thread-leaved brodiaea, Smooth Tarplant, Round-leaved filaree, Coulter's Goldfields, Little Mousetail, Mud Nama

Mammalian Species

2) L.A. pocket mouse.

Narrow Endemic Plant Species

3) Munz's onion, San Diego ambrosia, Many-stemmed dudleya, Spreading navarretia, California Orcutt grass, Wright's trichocoronis

If potential habitat for these species is determined to be located on the property, focused surveys may be required during the appropriate season.

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APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
478220014	Not A Part	Independent	8.92	Reche Canyon / Badlands	Not a Part
478220015	Not A Part	Independent	18.19	Reche Canyon / Badlands	Not a Part
478220016	Not A Part	Independent	18.15	Reche Canyon / Badlands	Not a Part
478220017	Not A Part	Independent	8.69	Reche Canyon / Badlands	Not a Part
478220018	Not A Part	Independent	9.25	Reche Canyon / Badlands	Not a Part
478220019	Not A Part	Independent	9.51	Reche Canyon / Badlands	Not a Part
478220020	Not A Part	Independent	8.42	Reche Canyon / Badlands	Not a Part
478220021	Not A Part	Independent	8.6	Reche Canyon / Badlands	Not a Part
478220022	Not A Part	Independent	9.66	Reche Canyon / Badlands	Not a Part
478220023	Not A Part	Independent	9.38	Reche Canyon / Badlands	Not a Part
478220024	Not A Part	Independent	8.8	Reche Canyon / Badlands	Not a Part
478220025	Not A Part	Independent	9.05	Reche Canyon / Badlands	Not a Part
478220026	Not A Part	Independent	9.35	Reche Canyon / Badlands	Not a Part
478220027	Not A Part	Independent	9.45	Reche Canyon / Badlands	Not a Part
478220028	Not A Part	Independent	8.99	Reche Canyon / Badlands	Not a Part
478220029	Not A Part	Independent	3	Reche Canyon / Badlands	Not a Part
478220030	Not A Part	Independent	2.94	Reche Canyon / Badlands	Not a Part
478220031	Not A Part	Independent	3.05	Reche Canyon / Badlands	Not a Part
478230001	Not A Part	Independent	8.1	Reche Canyon / Badlands	Not a Part
478230002	Not A Part	Independent	9.04	Reche Canyon / Badlands	Not a Part

HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
478220014	NO	**YES**	NO	NO	NO	NO
478220015	NO	**YES**	NO	NO	NO	NO

478220016	NO	**YES**	NO	NO	NO	NO
478220017	NO	**YES**	NO	NO	NO	NO
478220018	NO	**YES**	NO	NO	NO	NO
478220019	NO	**YES**	NO	NO	NO	NO
478220020	NO	**YES**	NO	NO	NO	NO
478220021	NO	**YES**	NO	NO	NO	NO
478220022	NO	**YES**	NO	NO	NO	NO
478220023	NO	**YES**	NO	NO	NO	NO
478220024	NO	**YES**	NO	NO	NO	NO
478220025	NO	**YES**	NO	NO	NO	NO
478220026	NO	**YES**	NO	NO	NO	NO
478220027	NO	**YES**	NO	NO	NO	NO
478220028	NO	**YES**	NO	NO	NO	NO
478230001	NO	**YES**	NO	NO	NO	NO
478230002	NO	**YES**	NO	NO	NO	NO

Burrowing Owl

Burrowing owl.

If potential habitat for these species is determined to be located on the property, focused surveys may be required during the appropriate season.

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APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
478230003	Not A Part	Independent	9.27	Reche Canyon / Badlands	Not a Part
478230004	Not A Part	Independent	8.88	Reche Canyon / Badlands	Not a Part
478230005	Not A Part	Independent	8.88	Reche Canyon / Badlands	Not a Part
478230006	Not A Part	Independent	8.89	Reche Canyon / Badlands	Not a Part
478230007	Not A Part	Independent	73.17	Reche Canyon / Badlands	Not a Part
478230008	Not A Part	Independent	35.7	Reche Canyon / Badlands	Not a Part
478230009	Not A Part	Independent	9.54	Reche Canyon / Badlands	Not a Part
478230010	Not A Part	Independent	8.71	Reche Canyon / Badlands	Not a Part
478230011	Not A Part	Independent	8.97	Reche Canyon / Badlands	Not a Part
478230014	Not A Part	Independent	8.7	Reche Canyon / Badlands	Not a Part
478230015	Not A Part	Independent	8.42	Reche Canyon / Badlands	Not a Part
478230016	Not A Part	Independent	9.28	Reche Canyon / Badlands	Not a Part
478230017	Not A Part	Independent	0.08	Reche Canyon / Badlands	Not a Part
478230019	Not A Part	Independent	9.1	Reche Canyon / Badlands	Not a Part
478230020	Not A Part	Independent	8.7	Reche Canyon / Badlands	Not a Part
478240002	Not A Part	Independent	8.76	Reche Canyon / Badlands	Not a Part
478240003	Not A Part	Independent	8.98	Reche Canyon / Badlands	Not a Part
478240005	Not A Part	Independent	9.06	Reche Canyon / Badlands	Not a Part
478240006	Not A Part	Independent	9	Reche Canyon / Badlands	Not a Part
478240007	Not A Part	Independent	8.58	Reche Canyon / Badlands	Not a Part
478240008	Not A Valid Parcel Number				

HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
478230003	NO	**YES**	NO	NO	NO	NO

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Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
478240011	Not A Part	Independent	8.54	Reche Canyon / Badlands	Not a Part
478240017	Not A Part	Independent	8.79	Reche Canyon / Badlands	Not a Part
478240019	Not A Part	Independent	9.27	Reche Canyon / Badlands	Not a Part
478240021	Not A Part	Independent	8.71	Reche Canyon / Badlands	Not a Part
478240022	Not A Part	Independent	8.73	Reche Canyon / Badlands	Not a Part
478240023	Not A Part	Independent	8.26	Reche Canyon / Badlands	Not a Part
478240024	Not A Part	Independent	9.6	Reche Canyon / Badlands	Not a Part
478240025	Not A Part	Independent	9.12	Reche Canyon / Badlands	Not a Part
478240026	Not A Part	Independent	9.71	Reche Canyon / Badlands	Not a Part
478240027	Not A Part	Independent	9.6	Reche Canyon / Badlands	Not a Part
478240028	Not A Part	Independent	8.77	Reche Canyon / Badlands	Not a Part
478240029	Not A Part	Independent	9.25	Reche Canyon / Badlands	Not a Part
478240030	Not A Part	Independent	9.28	Reche Canyon / Badlands	Not a Part
478240031	Not A Part	Independent	2.08	Reche Canyon / Badlands	Not a Part
478240032	Not A Part	Independent	1.95	Reche Canyon / Badlands	Not a Part
478240033	Not A Part	Independent	1.67	Reche Canyon / Badlands	Not a Part
478240034	Not A Part	Independent	1.76	Reche Canyon / Badlands	Not a Part
488350003	Not A Part	Independent	8.6	Reche Canyon / Badlands	Not a Part
488350004	Not A Part	Independent	9.27	Reche Canyon / Badlands	Not a Part
488350005	Not A Part	Independent	9.39	Reche Canyon / Badlands	Not a Part

HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
478240011	NO	**YES**	NO	**YES**	NO	NO
478240017	NO	**YES**	NO	**YES**	NO	NO
478240019	NO	**YES**	NO	**YES**	NO	NO
478240021	NO	**YES**	NO	NO	NO	NO
478240022	NO	**YES**	NO	**YES**	NO	NO
478240023	NO	**YES**	NO	NO	NO	NO
478240024	NO	**YES**	NO	NO	NO	NO
478240025	NO	**YES**	NO	NO	NO	NO
478240026	NO	**YES**	NO	**YES**	NO	NO
478240027	NO	**YES**	NO	**YES**	NO	NO

478240028	NO	**YES**	NO	**YES**	NO	NO
478240029	NO	**YES**	NO	**YES**	NO	NO
478240030	NO	**YES**	NO	**YES**	NO	NO
478240031	NO	**YES**	NO	NO	NO	NO
478240032	NO	**YES**	NO	NO	NO	NO
478240033	NO	**YES**	NO	NO	NO	NO
478240034	NO	**YES**	NO	NO	NO	NO
488350003	NO	**YES**	NO	NO	NO	NO
488350004	NO	**YES**	NO	NO	NO	NO
488350005	NO	**YES**	NO	NO	NO	NO

Burrowing Owl

Burrowing owl.

Mammalian Species

2) L.A. pocket mouse.

If potential habitat for these species is determined to be located on the property, focused surveys may be required during the appropriate season.

Background

The final MSHCP was approved by the County Board of Supervisors on June 17, 2003. The federal and state permits were issued on June 22, 2004 and implementation of the MSHCP began on June 23, 2004.

For more information concerning the MSHCP, contact your local city or the County of Riverside for the unincorporated areas. Additionally, the Western Riverside County Regional Conservation Authority (RCA), which oversees all the cities and County implementation of the MSHCP, can be reached at:

Western Riverside County Regional Conservation Authority
3403 10th Street, Suite 320
Riverside, CA 92501

Phone: 951-955-9700
Fax: 951-955-8873

www.wrc-rca.org

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Riverside County Transporation and Land Management Agency - TLMA

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

APN	Cell	Cell Group	Acres	Area Plan	Sub Unit
488350006	Not A Part	Independent	8.88	Reche Canyon / Badlands	Not a Part
488350007	Not A Part	Independent	8.94	Reche Canyon / Badlands	Not a Part
488350008	Not A Part	Independent	9.23	Reche Canyon / Badlands	Not a Part
488350009	Not A Part	Independent	9.44	Reche Canyon / Badlands	Not a Part
488350010	Not A Part	Independent	8.85	Reche Canyon / Badlands	Not a Part
488350012	Not A Valid Parcel Number				
488350013	Not A Valid Parcel Number				
488350014	Not A Valid Parcel Number				
488350015	Not A Part	Independent	33.64	Reche Canyon / Badlands	Not a Part
488350019	Not A Part	Independent	8.3	Reche Canyon / Badlands	Not a Part
488350021	Not A Part	Independent	8.88	Reche Canyon / Badlands	Not a Part
488350023	Not A Part	Independent	8.64	Reche Canyon / Badlands	Not a Part
488350025	Not A Part	Independent	8.44	Reche Canyon / Badlands	Not a Part

HABITAT ASSESSMENTS

Habitat assessment shall be required and should address at a minimum potential habitat for the following species:

APN	Amphibia Species	Burrowing Owl	Criteria Area Species	Mammalian Species	Narrow Endemic Plant Species	Special Linkage Area
488350006	NO	**YES**	NO	NO	NO	NO
488350007	NO	**YES**	NO	NO	NO	NO
488350008	NO	**YES**	NO	NO	NO	NO
488350009	NO	**YES**	NO	NO	NO	NO
488350010	NO	**YES**	NO	NO	NO	NO
488350015	NO	**YES**	NO	NO	NO	NO
488350019	NO	**YES**	NO	NO	NO	NO
488350021	NO	**YES**	NO	NO	NO	NO
488350023	NO	**YES**	NO	NO	NO	NO

488350025	NO	**YES**	NO	NO	NO	NO

Burrowing Owl

Burrowing owl.

If potential habitat for these species is determined to be located on the property, focused surveys may be required during the appropriate season.

Background

The final MSHCP was approved by the County Board of Supervisors on June 17, 2003. The federal and state permits were issued on June 22, 2004 and implementation of the MSHCP began on June 23, 2004.

For more information concerning the MSHCP, contact your local city or the County of Riverside for the unincorporated areas. Additionally, the Western Riverside County Regional Conservation Authority (RCA), which oversees all the cities and County implementation of the MSHCP, can be reached at:

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Phone: 951-955-9700
Fax: 951-955-8873

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Appendix H:
Assessor's Parcel Numbers

Study Area Parcel Numbers

Assessor's Parcel Numbers				
42204009	42204010	42204014	42204015	422070005
422070006	422070010	422070014	422070017	422070018
422070019	422070020	422070021	422070022	422070029
422070030	422070031	422070032	422070033	422070034
422070035	422070036	422070037	422080001	422080002
422080003	422080004	422110001	422130001	422130002
422130003	423250001	423250002	423250007	423250008
423250009	423250010	423250011	423250012	423250013
423250018	423260001	423260002	423260003	423260004
423260005	423260006	423260007	423260008	423260009
423270003	423270004	423270006	423270007	423270008
423270009	423270017	423270018	423280001	423280002
423280003	423280004	423280005	423280006	423280007
423280008	423280009	423300002	423300004	423300009
423300010	423310001	423310002	423310003	423310004
423310005	423310006	423310008	478210054	478210055
478220001	478220002	478220003	478220004	478220005
478220006	478220007	478220009	478220010	478220011
478220012	478220013	478220014	478220015	478220016
478220017	478220018	478220019	478220020	478220021
478220022	478220023	478220024	478220025	478220026
478220027	478220028	478220029	478220030	478220031
478230001	478230002	478230003	478230004	478230005
478230006	478230007	478230008	478230009	478230010
478230011	478230014	478230015	478230016	478230017
478230019	478230020	478240002	478240003	478240005
478240006	478240007	478240008	478240011	478240012
478240013	478240014	478240015	478240016	478240017
478240019	478240021	478240022	478240023	478240024
478240025	478240026	478240027	478240028	478240029
478240030	478240031	478240032	478240033	478240034
488350003	488350004	488350005	488350006	488350007
488350008	488350009	488350010	488350012	488350013
488350014	488350015	488350019	488350021	488350023
488350025				

Assessment of Jurisdictional Waters and Wetlands
World Logistics Center Specific Plan
City of Moreno Valley, Riverside County, California

Sunnymead and El Casco USGS 7.5-minute Topographic Quadrangles
Sections 1, 12, and 13 Township 3 South, Range 2 West and
Sections 7, 8, 9, 16, 17, 18, 19, 20, and 21 Township 3 South, Range 3 West

Prepared for:

Highland Fairview Operating Company
14225 Corporate Way
Moreno Valley, CA 92553

Contact: Mr. Wayne Peterson, Vice President, Community Planning

Prepared by:

Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA 92602
714.508.4100

Contact: Scott A. Crawford, Section Manager

Michael Brandman Associates

Survey Date(s): September 18, 2007 and March 14, 2012
Report Date: April 23, 2012

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SECTION 1: INTRODUCTION

Applicant Name:
Highland Fairview Operating Company
3070 South Bristol Street, Suite 320
Costa Mesa, CA 92626
Contact: Wayne Peterson

Agent Name:
Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA 92602
Contact: Scott Crawford
Email: SCrawford@brandman.com

At the request of Highland Fairview Operating Company, Michael Brandman Associates (MBA) conducted an Assessment of Jurisdictional Waters and Wetlands for the 3,847-acre World Logistics Center Specific Plan area (hereafter referred to as the "study area") located in the City of Moreno Valley, Riverside County, California, on September 18, 2007 with a follow-up survey on March 14, 2012.

1.1 - Subject Features

A thorough investigation of the site showed that the study area previously contained 11 individual drainage features and tributaries. Based on current site conditions and a new specific plan area, a total of 14 individual features were assessed to determine if the United States Army Corps of Engineers (USACE), California Department of Fish and Game (CDFG), and the Santa Ana Regional Water Quality Control Board (RWQCB) would assert jurisdiction over any or part of any drainage feature within the World Logistics Center Specific Plan area.

The 14 drainage features consist of 4 roadside ditches, 7 isolated drainage features, and 3 isolated features. All 14 drainage features lack any direct connectivity to any downstream Traditional Navigable Waters (TNWs) or any other Relatively Permanent Water (RPW). The 4 roadside ditches lack any riparian vegetation and only convey nuisance flows from localized runoff from the adjacent road. These flows eventually sheet flow within the survey area and have no direct connectivity.

The 3 isolated features include a water quality detention basin and two basins associated with previous cattle activities. The water quality basin is a temporary facility that was constructed to treat on-site flows during the construction of the Skecher's logistic facility. The 2 isolated basins were previously used to collect polluted runoff from the adjacent cattle facility. The facility included concrete lined areas to contain cattle in a dairy operation. The waste products would flow downhill into the basins to protect downstream water quality. The concrete and hold facilities have been removed and the basins are not longer functioning.

The remaining 7 drainage features originate on site or immediately north of the survey area. These features are mostly human-made and are used to control downstream flows within a channel to reduce erosion impacts to adjacent agricultural fields. The soft soils within the study area are highly erosive

and the depth of the erosional features varies from 2 to 3 feet in depth up to 30 feet. All 7 drainage features eventually sheet flow into open grassland habitat with no direct connectivity downstream.

These drainage features were also determined not to be subject to the jurisdiction of the CDFG. These features do not meet the minimum requirements to be considered jurisdictional by regulatory agencies due to:

- Lack of connectivity to any downstream waters of the US or waters of the State.
- Absence of a consistent bed and bank and/or ordinary high water mark (OHWM).
- Low biological resource value.
- The roadside ditches and agricultural drainages are excavated wholly in, and draining only, uplands that do not carry relatively permanent water flows.

No jurisdictional wetlands occur within the study area.

SECTION 2: JURISDICTIONAL METHODOLOGY

2.1 - Methodology Statement

This Delineation of Jurisdictional Waters and Wetlands was conducted in accordance with regulations set forth in 33 Code of Federal Regulations (CFR) Part 328 and the USACE guidance documents referenced below:

- USACE Wetlands Research Program Technical Report Y-87-1 (on-line edition), "Wetlands Delineation Manual," Environmental Laboratory, 1987 (Wetland Manual).
- USACE "Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest," 2001 (Arid Southwest Guidelines).
- USACE "Minimum Standards for Acceptance of Preliminary Wetlands Delineations," November 30, 2001 (Minimum Standards).
- USACE "Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region," December 2006 (Arid West Supplement).
- USACE "Jurisdictional Determination Form Instructional Guidebook," May 30, 2007 (JD Form Guidebook).
- Jurisdictional Determination Form Instructional Guidebook (USACE 2007) (JD Form Guidebook)
- Final Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (December 2008a) (Arid West Regional Supplement)
- A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. (USACE 2008b)
- Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2010)

2.2 - Pre-Survey Investigation

Prior to the field visit, a 200-scale (1 inch = 200 feet) aerial photograph (2011) of the study area was procured and compared with the Sunnymead and El Casco, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps to identify potential drainage features within the survey area as indicated from topographic changes or visible drainage patterns. The National Wetland Inventory was also reviewed to determine whether any wetland areas had been documented within the vicinity of the site. The United States Department of Agriculture (USDA) Soil Survey Map was reviewed to identify the soil series that occur on the site. The previous

jurisdictional delineation report was reviewed to identify previous site conditions and estimated jurisdictional limits.

2.3 - Field Investigation

MBA Biologists Scott Crawford and Steve Hongola and Regulatory Specialist Tom Mullen completed a formal delineation of waters and wetlands for the study area on September 18, 2007. On March 14, 2012, MBA conducted another site visit and assessment to update the previous documentation because more than 2 years had passed since the site was last evaluated. Information from this previous report, however, is included as part of this report because this report encompasses a larger region. This delineation work was conducted in accordance with procedures and criteria set forth in the "Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region" and the "1987 Corps of Engineers Wetlands Delineation Manual" (Wetlands Delineation Manual or Manual), which define jurisdictional wetlands as features containing three parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. Data was collected using a Magellan Explorist 600 global positioning system (GPS) unit with an accuracy of ±10 feet. Data that is more recent was collected using a Trimble GeoXt GPS unit with an accuracy of ±1 feet (data sheets are available upon request). Potential drainage features and wetlands were also mapped on recent aerial photographs. Other tools used included a 30-meter tape measure, shovel, Munsell color chart, and digital camera.

The survey was conducted on foot and all potentially jurisdictional features within the study area and immediate vicinity were systematically inspected to record existing conditions and to determine the jurisdictional limits of waters and wetlands. Soil pits were dug to determine the limits of wetland soils (if any). All soil pits were sampled to a depth of at least 20 inches. Indicators of hydrophytic vegetation were assessed. The site was carefully assessed for surface flow indicators (presence of hydrophytic vegetation, staining, cracked soil, ponding, etc.). The apparent flow regimes and corresponding hydrogeomorphic features were subsequently identified.

Suspected wetland areas were assessed to the outer reach of the applicable (hydrophytic) vegetative community or where ponded features are present, to the natural topographical rim of the depressional feature (whichever was greater). Features previously indicated as potentially jurisdictional on aerial photographs (dark/saturated areas, associated riparian vegetation, etc.) were field-verified during the site visit. USDA/ National Water and Climate Center (NRCS) soils records for Riverside County were also field-confirmed. Plant species for each vegetative community were identified and given an indicator status as prescribed in the National List of Vascular Plant Species that Occur in Wetlands (1988). All data collected was recorded in a field notebook and evaluated using the 2006 USACE Arid West Regional Guidance (available upon request).

USACE jurisdiction is based on the presence of a clearly defined OHWM and direct or indirect surface connectivity to downstream traditional navigable water (TNW) of the US. Offsite connectivity to downstream TNWs was made by (1) examining USACE online *Solid Waste Agency of Northern Cook County v. US Army Corps of Engineers*, 531 US 159 (2001) (SWANCC) determinations, (2) by examining both present and historical aerial photography, or (3) by physically following offsite drainage courses to their downstream confluence.

CDFG jurisdiction was based on the presence of a bed and bank, and the presence of riparian vegetation and/or wildlife resources. The lateral extent of CDFG jurisdiction was measured from bank to bank at the top of the channel, or to the drip-line of the associated riparian vegetation where it extends beyond the bank of the channel.

Measurements were entered into Geographical Information System (GIS) ArcView software to identify the location and dimensions of potentially jurisdictional areas. The ArcView application was then used to compute federal and State jurisdiction in acres. Acreage computations were verified using a 200-scale aerial photograph and field data.

SECTION 3: ENVIRONMENTAL SETTING

3.1 - Location of the Property

The study area includes approximately 4,000 acres as well as 10 offsite improvement areas that will potentially include sites for future infrastructure development. The study area is generally located north of State Route (SR) 74, south of SR-60, east of Interstate (I) 215, and west of SR-79, in the City of Moreno Valley, Riverside County, California (Exhibit 1). The study area is depicted on Sections 6, 7, 8, and 9, 16, 17, 18, 19, 20, and 21 of Township 3 South, Range 2 West and Sections 1, 12, and 13 of Township 3 South, Range 3 West within the Sunnymead and El Casco, California, USGS 7.5-minute topographic quadrangle map (Exhibit 2). Specifically, it is north of Air Forbes Road, south of SR-60, east of Redlands Boulevard, and west of Gilman Springs Road (Exhibit 3). There are 10 offsite improvement areas located within the vicinity of the site. These offsite improvement areas will be evaluated as potential locations for water tank facilities for future development.

The study area has historically been used for agricultural purposes. It is currently dominated by disked and heavily grazed fields. General land use in the vicinity of the study area includes SR-60, agricultural lands to the north, and agricultural lands intermixed with rural residences to the south, east, and west.

3.1.1 - Directions to the Property

From Los Angeles driving east, take SR-60 east, exit at Redlands Boulevard, and proceed south. The study area is located directly east of the end of the off ramp. From eastern Riverside County, take I-10 west to SR-60. Take SR-60 west and exit at Gilman Springs Road and head south. The study area is located to the west.

3.1.2 - Assessor's Parcel Numbers

The onsite portion of the study area includes the following Assessor's Parcel Numbers (APNs):

Table 1: Study Area Parcel Numbers

Assessor's Parcel Numbers				
42204009	42204010	42204014	42204015	422070005
422070006	422070010	422070014	422070017	422070018
422070019	422070020	422070021	422070022	422070029
422070030	422070031	422070032	422070033	422070034
422070035	422070036	422070037	422080001	422080002
422080003	422080004	422110001	422130001	422130002
422130003	423250001	423250002	423250007	423250008
423250009	423250010	423250011	423250012	423250013

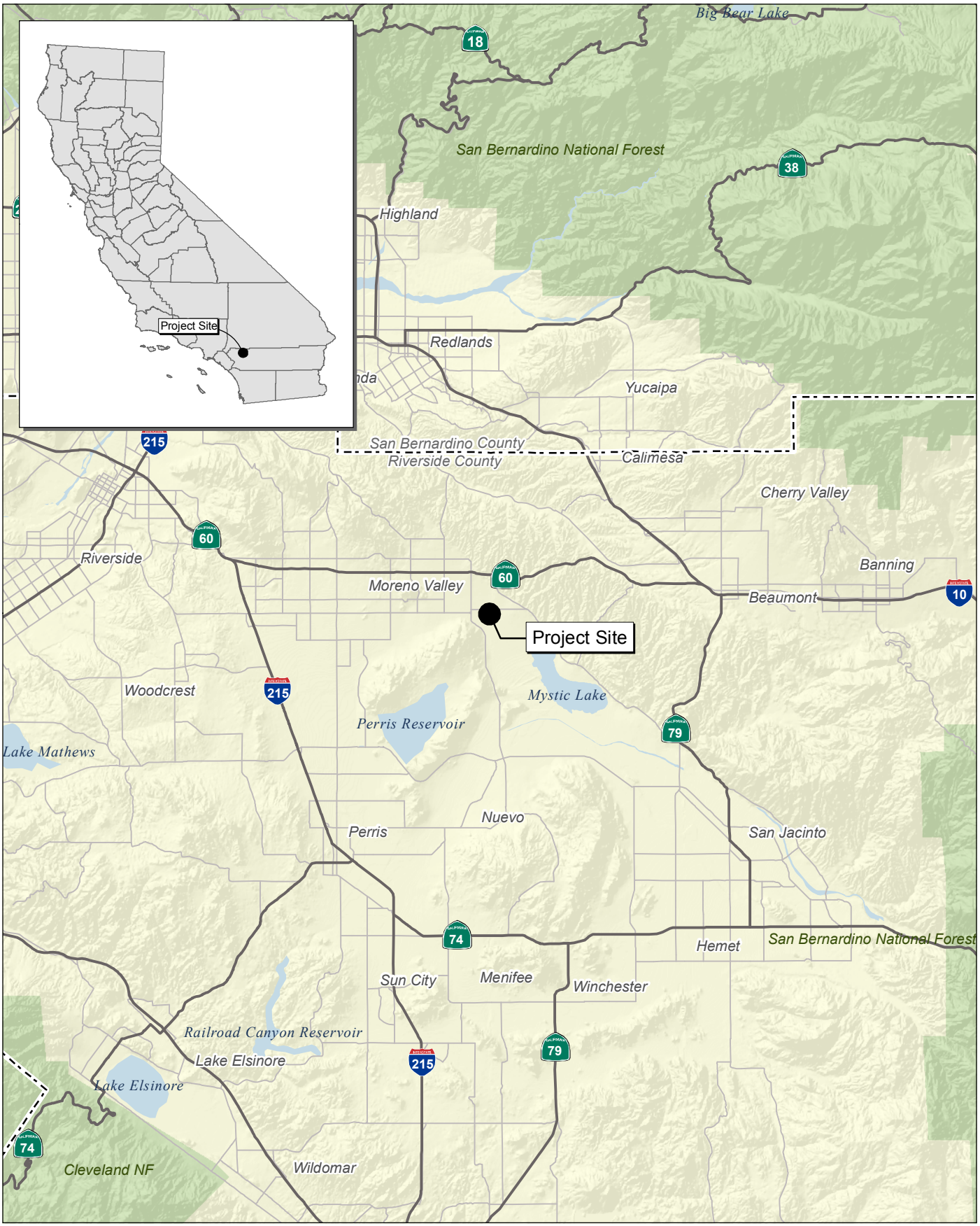
Table 1 (cont.): Study Area Parcel Numbers

Assessor's Parcel Numbers				
423250018	423260001	423260002	423260003	423260004
423260005	423260006	423260007	423260008	423260009
423270003	423270004	423270006	423270007	423270008
423270009	423270017	423270018	423280001	423280002
423280003	423280004	423280005	423280006	423280007
423280008	423280009	423300002	423300004	423300009
423300010	423310001	423310002	423310003	423310004
423310005	423310006	423310008	478210054	478210055
478220001	478220002	478220003	478220004	478220005
478220006	478220007	478220009	478220010	478220011
478220012	478220013	478220014	478220015	478220016
478220017	478220018	478220019	478220020	478220021
478220022	478220023	478220024	478220025	478220026
478220027	478220028	478220029	478220030	478220031
478230001	478230002	478230003	478230004	478230005
478230006	478230007	478230008	478230009	478230010
478230011	478230014	478230015	478230016	478230017
478230019	478230020	478240002	478240003	478240005
478240006	478240007	478240008	478240011	478240012
478240013	478240014	478240015	478240016	478240017
478240019	478240021	478240022	478240023	478240024
478240025	478240026	478240027	478240028	478240029
478240030	478240031	478240032	478240033	478240034
488350003	488350004	488350005	488350006	488350007
488350008	488350009	488350010	488350012	488350013
488350014	488350015	488350019	488350021	488350023
488350025				

3.2 - Land Uses

The majority of the study area is currently disked and used for agricultural practices, including dry farming. Previous structures associated with abandoned agricultural facilities and rural residential developments are in the process of being removed. General land use in the vicinity of the study area

includes transportation via highway SR-60, active agricultural land to the north and mixed active agricultural, residential, and rural residential land to the west. Undeveloped lands are located to the south and east.



Source: Census 2000 Data, The CaSIL, MBA GIS 2011.

Michael Brandman Associates

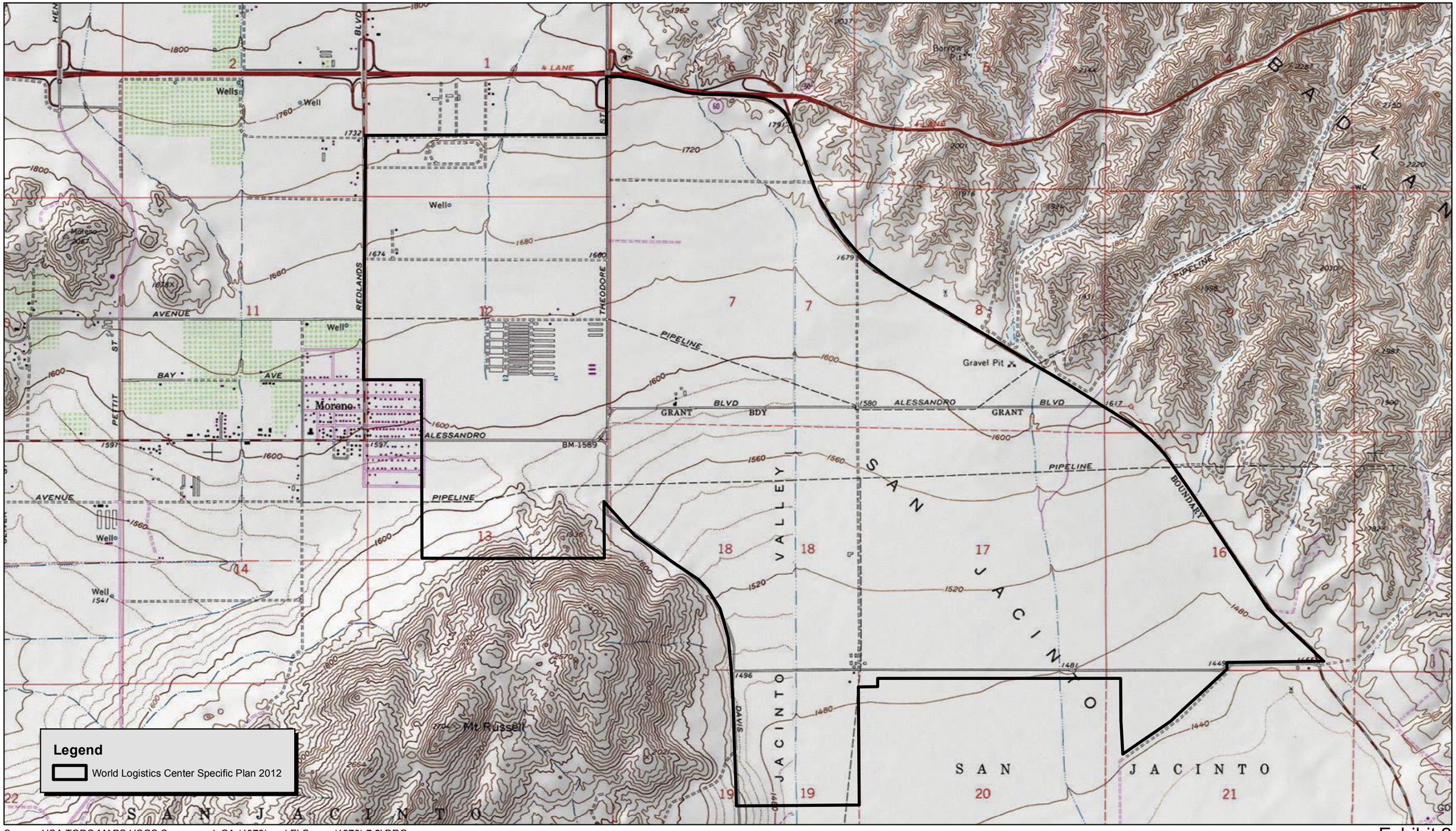
NORTH

5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

26100025 • 04/2012 | 1_regional.mxd

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN
DELINEATION OF JURSIDICTIONAL WATERS AND WETLANDS



Source: USA TOPO MAPS USGS Sunnymead, CA (1978) and El Casco (1976) 7.5' DRG.

NORTH

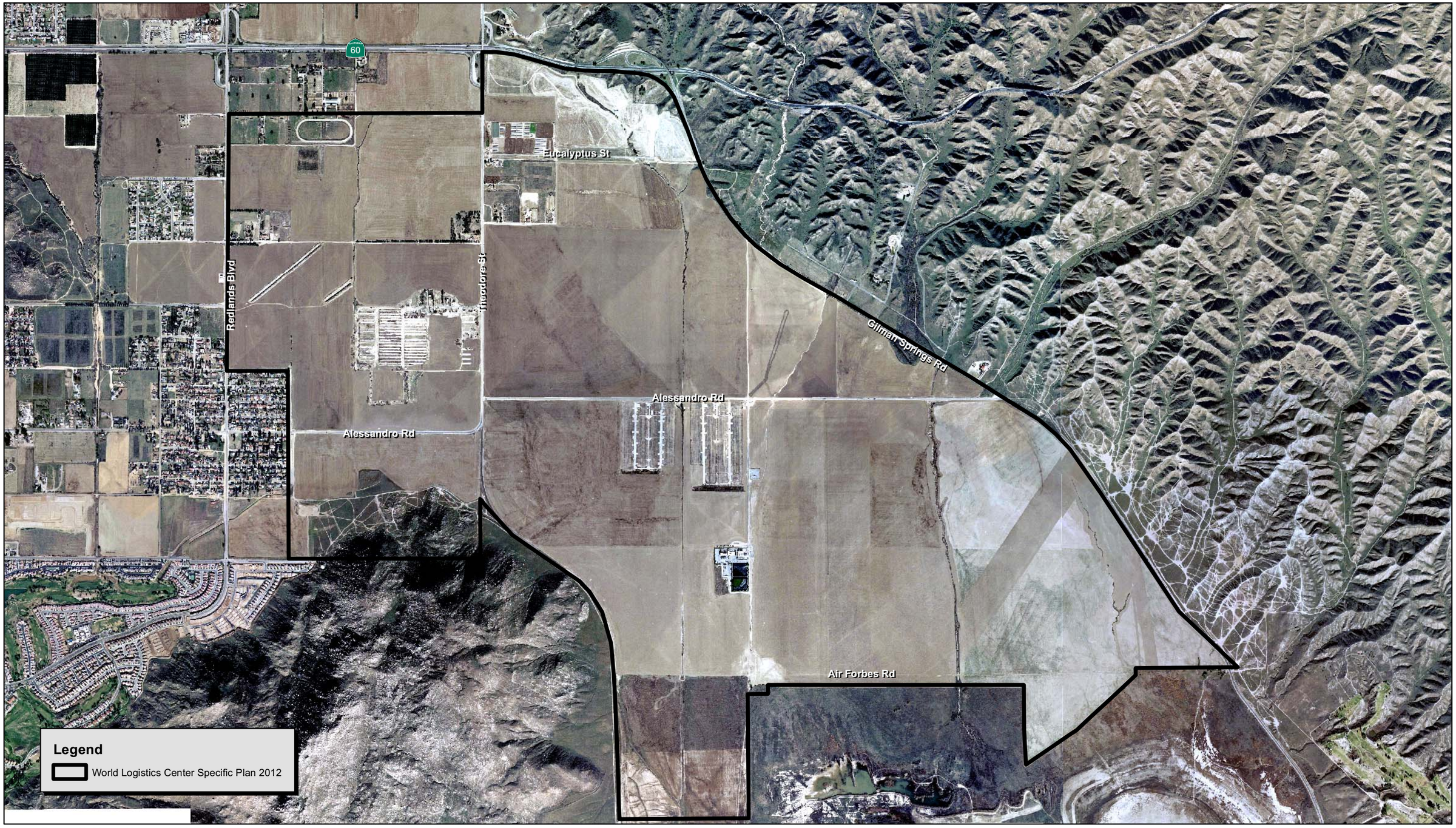
2,000 1,000 0 2,000 Feet

Michael Brandman Associates

26100025 • 04/2012 | 2_local_topo.mxd

Exhibit 2
Local Vicinity Map
Topographic Base

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN
DELINEATION OF JURSIDICTIONAL WATERS AND WETLANDS



Source: Forma, Air Photo USA, and MBA Field Survey.

NORTH

1,900 950 0 1,900 Feet

Michael Brandman Associates

Exhibit 3
Local Vicinity Map
Aerial Base

26100025 • 04/2012 | 3_local_aerial.mxd

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN
DELINEATION OF JURSIDICTIONAL WATERS AND WETLANDS

3.2.1 - Activities Relating to Interstate or Foreign Commerce

None of the potentially jurisdictional features that were investigated onsite are used for recreation or other use by interstate or foreign travelers or used in relation to interstate or foreign commerce. Onsite resources are not used for sale of fish or shellfish. Similarly, the land is not currently used for industry or other activities operating in interstate or foreign commerce. At present, no nexus to commerce is evident.

3.3 - Topography

The study area is located at the northern extent of the San Jacinto and Moreno Valleys, northeast of Mount Russell, and southwest of the Badlands. A human-made lake (Mystic Lake) is located south of the study area and LPSRA lies directly to the west. The study area is relatively flat with minimal topographic relief, and a slight slope to the south. It has an elevation range of approximately 1,440 to 1,800 feet above sea level.

The runoff onsite generally flows south. The southwestern corner of the study area drains to the western side of Mount Russell. The rest of the study area flows on the east side of Mount Russell.

3.4 - Hydrology

3.4.1 - Pertinent Hydrogeomorphic Features

The 14 drainage features consist of 4 roadside ditches (Drainage 1, Drainage 5, Drainage 6, and Drainage 12), 7 isolated drainage features (Drainage 2, Drainage 4, Drainage 7, Drainage 8, Drainage 9, Drainage 10, and Drainage 11), and 3 isolated features (Drainage 3, Drainage 13, and Drainage 14). None of these constitutes a Relatively Permanent Water (RPW) of Traditional Navigable Water (TNW), as defined in Appendix A. All drainage features appear to be ephemeral channels with a variety of widths.

3.4.2 - Watershed Description

The project is located within the San Jacinto watershed. The San Jacinto River drains approximately 757 square miles, generally to Railroad Canyon Reservoir (Canyon Lake) and is identified by the USGS cataloging unit number 18070202. Much of the study area, however, drains to isolated main-made ponded areas associated with Mystic Lake Duck Club. The site is located within the semi-arid region of western Riverside County to the east of the San Bernardino Mountains and to the south of the San Gabriel Mountains.

Sources of water supplying the site include runoff from precipitation and flow from adjacent agricultural fields. The study area drains via sheet-flow, swales, and small roadside ditches. Runoff from Drainages 1, 2, and 4 appear to sheet flow prior to entering the City of Moreno Valley storm drain system and then enter the Perris Valley Channel (previously known as the Perris Valley Storm Drain, or PVSD), which flows to the San Jacinto River and then to Canyon Lake (a TNW). Runoff

from Drainages 5, 6, 7, 8, 9, 10, and 11 exit the southern portion of the study area and drain toward Mystic Lake, which periodically outflows into the San Jacinto River and then flows into Canyon Lake (TNW).

The project is located above the Perris North Groundwater Basin. Groundwater salinity within the basin results from both human activity and naturally occurring elements in the soil. Groundwater depth ranges from approximately 100 feet to 150 feet below ground surface.

3.5 - Field Conditions

3.5.1 - Seasonal Climate Variation

The Moreno Valley area is subject to both seasonal and annual variations in temperature and precipitation. Daily temperatures are at an average daily low in December and January (40.0 degrees Fahrenheit [°F]) and at an average high in August (95.0°F). Precipitation is typically greatest in the winter months from December through March, reaching a peak average rainfall in February (3.04 inches). Approximately 70 percent of the annual rainfall occurs during these months. Average precipitation is lowest from May through October, with a minimum average low in July of 0.10 inches. Annual average precipitation at the City of Moreno Valley is 11.4 inches.

3.5.2 - Field Conditions at time of Field Investigation

Field conditions were dry and hot during the 2007 survey, with winds blowing at approximately 0 to 5 miles per hour. During the survey, surface water was not present in any of the features investigated onsite. The Palmer Drought Severity Index (PDSI) indicated “extreme drought conditions” for September 18, 2007 (when the field assessment was conducted). Field conditions during the 2012 survey included winds from 0 to 5 miles per hour, with cool temperatures and partly cloudy skies. The area received rain within a week of the survey and additional storms were pending. The PDSI indicated “moderate drought conditions” for February 2012 (the month prior to conducting field survey).

3.6 - Soils

The study area contains 14 different soil-mapping units belonging to 11 different soil series (Exhibit 4). A soil series is a group of soils with similar profiles. These profiles include major horizons with similar thicknesses, arrangement, and other distinct characteristics. The study area is dominated by a consociation of San Emigdio loam (SgA and SgC) and San Emigdio fine sandy loam (SeC2), with smaller inclusions of Arbuckle loam (AkC), Badland (BaG), Cieneba rocky sandy loam (CkF2), Gorgonio loamy sandy (GhC and GhD), Greenfield sandy loam (GyA, GyC2, GyD2, and GyE2), Hanford coarse sandy loam (HcC and HcD2), Metz gravelly sandy loam (MID), Metz loamy fine sand (MfA), Metz loamy sand (MdC and MeD), Ramona sandy loam (RdD2), Rockland (RtF), San

Emigdio fine sandy loam (SeA, SeC2, and SeD2), San Emigdio loam (SgA and SgC), and San Timoteo loam (SmE2).

The surface horizon of these soils is characterized by value/chroma ranges from 2.5Y 6, 4/2 to 10YR 3-6/2-3 on the Munsell Soil Color Chart. The surface horizon within these soils is usually dry from April to November. These soil series are geographically grouped and share many similar characteristics and are often found in stream bottoms, floodplains, and/or alluvial fans. These soils are formed from decomposed granite/sedimentary rock, ranging in depth from 22 to 74 inches, and are generally well-drained to excessively well-drained. Some soils in the Badland, Gorgonio, and Metz series (BaG, GkD, and MeD) are identified as hydric soils in western Riverside County soil surveys. The study area contains 2 soil mapping units considered hydric: Badlands and Metz loamy sandy. Hydric soil conditions were not observed during the field evaluation (Exhibit 4).

3.7 - Vegetation

Six plant communities were identified within the study area: extensive agriculture (e.g., dry land farming), Riversidean sage scrub, Riversidean alluvial fan sage scrub, mule fat scrub, southern willow scrub, and non-native grassland. Extensive agriculture occurs throughout the study area with isolated patches of Riversidean sage scrub, Riversidean alluvial fan sage scrub, southern willow scrub and non-native grassland. Several of the drainage features in the eastern portion of the survey area contain linear stands of mule fat scrub associated with the agricultural drainage swales and ephemeral drainage feature. All plant communities are heavily disturbed due to disking and other agricultural related activities. The vegetation that is present is dominated by ruderal (weedy) annual species, such as short-pod mustard (*Hirschfeldia incana*), London rocket (*Sisymbrium irio*), bindweed (*Convolvulus arvensis*), white horse nettle (*Solanum elaeagnifolium*), and non-native grasses such as slender oats (*Avena barbata*), and rip-gut brome (*Bromus diandrus*).

3.8 - Coastal Zone Evaluation

The study area is not within the coastal zone as defined by the California Coastal Act. As such, a Coastal Zone Management Act consistency determination is not required.

3.9 - Critical Habitat

No United States Fish and Wildlife Service (USFWS) designated Critical Habitat for any species is present within the Study Area.

3.10 - Biological Resources

In general, the study area provides relatively low habitat value for wildlife species that may occur in the region. Wildlife species that are expected to occur within the study area are limited primarily to

common species that frequent disturbed habitats and urban settings. Common species may include reptilian species such as side-blotched lizard (*Uta stansburiana*) and western fence lizard (*Sceloporus occidentalis*), and avian species such as American crow (*Corvus brachyrhynchos*), house finch (*Carpodacus mexicanus*), and Say's phoebe (*Sayornis saya*). Mammalian species may include desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Ottopermophilus beecheyi*), and coyote (*Canis latrans*). The study area provides suitable habitat for a single California state species of special concern, the burrowing owl (*Athene cunicularia*). However, focused surveys conducted in 2007 by MBA resulted in negative findings for this species (MBA 2007a). This species was observed during the 2012 survey. This species appears to be present intermittently within the survey area.

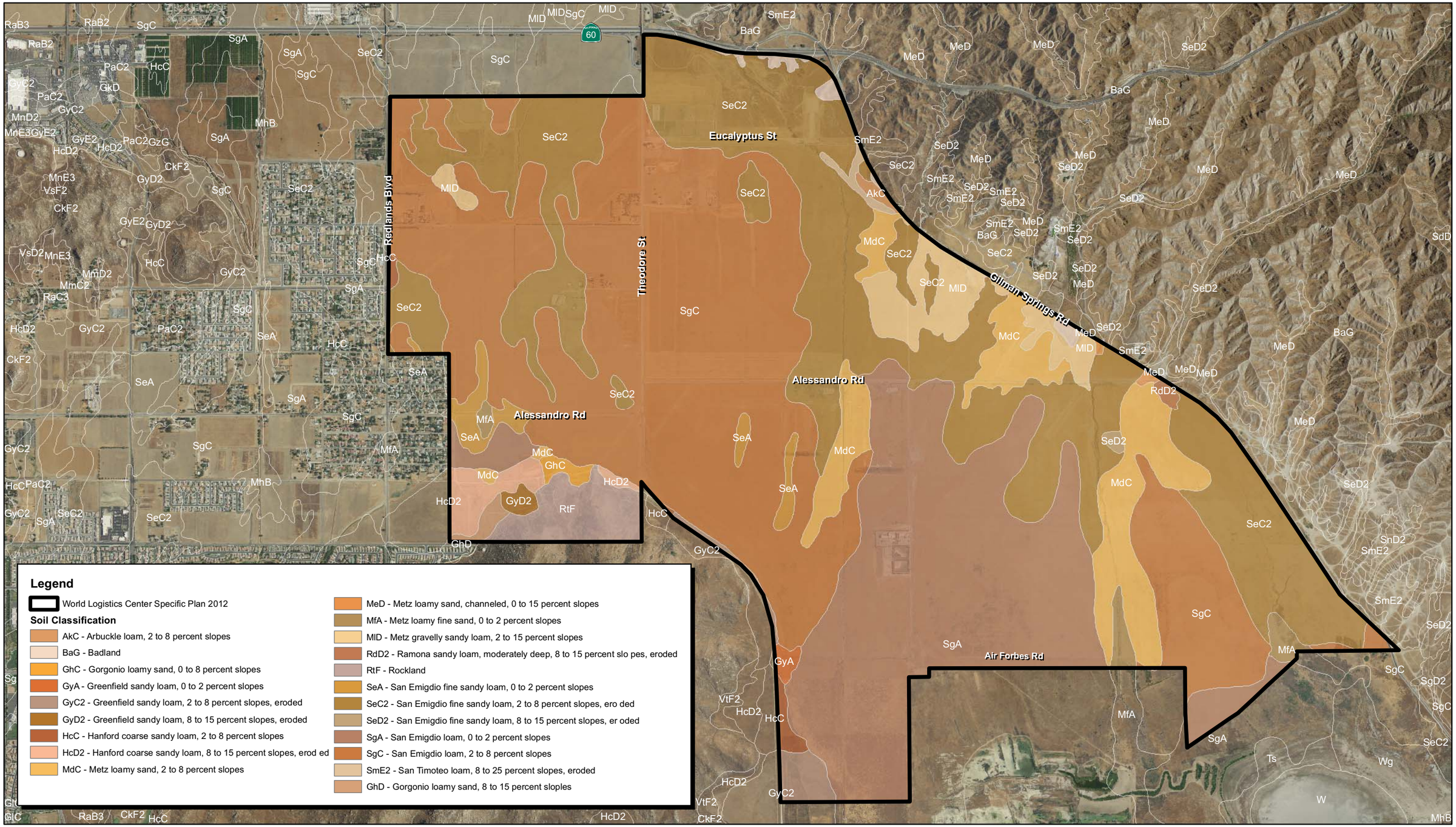
3.11 - Historical Properties

An assessment of on site historical properties is required by the USACE in administering the Section 404 Permitting Program. According to General Condition No. 12 of the USACE Nationwide Permit Program, pursuant to the federal National Historic Preservation Act (NHPA), the presence of significant cultural resources must be determined prior to submittal of the Section 404 Application.

A cultural resources assessment has been prepared by MBA (MBA 2012). No evidence of significant cultural resources exist onsite.

3.12 - Environmental Documentation

California Environmental Quality Act (CEQA) documents are currently being prepared for the project.



Source: Forma, Air Photo USA, and USDA Soils Data.

NORTH

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Michael Brandman Associates

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Exhibit 4
USDA Soils Map

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DELINEATION OF JURSIDICTIONAL WATERS AND WETLANDS

SECTION 4: JURISDICTIONAL DELINEATION RESULTS

The following section provides a detailed discussion of jurisdictional and non-jurisdictional drainages within the study area and includes findings related to vegetative communities, topography, soils, hydrology, and wetlands for each of these features.

4.1 - Summary of Jurisdictional Findings

A total of 14 drainage features were identified within the study area. All 14 drainage features were determined to be isolated from downstream TNW or RPWs. Therefore, none of the 14 features are under USACE and RWQCB jurisdiction. CDFG asserts jurisdiction over drainage features, even if they are considered isolated. There are 4 areas within the survey area with riparian habitat that is likely to be under CDFG jurisdiction. Exhibit 5 illustrates the site locations from where the Appendix D site photographs were taken.. USACE and CDFG Jurisdictional Areas Maps are included in Exhibit 6 and Exhibit 7 respectively. \

4.2 - Rationale for Jurisdictional Determinations

A detailed discussion of each hydrogeomorphic feature found on the site and the rationale for supporting the jurisdictional determination follows. All 14 drainage features within the study area are considered non-RPWs and non TNW. Drainages 1, 5, 6, and 12 are roadside ditches. Drainages 2, 4, 7, 8, 9, 10, and 11 are agricultural ditches/swales, or in one case, a gully. Drainage 3, 13, and 14 are isolated basins.

No clear distinction is made between agricultural ditches and swales within this project because some of these drainages combine both characteristics. Portions of some swales within the project were excavated for use as agricultural drainage ditches.

The majority of these features provide no significant biological or hydrological function. The majority of these features also display little to no evidence of a bed and bank or OHWM and no direct connectivity to any navigable waters of the US.

The roadside ditches that run along the east side of Redlands Boulevard and the east and west side of Theodore Street and were determined to be non-jurisdictional ditches excavated wholly in, and draining only, uplands that do not carry relatively permanent water flows.

Data points were taken at sample locations containing evidence of the three required parameters necessary to be considered a wetland by USACE: hydrophytic vegetation, hydric soils, or wetland hydrology. Representative photographs were taken throughout the study area (Appendix D). The locations of data points and photographs are presented in Exhibit 5. Descriptions of the 14 drainage features are provided in detail below and illustrated in Exhibit 6 and Exhibit 7.

4.2.1 - Drainage 1 (Ephemeral Roadside Ditch)

Drainage 1 is an ephemeral roadside ditch that transitions to and from a paved storm drain channel and an unnamed incised soft-bottom roadside ditch that runs from north to south along the eastern side of Redlands Boulevard (Photograph 1 in Appendix D). . The drainage is not a designated blue-line feature on the Sunnymead, California 7.5-minute USGS topographic quadrangle. The drainage originates immediately south of the SR-60 freeway and flows within a soft-bottom drainage with an incised bed and bank feature until Myers Road. At this point, the drainage transitions to a shallow asphalt lined v-ditch, continuing south for approximately 500 feet before transitioning back to an earth-lined soft-bottom drainage feature. The drainage feature passes through a number of small culverts associated with residential access roads. The drainage continues south where it ultimately enters the City's storm drain system and outlets into the Perris Valley Channel. This large engineered storm drain is tributary to Reach 3 of the San Jacinto River, which is tributary to Railroad Canyon Reservoir (Canyon Lake), a TNW. The distance from the point where the ditch leaves the study area to Canyon Lake is approximately 14.5 linear (straight line) miles and approximately 21.0 river miles.

Storm and nuisance flows entering the drainage originate primarily from offsite locations to the west and north of the study area. These flows enter the system by sheet-flow over Redlands Boulevard.

Vegetation within and around the drainage is limited or absent in most cases. In general, the area in which the drainage is located is highly disturbed. The channel itself is unvegetated, presumably as a result of increased scouring during high flow periods and poor soil conditions. Where vegetation does occur along the drainage, it is limited to upland species including sparse non-native herbaceous annual forbs and grasses including short-pod mustard, Russian thistle (*Salsola tragus*), ripgut brome (*Bromus diandrus*), and red brome (*Bromus madritensis* ssp. *rubens*). These species are also present in surrounding upland areas. Hydrophytic vegetation was not observed within or adjacent to any portion of the drainage.

USDA Soils Maps/Surveys indicate the presence of San Emigdio and Hanford soil series within the drainage. Soils actually observed within the active channel are dominated by coarse sand and cobbly sand and were not consistent with published soil survey data. Much of the upper horizon contains asphalt and other unnatural aggregate, further evidence of the overall disturbance of the feature. These disturbed soils are prevalent within the banks of the feature as well. A soil pit was excavated in the middle reach of the drainage, downstream from Fir Avenue. The soils observed at this sample location were non-hydric mineral soils with coarse sand and fine sand textures. Due to the high mineral content and very coarse sandy character, no matrix color reading could be sampled within the upper 6-inch horizon of this feature. The lower 14-inch horizon indicated a matrix color of 10YR 5/4 with sandy and fine sand texture. No hydric soil indicators were observed at this sample location. The lack of hydric soil indicators along a majority of the roadside ditch is likely due to a lack of sufficient hydrology necessary to create hydric soil conditions. The soils within Drainage 1 are

highly permeable and have high percolation rates, thereby reducing the potential for anaerobic conditions.

SWANCC Evaluation

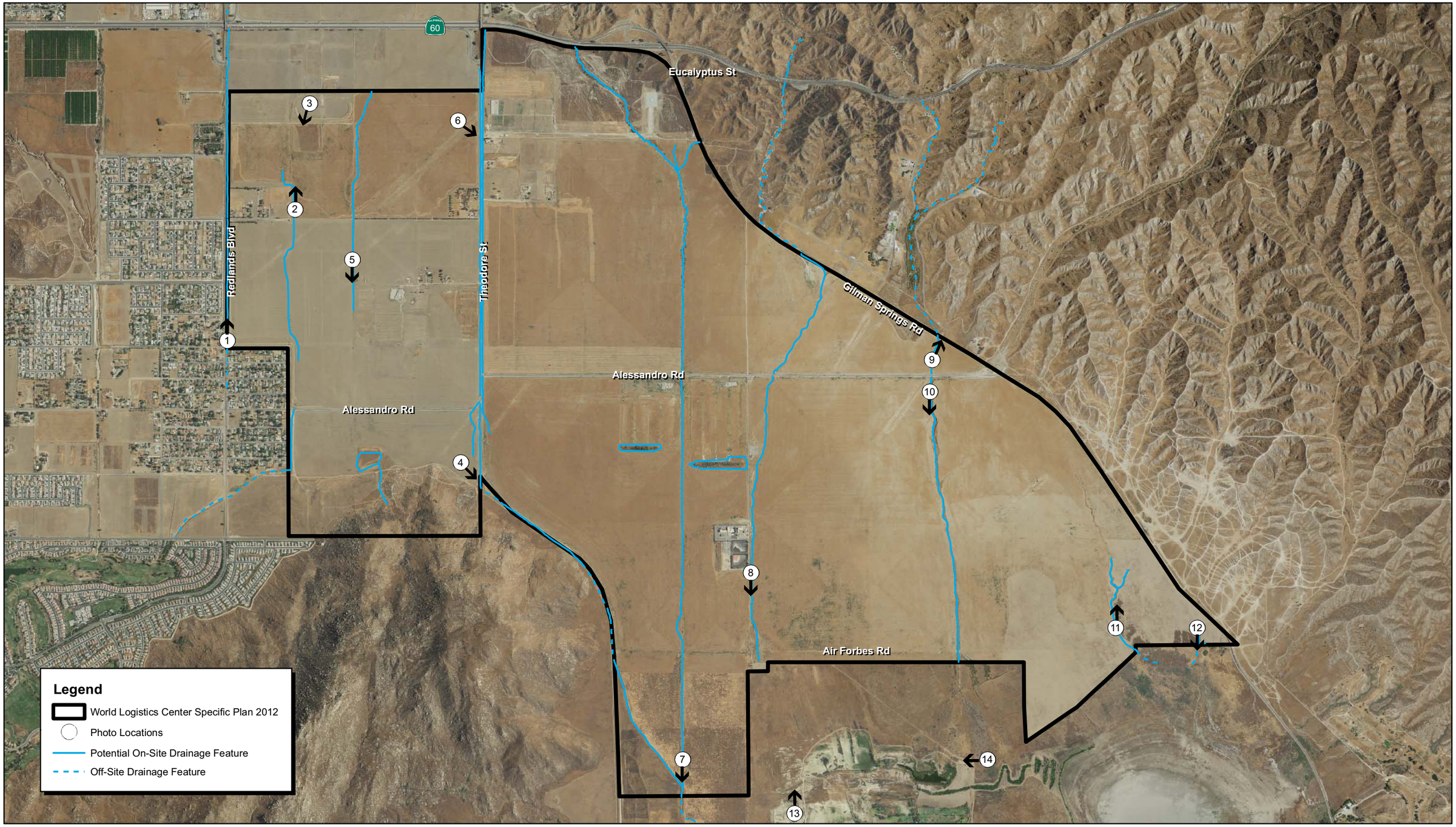
The SWANCC decision excluded isolated features from USACE jurisdiction. Drainage 1 does exhibit hydrological connectivity to downstream navigable waters but does not maintain contiguous surface connectivity to those downstream resources (TNWs). Specifically, after flowing intermittently through earthen and asphalt drainages, flows enter an offsite storm drain system and flow subsurface for a considerable distance before out flowing into the Perris Valley Channel. As such, it is probable that the feature is an isolated feature and should be excluded from jurisdiction via the SWANCC decision.

Rapanos/Significant Nexus Evaluation

Notwithstanding the potential exclusion from jurisdiction via SWANCC, the feature does not maintain a significant nexus to downstream TNWs.

The joint guidance issued by the Environmental Protection Agency (EPA) and the USACE, asserts that ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry relatively permanent flows of water are generally not waters of the US because they are not tributaries or they do not have a significant nexus to downstream traditional navigable waters (see *Memorandum Re. CWA Jurisdictional Following the US Supreme Court Decision in Rapanos v. United States*, June 5, 2007).

Drainage 1 is a roadside ditch that maintains continuous flows only during substantial rain events. Similarly, due to the rapid rate of soil percolation, these flows are present only briefly in the drainage. Furthermore, given the distance to downstream navigable waters (approximately 21 river miles to Canyon Lake), low regional precipitation (11.4 inches/year), and absence of vegetation or riparian habitat, the drainage does not provide a significant hydrological or ecological benefit to downstream resources and therefore does not maintain a significant nexus to the downstream TNW.



Source: Riverside County NAIP, 2009, and MBA Field Survey and GIS Data.

NORTH

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Exhibit 5
Photograph Location Map

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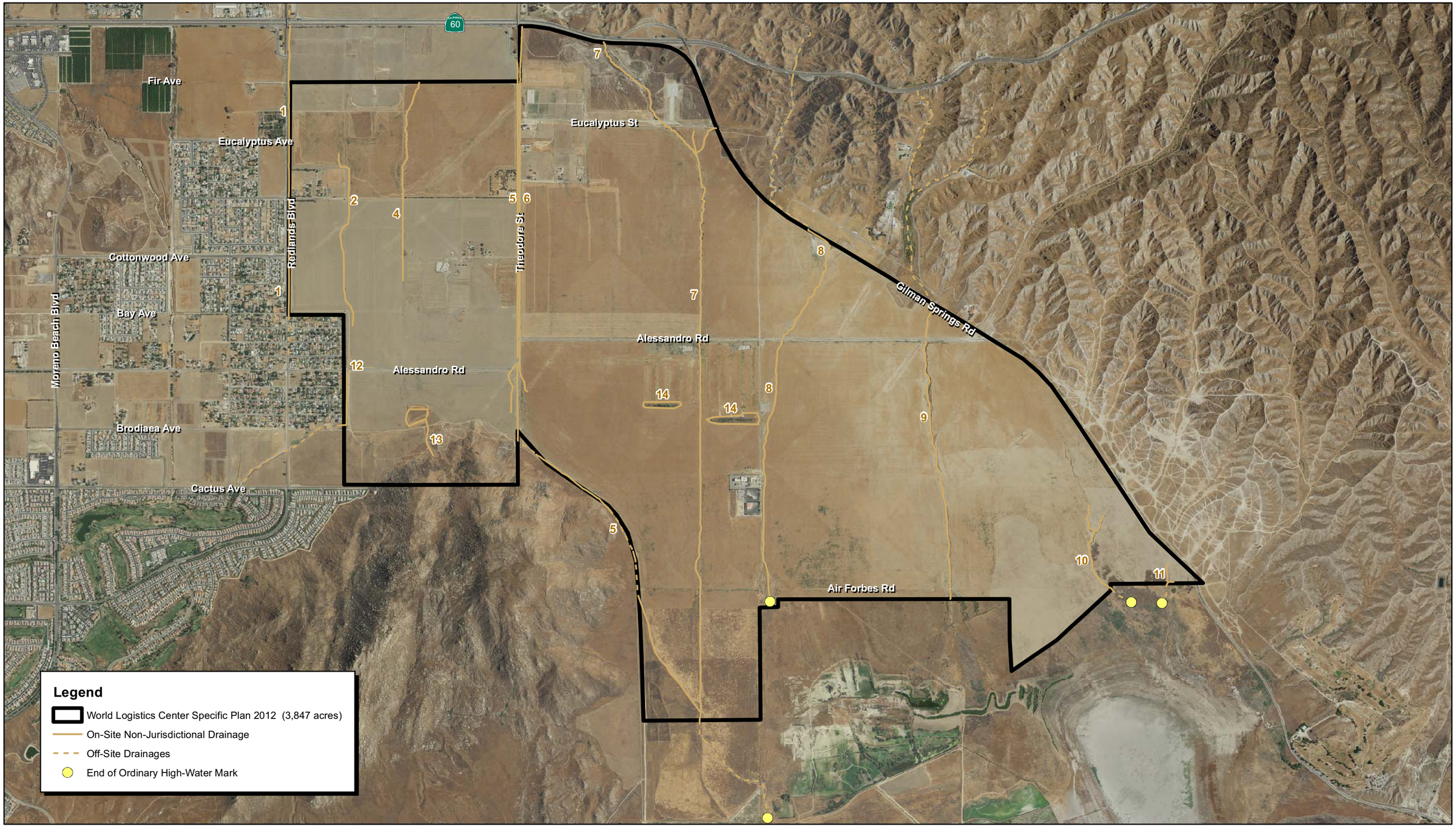
DELINEATION OF JURSIDICTIONAL WATERS AND WETLANDS



Source: Riverside County NAIP, 2009, and MBA Field Survey and GIS Data.

NORTH

2,100 1,050 0 2,100 Feet

Michael Brandman Associates

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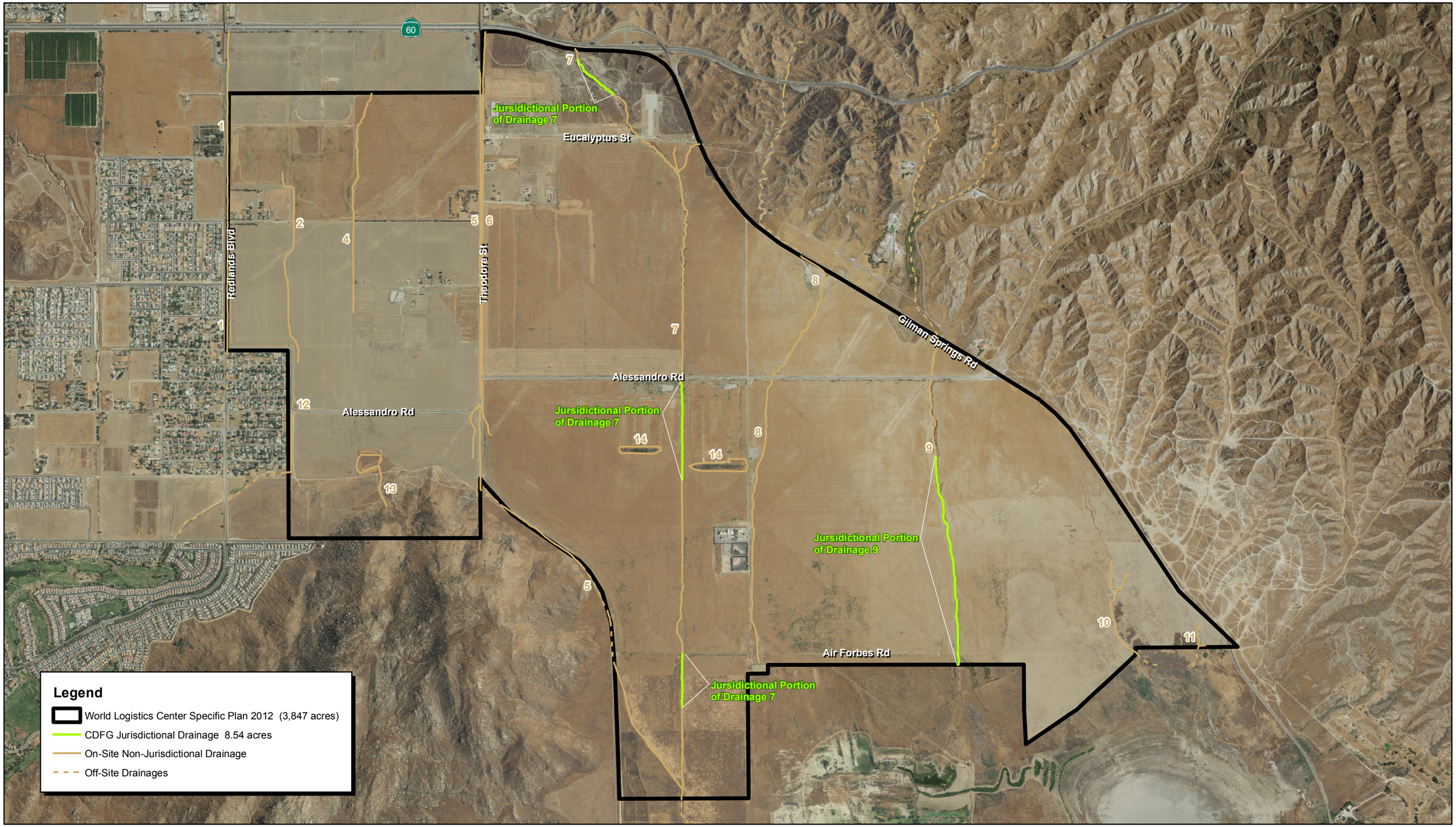
Exhibit 6
USACE Jurisdictional Areas Map

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Source: Riverside County NAIP, 2009, and MBA Field Survey and GIS Data.

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Michael Brandman Associates

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Exhibit 7
CDFG Jurisdictional Areas Map

HIGHLAND FAIRVIEW OPERATING COMPANY • WORLD LOGISTICS CENTER SPECIFIC PLAN
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS

USACE Jurisdictional Conclusions

Because Drainage 1 lacks surface connectivity, and is a roadside ditch draining only upland areas and without a significant nexus to downstream navigable waters it should not be considered jurisdictional waters of the US and not subject to CWA Section 404 jurisdiction.

RWQCB Jurisdictional Conclusions

Because Drainage 1 lacks federal jurisdiction via CWA (Section 404) the drainage will also not be subject to RWQCB jurisdiction via CWA Section 401. The RWQCB may however, independently assert jurisdiction over isolated and other waters excluded from federal jurisdiction via California's Porter-Cologne Water Quality Act. Typically, jurisdiction under Porter-Cologne is asserted where "beneficial uses" are identified for the respective resource. Drainage 1 drains a relatively small area and is unlikely to make significant contributions to recharge groundwater supplies. Similarly, the drainage is largely unvegetated and probably has little benefit for flood control or nutrient/pollutant trapping. As such, Drainage 1 should not be subject to RWQCB jurisdiction under CWA Section 401 or Porter-Cologne.

CDFG Jurisdictional Conclusions

The CDFG will assert jurisdiction over lakes and streambeds and associated riparian vegetation, regardless of their connectivity (or lack of connectivity) to downstream navigable waters. The Fish and Game Code, beginning with Section 1600, however, requires CDFG to make a "specific and detailed" determination that fish and wildlife resources are present and would be "substantially adversely" affected by project activities. Though portions of the drainages do maintain a bed and bank, no fish or wildlife resources have been identified within the drainage. Similarly, because the drainage is ephemeral, unvegetated, provides no cover, and does not appear to appear to provide habitat linkage or other benefits to wildlife resources, the feature should not be subject to CDFG jurisdiction. .

4.2.2 - Drainage 2 (Agricultural Ditch/Swale)

Drainage 2 is an agricultural ditch/swale with no clearly defined bed and bank or OHWM (Photograph 2 in Appendix D). The drainage runs from north to south, and is contained within the western portion of the study area. This ditch is not a designated blue-line feature, and was artificially created for agricultural activities. Drainage 2 terminates in the southwestern portions of the site, where it is sheet flows before entering 3 underground culverts beneath Alessandro Boulevard. During a major rain event in 2008, many of the residences west of the survey area were damaged from floodwaters. In an attempt to protect the homes, an earthen berm was created along the perimeter of the survey area and all sheet flows are now diverted into Drainage 2 and conveyed beneath Alessandro Boulevard.

Drainage 2 originates as a highly disturbed ephemeral swale within extensive agricultural land that has been heavily disturbed and disked for decades. The feature terminates south of Bay Avenue, and

presumably conveys sheet-flow that percolates into the soil. This feature has an inconsistent channel and is presently undetectable throughout portions of its length. Vegetation associated with Drainage 2 is limited to sparse non-native herbaceous annual forbs and grasses including short-pod mustard, Russian thistle, ripgut brome, and red brome, with a predominance of bare ground in the herbaceous layer. No hydrophytic vegetation occurs within any portion of the feature.

Soils observed within Drainage 2 are dominated by San Emigdio loam with a small inclusion of San Emigdio fine sandy loam, and do not contain any attributes typical of hydric soils. The upper soil horizon has been disturbed as a result of disking and other agricultural-related activities.

USACE Jurisdictional Conclusions

Because Drainage 2 is a feature lacking any definable flow regime (OHWM), it does not constitute waters of the US and is not subject to USACE jurisdiction under CWA Section 404.

RWQCB Jurisdictional Conclusions

Drainage 2 is an agricultural ditch/swale lacking a consistent flow regime (OHWM) and therefore does not appear to meet the minimum requirements to be properly considered either "waters of the US" (via Section 404) or "waters of the state" (via Porter-Cologne). As such, Drainage 2 should not be subject to RWQCB jurisdiction under either CWA Section 401 or Porter-Cologne.

CDFG Jurisdictional Conclusions

Because Drainage 2 is an agricultural ditch/swale lacking a streambed or any other characteristic, which would otherwise define it as CDFG jurisdictional waters, the feature will not be subject to CDFG jurisdiction under Fish and Game Code 1600.

4.2.3 - Drainage 3 (Temporary Detention Basin)

Drainage from upland swales north of SR-60 are diverted around the Skecher's Logistics Center and are discharge into a temporary detention basin for water quality purposes. This detention basin is designated Drainage 3. The basin appears to be designed for large flows, and there is no evidence of discharge downstream of the detention basin during ordinary events. Vegetation within Drainage 3 is limited primarily to non-native herbaceous annual forbs and grasses and a few mule fat (*Baccharis salicifolia*).

Drainage 3 is a large flow detention basin that lacks an OHWM and is not expected to be subject to USACE jurisdiction under CWA Section 404; as such, it would not be jurisdictional by RWQCB under Section 401 of the CWA. As a detention basin without an OHWM, it does not appear to meet the minimum requirements of a water of the State under Porter-Cologne. It also lacks a streambed and/or bank and does not exhibit any other characteristics such as riparian vegetation that would define it as CDFG jurisdictional.

USACE Jurisdictional Conclusions

Because Drainage 3 is a temporary water quality facility built in a previous upland area and does not convey any flows to downstream areas, it is considered isolated water. Since this feature lacks any definable flow regime (OHWM) it does not constitute waters of the US and is not subject to USACE jurisdiction under CWA Section 404.

RWQCB Jurisdictional Conclusions

Drainage 3 is a temporary water quality facility lacking a consistent flow regime (OHWM) and therefore does not appear to meet the minimum requirements to be properly considered either "waters of the US" (via Section 404) or "waters of the state" (via Porter-Cologne). As such, Drainage 3 should not be subject to RWQCB jurisdiction under either CWA Section 401 or Porter-Cologne.

CDFG Jurisdictional Conclusions

Because Drainage 3 is a temporary water quality facility lacking a streambed or any other characteristic, which would otherwise define it as CDFG jurisdictional waters, the feature will not be subject to CDFG jurisdiction under Fish and Game Code 1600.

4.2.4 - Drainage 4 (Agricultural Ditch/Swale)

Drainage 4 is a north to south tending drainage contained within the northwestern portions of the study area. This drainage is an unnamed designated blue-line feature, and was likely a natural occurring drainage feature prior to the agricultural use. The drainage is maintained by the artificial channeling of water from agricultural development. The Skecher's Logistic Center currently contains nuisance flows on site and no longer conveys flows to down stream ephemeral drainages. Drainage 4 no longer conveys the ephemeral flows it once did and the currently lacks a definable bed and bank feature and no evidence of an OHWM.

Drainage 4 originates just south of the Skecher's Logistic Center and continues south as a highly disturbed upland swale within extensive agricultural land that has been heavily disturbed and disked. The feature continues for approximately 4,700 linear feet. The feature terminates and sheet-flows into the agricultural field. This feature has an inconsistent channel and is presently undetectable throughout portions of its length. Drainage 4 contains no continuous bed and bank feature or noticeable OHWM. Vegetation associated with Drainage 4 is limited to sparse non-native herbaceous annual forbs and grasses including tree tobacco (*Nicotiana glauca*), short-pod mustard, Russian thistle, ripgut brome, and red brome, with a predominance of bare ground in the herbaceous layer. No dominance of hydrophytic vegetation was observed within any portions of the feature.

Soils observed within Drainage 4 are dominated by both San Emigdio loam and San Emigdio fine sandy loam, and do not contain any hydric soil indicators. The upper soil horizon has been disturbed as a result of disking and other farming-related activities.

USACE Jurisdictional Conclusions

Because Drainage 4 is a feature lacking any definable flow regime (OHWM), it does not constitute waters of the US and is not subject to USACE jurisdiction under CWA Section 404 jurisdiction.

RWQCB Jurisdictional Conclusions

Drainage 4 is a gully lacking a consistent flow regime (OHWM) and therefore does not appear to meet the minimum requirements to be properly considered either "waters of the US" (via Section 404) or "waters of the state" via Porter-Cologne. As such, Drainage 2 should not be subject to RWQCB jurisdiction under either CWA Section 401 or Porter-Cologne.

CDFG Jurisdictional Conclusions

Because Drainage 4 is a gully lacking a streambed or any other characteristic that would otherwise define it as CDFG jurisdictional waters, the feature will not be subject to CDFG jurisdiction under Fish and Game Code 1600.

4.2.5 - Drainage 5 (Ephemeral Roadside Ditch)

Drainage 5 is a shallow ephemeral roadside ditch that runs from north to south along the central portion of the study area, west of and parallel to, Theodore Street. This drainage runs for approximately 6,000 linear feet within the study area. This unnamed feature is not a designated blue-line feature on the USGS Sunnymead, California 7.5-minute topographic quadrangle, and was likely created by the artificial channeling of water as a result of previous road construction (from SR-60 and Theodore Street) and agricultural development in the area. Drainage 5 conveys nuisance flows along Theodore Street that are derived from offsite locations upstream to the north and west, but which do not have direct connectivity to downstream waters of the US.

This roadside ditch originates from an offsite underground catch basin associated with SR-60. Flows enter the study area from the outfall of an existing concrete culvert from the east-bound Theodore Street off-ramp. The flows are contained within a soft-bottom eroded channel for the entire length of the feature within the study area. The feature contains little to no vegetation and is considered highly disturbed. Drainage 5 continues offsite as a highly disturbed, shallow, and unvegetated earthen channel. Further offsite to the south, the feature continues as a soft-bottom earthen channel with no observable OHWM and no definable bed and bank feature, and sheet-flows near Alessandro Boulevard. There are several downstream and offsite portions of the feature that contain an observable bed and bank feature. Further south, evidence of some localized flows resulting from storm events were observed. However, the feature eventually sheet flows and is not detectible prior to flowing into Mystic Lake. There is no clear connectivity to downstream navigable waters of the US.

Drainage 5 has an average width of 2 feet throughout the majority of its length within the study area. Similar to Drainage 1, Drainage 5 is a roadside ditch that contains little or no vegetation and is

considered highly disturbed and heavily scoured. The channel itself is comprised of coarse sand and other aggregate, and is primarily unvegetated. Overall, there is a predominance of bare ground in the herbaceous layer, and no dominance of hydrophytic vegetation within any portion of the feature. Vegetation associated with Drainage 5 is limited to sparse non-native herbaceous annual species similar to the remaining features onsite, including short-pod mustard, Russian thistle, ripgut brome, and red brome. These species also occur with upland areas adjacent to the feature.

Soils observed within the active channel of Drainage 5 are dominated by coarse sand and cobbly sand and do not contain hydric soil indicators. The upper horizon contains a predominance of sand and some unnatural aggregate contributing to the disturbance of the feature. A soil pit was excavated in the upper reach of this feature onsite. The soils observed at this sample location were non-hydric mineral soils with coarse sand and sand texture. Due to the high mineral content and very coarse sandy character, no matrix color reading could be made within the entire 20-inch deep soil pit of this feature. No hydric soil indicators were observed at this sample location. The predominance of sand suggests high permeability of the soil lending to high percolation rates and the lack of anaerobic or hydric conditions.

SWANCC Evaluation

The SWANCC decision excluded isolated features from USACE jurisdiction. Drainage 5 does not exhibit any clear hydrological connectivity or surface connectivity to downstream navigable waters (TNWs). Specifically, after flowing south along Theodore Street for almost 2 miles, the drainage enters an open-space south of Alessandro Boulevard, where the OHWM becomes intermittent before finally disappearing altogether in the undeveloped area just south of Alessandro Boulevard. As such, Drainage 5 is an isolated feature and should be excluded from jurisdiction via the SWANCC decision.

USACE Jurisdictional Conclusions

Drainage 5 should be excluded from USACE jurisdiction via SWANCC. Additionally, according to the USACE Jurisdictional Form Institutional Guidebook, ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water generally are not jurisdictional under the CWA. Similarly, swales are generally not waters of the US because they are not tributaries, or do not have a significant nexus to TNWs. Therefore, the feature is not considered jurisdictional according to USACE.

RWQCB Jurisdictional Conclusions

Because Drainage 5 lacks federal jurisdiction via CWA Section 404, the drainages will also not be subject to RWQCB jurisdiction via CWA Section 401. The RWQCB may however, independently assert jurisdiction over isolated and other waters excluded from federal jurisdiction via California's Porter-Cologne Water Quality Act. The relatively small drainage area, low levels of precipitation, and high infiltration rates associated with the drainage result in it lacking a consistent or continuous

OHWM or evidence of repeated ponding. The feature does not provide beneficial uses that may warrant it as jurisdictional under the Porter-Cologne Act.

CDFG Jurisdictional Conclusions

The CDFG will assert jurisdiction over lakes and streambeds and associated riparian vegetation, regardless of their connectivity (or lack of connectivity) to downstream navigable waters. The Fish and Game Code, beginning with Section 1600, however, requires the CDFG to make a "specific and detailed" determination that fish and wildlife resources are present and would be "substantially adversely" affected by project activities. Though portions of the drainages do maintain a bed and bank feature, no fish or wildlife resources have been identified within the drainage. Similarly, because the drainage is ephemeral, unvegetated, provides no cover, and does not appear to provide habitat linkage or other benefits to wildlife resources, the feature should not be subject to CDFG jurisdiction.

4.2.6 - Drainage 6 (Ephemeral Roadside Ditch)

Drainage 6 is a shallow ephemeral roadside ditch that runs from north to south along the central portion of the study area, east of and parallel to, Theodore Street. The drainage runs for approximately 2,000 linear feet within the study area. This unnamed feature is not a designated blue-line feature on the USGS Sunnymead, California 7.5-minute topographic quadrangle, and was likely created by the artificial channeling of water as a result of previous road construction (from SR-60 and Theodore Street) and agricultural development in the area. Drainage 6 conveys nuisance flows along Theodore Street derived from offsite locations upstream to the north and east, but does not have direct connectivity to downstream waters of the US.

This roadside ditch originates from an offsite underground culvert beneath SR-60. Flows enter the study area from the outfall of an existing concrete culvert from the westbound Theodore Street on-ramp. The flows are contained within a soft-bottom eroded channel for the entire length of the feature onsite. The feature contains little to no vegetation and is considered highly disturbed. Drainage 6 terminates as sheet-flow within an actively disked agricultural field just south of Alessandro Boulevard. There is no clear connectivity to any downstream navigable waters of the US.

Drainage 6 has an average width of 2 feet throughout the majority of its length within the study area. Similar to Drainage 5, Drainage 6 is a roadside ditch that contains little or no vegetation and is highly disturbed and heavily scoured. The channel itself is comprised of coarse sand and aggregate. Overall, there is a predominance of bare ground in the herbaceous layer, and no dominance of hydrophytic vegetation within any portion of the feature. Vegetation associated with Drainage 6 is limited to sparse non-native herbaceous annual species similar to the remaining features onsite, including short-pod mustard, Russian thistle, ripgut brome, and red brome. These species are also prevalent throughout the upland areas adjacent to the feature.

Similar to Drainage 5, soils observed within the active channel of Drainage 6 are dominated by San Emigdio loam and Greenfield sandy loam with small inclusions of Rockland and Hanford coarse sandy loam, which are not designated as hydric soils. The upper horizon contains a predominance of sand and some unnatural aggregate contributing to the disturbance of the feature. A soil pit was excavated in the upper reach of this feature onsite. The soils observed at this sample location were non-hydric mineral soils with coarse sand and sand texture. Due to the high mineral content and very coarse sandy character, no matrix color reading could be made within the entire 20-inch deep soil pit of this feature. No hydric soil indicators were observed at this sample location. The predominance of sand suggests high permeability of the soil lending to high percolation rates and the lack of anaerobic or hydric conditions.

SWANCC Evaluation

The SWANCC decision excluded isolated features from USACE jurisdiction. Like Drainage 5, Drainage 6 flows along the east side of Theodore Street and does not exhibit any clear hydrological connectivity or surface connectivity to downstream navigable waters (TNWs). Specifically, after flowing south along Theodore Street for almost 2 miles, the drainage enters an open-space south of Alessandro Boulevard where the OHWM becomes intermittent before finally disappearing altogether in the undeveloped area north of Mystic Lake. As such, Drainage 6 is an isolated feature and should be excluded from jurisdiction via the SWANCC decision.

USACE Jurisdictional Conclusions

Drainage 6 should be excluded from USACE jurisdiction via SWANCC

RWQCB Jurisdictional Conclusions

Because Drainage 6 lacks federal jurisdiction via CWA (Section 404), the drainages will also not be subject to RWQCB jurisdiction via CWA Section 401. The RWQCB may however, independently assert jurisdiction over isolated and other waters excluded from federal jurisdiction via California's Porter-Cologne Water Quality Act. The relatively small drainage area, low levels of precipitation and high infiltration rates associated with the drainage result in it lacking a consistent or continuous OHWM or evidence of repeated ponding. The feature does not provide beneficial uses that may warrant it as jurisdictional under the Porter-Cologne Act.

CDFG Jurisdictional Conclusions

The CDFG will assert jurisdiction over lakes and streambeds and associated riparian vegetation, regardless of their connectivity (or lack of connectivity) to downstream navigable waters. The Fish and Game Code, beginning with Section 1600, however, requires CDFG to make a "specific and detailed" determination that fish and wildlife resources are present and would be "substantially adversely" affected by project activities. Though portions of the drainages do maintain a bed and bank feature, no fish or wildlife resources have been identified within the drainage. Similarly, because the drainage is ephemeral, unvegetated, provides no cover, and does not appear to provide

habitat linkage or other benefits to wildlife resources, the feature should not be subject to CDFG jurisdiction.

4.2.7 - Drainage 7 (Agricultural Ditch/Swale)

Drainage 7 is an agricultural ditch/swale that runs from north to south and was likely a naturally occurring drainage feature prior to agricultural use. This feature originates in the Badlands north of the study area. From beneath SR-60, the drainage feature continues south as an undisturbed ephemeral drainage and passes beneath highway SR-60 through a corrugated steel-pipe. The drainage continues as a soft-bottom channel with a dense stand of mule fat scrub with scattered willows. This habitat continues down stream for approximately 1,300 feet before the channel reverts back to an unvegetated soft-bottom channel. The drainage continues to the south and eventually reverts back to a mule fat scrub habitat immediately south of Alessandro Road. This portion of the channel is approximately 30 feet wide and 1,500 feet in length. The drainage continues in a unvegetated soft bottom channel until it reaches Air Forbes Road, where it again reverts back to a mule fat scrub community. This portion of the channel extends for approximately 600 feet and then reverts back to an unvegetated channel. The drainage eventually sheet-flows within an existing agricultural field south of the study area and north of Mystic Lake with no direct hydrologic connection to any TNW or RPW.

Vegetation observed within Drainage 7 is limited primarily to non-native herbaceous annual forbs and grasses, including short pod mustard, Russian thistle, ripgut brome, and red brome. Other sub-dominant species observed include tree tobacco, mule fat (*Baccharis salicifolia*), tarragon (*Artemisia dracunculus*), and Jimson weed (*Datura wrightii*). Additionally, there is a predominance of bare ground in the herbaceous layer. There is an intermittent dominance of hydrophytic vegetation observed within 3 separate reaches of the feature associated with patches of mule fat. There is no clearly defined bed and bank features throughout the drainage feature.

Soils observed within Drainage 7 are dominated by both San Emigdio loam and San Emigdio fine sandy loam, and do not contain any hydric soil indicators. Small inclusions of Badlands and Metz loamy sand also occur within the drainage. These soils can be considered hydric. There is no evidence of hydrophytic vegetation within areas designated as Badland or Metz loamy sand. The soils within Drainage 7 are permeable and promote very high percolation rates, thereby reducing the potential for any anaerobic or hydric conditions.

SWANCC Analysis

The SWANCC decision excluded isolated features from USACE jurisdiction. Drainage 7 does not exhibit any clear hydrological connectivity or surface connectivity to downstream navigable waters (TNWs) and lacks a discernible continuous OHWM. As such, Drainage 7 is an isolated feature and should be excluded from jurisdiction via the SWANCC decision.

USACE Jurisdictional Conclusions

Drainage 7 should be excluded from USACE jurisdiction via SWANCC.

RWQCB Jurisdictional Conclusions

The relatively small drainage area, low levels of precipitation and high infiltration rates associated with the drainage result in it lacking beneficial uses that may warrant it as jurisdictional under the Porter-Cologne Act.

CDFG Jurisdictional Conclusions

The CDFG will assert jurisdiction over lakes and streambeds and associated riparian vegetation, regardless of their connectivity (or lack of connectivity) to downstream navigable waters. The Fish and Game Code, beginning with Section 1600, however, does require CDFG to make a "specific and detailed" determination that fish and wildlife resources are present and would be "substantially adversely" affected by project activities. Though portions of the drainages do maintain a bed and bank feature, only a small portion of the drainage provides fish or wildlife resources within the drainage. Similarly, because the majority of the drainage is ephemeral, unvegetated, provides no cover, and does not appear to appear to provide habitat linkage or other benefits to wildlife resources, the majority of this feature should not be subject to CDFG jurisdiction. However, the 3 patches of mule fat scrub provides wildlife resources sufficient enough to be considered jurisdictional by the CDFG. The total area subject to CDFG jurisdiction within Drainage 7 is 2.3 acres.

4.2.8 - Drainage 8 (Agricultural Ditch/Swale)

Drainage 8 is an agricultural ditch/swale within the study area. The majority of this feature is similar in form and function to Drainage 7. This feature originates in the Badlands north of the study area. This is an undisturbed ephemeral feature with an unvegetated channel. Drainage 8 passes to the south beneath SR-60 within a corrugated steel culvert. The drainage then continues to the south as an agricultural ditch/swale for approximately 8,800 linear feet before the drainage feature terminates, allowing flows to sheet-flow within the southern portion of the study area. This drainage is physically interrupted by agricultural activities at several locations and no longer flows continuously throughout its length. Drainage 8 appears to have been created as a result of artificial water channeling from agricultural development.

Dominant vegetation associated with Drainage 8 is limited to sparse non-native herbaceous annual forbs and grasses including tree tobacco, annual sunflower, and red brome. Other plant species observed within portions of these features include mule fat, horehound, and white horse nettle (*Solanum elaeagnifolium*). Scattered ruderal vegetation within the feature is dominated by tumbleweed (*Amaranthus albus*), annual sunflower (*Helianthus annuus*), and tree tobacco. No dominance of hydrophytic vegetation was observed within any portions of these features.

Soils observed within Drainage 8 are dominated by Metz gravelly sandy loam, San Emigdio loam, and San Emigdio fine sandy loam. The soils within Drainage 8 are permeable and promote very high percolation rates, thereby reducing the potential for any anaerobic or hydric conditions.

SWANCC Analysis

The SWANCC decision excluded isolated features from USACE jurisdiction. Drainage 8 does not exhibit any clear hydrological connectivity or surface connectivity to downstream navigable waters (TNWs). Specifically, after flowing south to the southern property boundary, the OHWM disappears altogether in the undeveloped area north of Mystic Lake. As such, Drainage 8 is an isolated feature and should be excluded from jurisdiction via the SWANCC decision.

USACE Jurisdictional Conclusions

Drainage 8 should be excluded from USACE jurisdiction via SWANCC. Additionally, according to the USACE Jurisdictional Form Institutional Guidebook, ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water generally are not jurisdictional under the CWA. Similarly, swales are generally not waters of the US because they are not tributaries, nor do they have a significant nexus to TNWs. Therefore, the feature is not considered jurisdictional according to USACE.

RWQCB Jurisdictional Conclusions

Because Drainage 8 lacks federal jurisdiction via CWA (Section 404), the drainages will also not be subject to RWQCB jurisdiction via CWA Section 401. The RWQCB may however, independently assert jurisdiction over isolated and other waters excluded from federal jurisdiction via California's Porter-Cologne Water Quality Act. The relatively small drainage area, low levels of precipitation and high infiltration rates associated with the drainage result in it lacking a consistent or continuous OHWM or evidence of repeated ponding. The feature does not provide beneficial uses that may warrant it as jurisdictional under the Porter-Cologne Act.

CDFG Jurisdictional Conclusions

The CDFG will assert jurisdiction over lakes and streambeds and associated riparian vegetation, regardless of their connectivity (or lack of connectivity) to downstream navigable waters. The Fish and Game Code, beginning with Section 1600, however, does require CDFG to make a "specific and detailed" determination that fish and wildlife resources are present and would be "substantially adversely" affected by project activities. Though portions of the drainages do maintain a bed and bank feature, no fish or wildlife resources have been identified within the drainage. Similarly, because the drainage is ephemeral, unvegetated, provides no cover, and does not appear to provide habitat linkage or other benefits to wildlife resources, the feature should not be subject to CDFG jurisdiction.

4.2.9 - Drainage 9 (Ephemeral Drainage)

The segment of Drainage 9 that occurs within the study area is approximately 1.3 miles long with an average OHWM ranging from 3 to 5 feet. This feature enters the study area from an underground box culvert beneath Gilman Springs Road, flows in a southerly direction, and enters a small culvert beneath Alessandro Boulevard. The drainage then continues to the south as an ephemeral drainage before transitioning to an agricultural swale and eventually sheet-flows south of the study area. This drainage is physically interrupted by agricultural activities at several locations off site and no longer flows continuously throughout its length. Drainage 9 appears to have been created as a result of artificial water channeling from agricultural development and has been greatly incised over time due to highly erosive soils.

This channel conveys flows during and immediately following large storm events. South of Gilman Springs Road, the drainage continues as an ephemeral drainage. To the south of Alessandro Boulevard this drainage is deeply incised and gradually decreases in size to the south. The drainage feature contains signs of scouring and/or excessive erosion. It also contains a significant change in soil texture with a defined main channel and a single upland shelf. The drainage channel is dominated by Metz loamy sand and San Emigdio fine sandy loam with a small inclusion of Metz loamy fine sand.

The majority of the drainage contains little or no vegetation along the channel bed. Vegetation is limited to the upland areas above the OHWM and dominated by coastal sage scrub species. Dominant plant species include California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), desert brittlebush (*Encelia farinosa*), California sagebrush (*Artemisia californica*), and short-pod mustard. Other plant species observed within the channel include scale-broom (*Lepidospartum squamatum*), California aster (*Lessingia filaginifoli*a), mayweed (*Anthemis cotula*), and four-winged saltbush (*Atriplex canescens*).

Soil within the drainage contains a noticeable change in texture from surrounding upland habitats. The sandy deposits contain no evidence of organic streaking or other hydric conditions. The drainage feature contains an intermittent OHWM with evidence of frequent disturbance due to the dumping of trash and other human related activities. This portion of the drainage feature does not meet the requirements for hydric soils.

SWANCC Analysis

The SWANCC decision excluded isolated features from USACE jurisdiction. Drainage 9 does not exhibit any clear hydrological connectivity or surface connectivity to downstream navigable waters (TNWs). Specifically, after flowing south to the southern property boundary, the OHWM disappears altogether in the undeveloped area north of Mystic Lake. As such, Drainage 9 is an isolated feature and should be excluded from jurisdiction via the SWANCC decision.

USACE Jurisdictional Conclusions

Drainage 9 should be excluded from USACE jurisdiction via SWANCC. Additionally, according to the USACE Jurisdictional Form Institutional Guidebook, ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water generally are not jurisdictional under the CWA. Similarly, swales are generally not waters of the US because they are not tributaries, nor do they have a significant nexus to TNWs. Therefore, the feature is not considered jurisdictional according to USACE.

RWQCB Jurisdictional Conclusions

Because Drainage 9 lacks federal jurisdiction via CWA (Section 404), the drainages will also not be subject to RWQCB jurisdiction via CWA Section 401. The RWQCB may however, independently assert jurisdiction over isolated and other waters excluded from federal jurisdiction via California's Porter-Cologne Water Quality Act. The relatively large drainage area, low levels of precipitation and high infiltration rates associated with the drainage result in it lacking a consistent or continuous OHWM or evidence of repeated ponding. The feature does not provide beneficial uses that may warrant it as jurisdictional under the Porter-Cologne Act.

CDFG Jurisdictional Conclusions

The CDFG will assert jurisdiction over lakes and streambeds and associated riparian vegetation, regardless of their connectivity (or lack of connectivity) to downstream navigable waters. The Fish and Game Code, beginning with Section 1600, however, requires CDFG to make a "specific and detailed" determination that fish and wildlife resources are present and would be "substantially adversely" affected by project activities. Although portions of the drainages do maintain a bed and bank feature, minimal wildlife resources have been identified within the drainage. Similarly, because portions of the drainage are ephemeral, unvegetated, provides no cover, and do not appear to provide habitat linkages or other benefits to wildlife resources, portions of this feature should not be subject to CDFG jurisdiction. However, those areas that provide some wildlife resources will likely to be subject to CDFG jurisdiction. The portion of Drainage 9 that is likely under the jurisdiction of CDFG is approximately 30 feet in width and 4,500 linear feet in length for a total of 3.1 acres.

4.2.10 - Drainage 10 (Agricultural Ditch/Swale)

Drainage 10 runs for approximately 2,700 linear feet across the study area, with an intermittent OHWM that averages 1 foot in width. This feature originates within the study area and flows in a southerly direction before exiting the area. Immediately outside the study area, the feature terminates and sheet-flows with no direct hydrologic connectivity to downstream waters of the US.

This ephemeral drainage feature conveys flows during and immediately following large storm events. It contains signs of scouring and/or excessive erosion. The channel contains an intermittent OHWM.

The majority of the drainage contains little to no vegetation and does not meet the minimum criteria for hydrophytic vegetation.

The drainage channel is dominated by San Emigdio fine sandy loam and Metz loamy fine sand, which are typical soils within the study area. Soil within the drainage contains a noticeable change in texture from surrounding upland habitats. The sandy deposits contain no evidence of organic streaking or other hydric soils. This portion of the drainage feature does not meet the requirements for hydric soils.

SWANCC Analysis

The SWANCC decision excluded isolated features from USACE jurisdiction. Drainage 10 does not exhibit any clear hydrological connectivity or surface connectivity to downstream navigable waters (TNWs). Specifically, after flowing south to the southern property boundary the OHWM disappears altogether in the undeveloped area north of Mystic Lake. As such, Drainage 10 is an isolated feature and should be excluded from jurisdiction via the SWANCC decision.

USACE Jurisdictional Conclusions

Drainage 10 should be excluded from USACE jurisdiction via SWANCC. Additionally, according to the USACE Jurisdictional Form Institutional Guidebook, ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water generally are no jurisdictional under the CWA. Similarly, swales are generally not waters of the US because they are not tributaries, or do they have a significant nexus to TNWs. Therefore, the feature is not considered jurisdictional according to USACE.

RWQCB Jurisdictional Conclusions

Because Drainage 10 lacks federal jurisdiction via the CWA Section 404, the drainages will also not be subject to RWQCB jurisdiction via CWA Section 401. The RWQCB may however, independently assert jurisdiction over isolated and other waters excluded from federal jurisdiction via California's Porter-Cologne Water Quality Act. The relatively small drainage area, low levels of precipitation, and high infiltration rates associated with the drainage result in it lacking a consistent or continuous OHWM or evidence of repeated ponding. The feature does not provide beneficial uses that may warrant it as jurisdictional under the Porter-Cologne Act

CDFG Jurisdictional Conclusions

The CDFG will assert jurisdiction over lakes and streambeds and associated riparian vegetation, regardless of their connectivity (or lack of connectivity) to downstream navigable waters. The Fish and Game Code, beginning with Section 1600, however, requires the CDFG to make a "specific and detailed" determination that fish and wildlife resources are present and would be "substantially adversely" affected by project activities. Though portions of the drainages do maintain a bed and bank feature, no fish or wildlife resources have been identified within the drainage. Similarly,

because the drainage is ephemeral, unvegetated, provides no cover, and does not appear to provide habitat linkage or other benefits to wildlife resources, the feature should not be subject to CDFG jurisdiction.

4.2.11 - Drainage 11 (Agricultural Ditch/Swale)

Drainage 11 is approximately 800 linear feet long within the study area. It includes no clearly defined OHWM. This feature originates within the study area and flows in a southerly direction before exiting the site. The drainage feature terminates offsite and flows travel as sheet-flow with no direct hydrologic connectivity to downstream waters of the US.

This ephemeral drainage feature conveys flows during and immediately following large storm events. It contains signs of scouring and/or excessive erosion. The channel contains an OHWM.

The majority of the drainage contains little to no vegetation and does not meet the minimum criteria for hydrophytic vegetation.

The drainage channel is dominated by San Emigdio fine sandy loam and Metz loamy fine sand, which are typical soils within the study area. Soil within the drainage contains a noticeable change in texture from surrounding upland habitats. The sandy deposits contain no evidence of organic streaking or other hydric soils.

The drainage feature contains no wetland hydrology indicators. The drainage feature does not meet the criteria for jurisdictional wetlands under the 3-criteria wetland determination guidelines.

SWANCC Analysis

The SWANCC decision excluded isolated features from USACE jurisdiction. Drainage 11 does not exhibit any clear hydrological connectivity or surface connectivity to downstream navigable waters (TNWs). Specifically, after flowing south to the southern property boundary the OHWM disappears altogether in the undeveloped area north of Mystic Lake. As such, Drainage 11 is an isolated feature and should be excluded from jurisdiction via the SWANCC decision.

USACE Jurisdictional Conclusions

Drainage 11 should be excluded from USACE jurisdiction via SWANCC.

RWQCB Jurisdictional Conclusions

Because Drainage 11 lacks federal jurisdiction via the CWA Section 404, the drainages will also not be subject to RWQCB jurisdiction via CWA Section 401. However, the RWQCB may independently assert jurisdiction over isolated and other waters excluded from federal jurisdiction via California's Porter-Cologne Water Quality Act. The relatively small drainage area, low levels of precipitation, and high infiltration rates associated with the drainage result in it not providing beneficial uses that may warrant it as jurisdictional under the Porter-Cologne Act.

CDFG Jurisdictional Conclusions

The CDFG will assert jurisdiction over lakes and streambeds and associated riparian vegetation, regardless of their connectivity (or lack of connectivity) to downstream navigable waters. The Fish and Game Code, beginning with Section 1600, however, requires the CDFG to make a "specific and detailed" determination that fish and wildlife resources are present and would be "substantially adversely" affected by project activities. Though portions of the drainages do maintain a bed and bank feature, no fish or wildlife resources have been identified within the drainage. Similarly, because the drainage is ephemeral, unvegetated, provides no cover, and does not appear to provide habitat linkage or other benefits to wildlife resources, the feature should not be subject to CDFG jurisdiction.

4.2.12 - Drainage 12 (Ephemeral Roadside Ditch)

Drainage 12 is the downstream continuation of Drainage 2. Drainage 12 originates downstream of the Alessandro Boulevard Crossing and was created as part of a flood control project along the western portion of the survey area. The portion of the drainage within and/or immediately adjacent to the survey area includes a large earthen swale with no clearly defined OHWM. This feature originates within the study area and flows in a southerly direction before exiting the study area. The drainage feature transitions into an ephemeral drainage feature with a clearly defined OHWM and noticeable bed and bank features just outside of the survey area.

This ephemeral drainage feature conveys flows during and immediately following large storm events. It contains a round-bottom earthen swale within the survey area. The channel contains no evidence of an OHWM of bed and bank features within the survey area.

The majority of the drainage contains little to no vegetation and does not meet the minimum criteria for hydrophytic vegetation.

The drainage channel is dominated by San Emigdio loam and Hanford coarse sandy loam, which are typical soils within the study area. Soil within the drainage contains a noticeable change in texture from surrounding upland habitats. The sandy deposits contain no evidence of organic streaking or other hydric soils.

The drainage feature contains no wetland hydrology indicators. The drainage feature does not meet the criteria for jurisdictional wetlands under the 3-criteria wetland determination guidelines.

SWANCC Analysis

The SWANCC decision excluded isolated features from USACE jurisdiction. Drainage 12 does exhibit a clear hydrological connectivity or surface connectivity to downstream navigable waters (TNWs). Specifically, after flowing south in an upland swale, a clearly defined OHWM is visible in and off site location as the drainage bends to the southwest. As such, Drainage 12 is not considered

an isolated feature; however, the portion of the drainage within the survey area does not have a clearly defined OHWM and should be excluded from jurisdiction via the SWANCC decision.

USACE Jurisdictional Conclusions

Drainage 12 should be excluded from USACE jurisdiction via SWANCC.

RWQCB Jurisdictional Conclusions

Because Drainage 12 lacks federal jurisdiction via the CWA Section 404, the drainages will also not be subject to RWQCB jurisdiction via CWA Section 401. However, the RWQCB may independently assert jurisdiction over isolated and other waters excluded from federal jurisdiction via California's Porter-Cologne Water Quality Act. The relatively small drainage area, low levels of precipitation, and high infiltration rates associated with the drainage result in it not providing beneficial uses that may warrant it as jurisdictional under the Porter-Cologne Act.

CDFG Jurisdictional Conclusions

The CDFG will assert jurisdiction over lakes and streambeds and associated riparian vegetation, regardless of their connectivity (or lack of connectivity) to downstream navigable waters. The Fish and Game Code, beginning with Section 1600, however, requires the CDFG to make a "specific and detailed" determination that fish and wildlife resources are present and would be "substantially adversely" affected by project activities. The drainage does not maintain a clearly defined bed and bank feature and no fish or wildlife resources have been identified within the drainage. Similarly, because the drainage is ephemeral, unvegetated, provides no cover, and does not appear to provide habitat linkage or other benefits to wildlife resources, the feature should not be subject to CDFG jurisdiction.

4.2.13 - Drainage 13 (Agricultural Ditch/Swale)

Drainage 13 is approximately 1,500 linear feet long within the study area. It includes no clearly defined OHWM. This feature originates within hillside area in the southern portion of the study area and flows in a northerly direction before sheet flowing within the survey area, south of Alessandro Road. The drainage feature terminates at the base of the rolling hills. The drainage sheet-flows with no direct hydrologic connectivity to downstream waters of the US.

This ephemeral drainage feature conveys flows during and immediately following large storm events. It contains signs of scouring and/or excessive erosion. The channel contains an intermittent OHWM.

The majority of the drainage contains little to no vegetation and does not meet the minimum criteria for hydrophytic vegetation.

The drainage channel is dominated by Gorgonio loamy sand and rocklands, which are typical soils within the southern portion of the study area. Soil within the drainage contains a noticeable change in

texture from surrounding upland habitats. The sandy deposits contain no evidence of organic streaking or other hydric soils.

The drainage feature contains no wetland hydrology indicators. The drainage feature does not meet the criteria for jurisdictional wetlands under the 3-criteria wetland determination guidelines.

SWANCC Analysis

The SWANCC decision excluded isolated features from USACE jurisdiction. Drainage 11 does not exhibit any clear hydrological connectivity or surface connectivity to downstream navigable waters (TNWs). Specifically, after flowing south to the southern property boundary the OHWM disappears altogether in the undeveloped area north of Mystic Lake. As such, Drainage 13 is an isolated feature and should be excluded from jurisdiction via the SWANCC decision.

USACE Jurisdictional Conclusions

Drainage 13 should be excluded from USACE jurisdiction via SWANCC.

RWQCB Jurisdictional Conclusions

Because Drainage 13 lacks federal jurisdiction via the CWA Section 404, the drainages will also not be subject to RWQCB jurisdiction via CWA Section 401. However, the RWQCB may independently assert jurisdiction over isolated and other waters excluded from federal jurisdiction via California's Porter-Cologne Water Quality Act. The relatively small drainage area, low levels of precipitation, and high infiltration rates associated with the drainage result in it not providing beneficial uses that may warrant it as jurisdictional under the Porter-Cologne Act.

CDFG Jurisdictional Conclusions

The CDFG will assert jurisdiction over lakes and streambeds and associated riparian vegetation, regardless of their connectivity (or lack of connectivity) to downstream navigable waters. The Fish and Game Code, beginning with Section 1600, however, requires the CDFG to make a "specific and detailed" determination that fish and wildlife resources are present and would be "substantially adversely" affected by project activities. Though portions of the drainages do maintain a bed and bank feature, no fish or wildlife resources have been identified within the drainage. Similarly, because the drainage is ephemeral, unvegetated, provides no cover, and does not appear to provide habitat linkage or other benefits to wildlife resources, the feature should not be subject to CDFG jurisdiction according to the CDFG.

4.2.14 - Drainage 14 (Agricultural Ditch/Swale)

Drainage 14 exists as 2 isolated, human-made, catch basins that receive nuisance flows and agricultural runoff from concrete cattle containment areas adjacent to the basins. They are located south of Alessandro Road, adjacent to Drainage 7 but do not directly connected to that drainage.

There is no upstream or downstream connection to any other drainage features. There is no evidence of prolonged ponding within these basins.

Vegetation in the western catch basin is comprised of southern willow scrub and includes plant species such as Fremont's cottonwood (*Populus fremontii*), black willow (*Salix goodingii*), sandbar willow (*Salix laevigata*), and mulefat. The plant community is primarily composed of a moderate density of trees with a few understory plants. Vegetation in the eastern catch basin is comprised of tree tobacco, Peruvian pepper tree (*Schinus molle*), salt cedar (*Tamarisk aphylla*), and olive (*Olea europaea*).

The catch basins were previously used to treat polluted runoff from cattle holding pens located immediately north of the catch basins. Over the last 5 years, the concrete slabs have been removed and the surrounding area is no longer used for cattle purposes. Therefore, the basins no longer receive the amount of flows or pollutants that they normally would under previous site conditions. Vegetation is slowly deteriorating due to a lack of available moisture that was previously available. Portions of the western drainage feature meet the minimum criteria for hydrophytic vegetation, however, the vegetation appears to be decreasing in overall health.

The catch basins are dominated by San Emigdio Loam, San Emigdio fine sandy loam, and Metz loamy fine sand, which are typical soils within the study area. Soil within the drainage contains a noticeable change in texture from surrounding upland habitats. The sandy deposits contain no evidence of organic streaking or other hydric soils.

The catch basins contain no wetland hydrology indicators. The drainage feature does not meet the criteria for jurisdictional wetlands under the 3-criteria wetland determination guidelines.

SWANCC Analysis

The SWANCC decision excluded isolated features from USACE jurisdiction. Drainage 11 does not exhibit any clear hydrological connectivity or surface connectivity to downstream navigable waters (TNWs). Specifically, after flowing south to the southern property boundary the OHWM disappears altogether in the undeveloped area north of Mystic Lake. As such, Drainage 14 is an isolated feature and should be excluded from jurisdiction via the SWANCC decision.

USACE Jurisdictional Conclusions

Drainage 14 should be excluded from USACE jurisdiction via SWANCC.

RWQCB Jurisdictional Conclusions

Because Drainage 14 lacks federal jurisdiction via the CWA Section 404, the drainages will also not be subject to RWQCB jurisdiction via CWA Section 401. However, the RWQCB may independently assert jurisdiction over isolated and other waters excluded from federal jurisdiction via California's Porter-Cologne Water Quality Act. The relatively small catch basin, low levels of precipitation, and

high infiltration rates associated with the basin result in it not providing beneficial uses that may not warrant it as jurisdictional under the Porter-Cologne Act.

CDFG Jurisdictional Conclusions

The CDFG will assert jurisdiction over lakes and streambeds and associated riparian vegetation, regardless of their connectivity (or lack of connectivity) to downstream navigable waters. The Fish and Game Code, beginning with Section 1600, however, requires the CDFG to make a "specific and detailed" determination that fish and wildlife resources are present and would be "substantially adversely" affected by project activities. Overall, the eastern catch basins includes predominantly ornamental species, and is should not be subject to CDFG jurisdiction. Because the western catch basin is not a lake or streambed, it is not likely to be considered jurisdictional according to the CDFG.

SECTION 5: SUMMARY AND CONCLUSIONS

Drainages on the project area were investigated and delineated by MBA in 2007; results were confirmed and updated in 2012. A total of 14 primary drainage features were identified during these combined surveys. A number of sub-drainages or tributaries were also identified. Jurisdiction for each drainage and/or sub-drainage or tributary was evaluated for jurisdiction under Section 404 and 401 of the CWA as administered by USACE and RWQCB, respectively; Porter Cologne as administered by the RWQCB; and Section 1600 of the Fish and Game Code as administered by CDFG.

Regulatory guidance following legal decisions that affect jurisdictional determinations has been issued since MBA performed the original delineation in 2007. In addition, new methodology documents have been issued by regulatory agencies. These things, along with changing field conditions and a slight revision in the project boundary, resulted in the current findings by MBA in 2012.

Based on 2012 findings, none of the 14 features were determined to be jurisdictional waters of the U.S. under Section 404 and 401 of the CWA. No jurisdictional wetlands were identified. However, the USACE makes all final jurisdictional determinations.

Portions of Drainage 7 and 9 were determined to be jurisdictional under Section 1600 of the Fish and Game Code. There are approximately 5.4 acres of jurisdictional stream bed and bank found within project boundary. However, the CDFG makes all final Section 1600 jurisdictional determinations

Project affecting stream bed and bank subject to CDFG jurisdiction, including riparian habitat, would require a SAA from CDFG.

SECTION 6: REFERENCES

California, State of. 1989. Fish And Game Code.

ESRI. ArcView. Version 9.1

Federal Interagency Committee for Wetland Delineation. 1989. Federal Manual For Identifying and Delineating Jurisdictional Wetlands. United States Army Corps of Engineers, United States. Environmental Protection Agency, United States Fish and Wildlife Services, and USDA Soil Conservation Service. Washington, D.C. Cooperative Technical Publication.

Kollmorgen Corporation. 1975. Munsell Soil Color Charts. Macbeth Division of Kollmorgen Corporation, Baltimore, MD.

Michael Brandman Associates (MBA). 2007a. Burrowing Owl Focused Surveys, Highland Fairview Operating Company - Logistics Building. June.

Michael Brandman Associates (MBA). 2007b. Phase 1 Cultural Resources Survey Report, Highland Fairview Operating Company - Logistics Building. June.

Michael Brandman Associates (MBA). 2012. Phase I and Phase II Cultural Resources Assessment Highland Specific Plan. March.

Tibor, D.P. 2001. California Native Plant Society's Inventory of Rare and Endangered Plants of California. California Native Plant Society. Special Publication, No. 1, 6th ed.

United States Army Corps of Engineers (USACE). 1987. Wetlands Research Program Technical Report Y-87-1 (on-line edition), Wetlands Delineation Manual, Environmental Laboratory. Website: http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf.

United States Army Corps of Engineers (USACE). 2001. Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest.

United States Army Corps of Engineers (USACE). 2001. Minimum Standards for Acceptance of Preliminary Wetlands Delineations. November 30. .

United States Army Corps of Engineers (USACE). 2006. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. December.

United States Army Corps of Engineers (USACE). 2007. Jurisdictional Determination Form Instructional Guidebook/ May 30.

United States Department of Agriculture, Soil Conservation Service (USDA). 1987. Hydric Soils of the United States. In cooperation with the National Technical Committee for Hydric Soils. USDA Soil Conservation Service. Washington, D.C.

United States Department of the Army. 1986. 33 CFR Parts 320 through 330, Regulatory Programs of the Corps of Engineers; Final Rule. Federal Register. 51(219): 41206-260. November 13.

United States Department of the Army. 1993. 33 CFR Parts 320 through 330, Regulatory Programs of the Corps of Engineers; Final Rule. Federal Register. Vol. 58: 45036. August 25.

United States Department of the Army. 1999. 33 CFR Parts 320 through 330, Regulatory Programs of the Corps of Engineers; Final Rule. Federal Register. Vol. 65 No. 47: 12818-899. March 9.

United States Department of the Army. 2002. 33 CFR Parts 320 through 330, Regulatory Programs of the Corps of Engineers; Final Rule. Federal Register. Vol. 67 No. 10: 2020-2095. January 15.

United States Department of the -South Pacific Division. 2001. Guidelines for Jurisdictional Delineations for Waters of the United States In the Arid Southwest. June.

United States Fish And Wildlife Service (USFWS). 1988. National List of Plant Species that Occur in Wetlands: California (Region 0). Biological Report 88(26.10). Washington, D.C.: USFWS. May.

United States Fish and Wildlife Service (USFWS). National Wetlands Inventory. Website: http://wetlands.fws.gov. Accessed November 2007.

United States Geological Survey (USGS). 1987. Sunnymead and El Casco, California. 7.5-minute topographic map.

United States Geological Survey (USGS). 1994. Hydrologic Unit Maps, US Geological Survey Water-Supply Paper 2294, by Paul R. Seaber, F. Paul Kapinos, and George L Knapp.

Appendix A:
Regulatory Compliance

REGULATORY COMPLIANCE

Regulatory permitting for dredge and fill activities involves a compliance framework requiring interaction with federal, state, and local agencies, often involving a diverse number of statutes and regulations.

Federal Statutes and Regulations - USACE

Clean Water Act Section 404

Pursuant to Section 404 of the Clean Water Act (CWA), the USACE regulates the discharge of dredged or fill material into waters of the US. Regulated activities include but are not limited to, grading, placing of riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material. In general, any activity that proposes to carry out an activity, which will temporarily or permanently affect areas delineated as waters of the US, including wetlands, typically requires prior authorization from the USACE, pursuant to CWA. Successful applications will put forth projects with a valid purpose, which generally comply with the avoidance, minimization and mitigation (no net loss) goals of the USACE.

Nationwide Permits v. Individual Permits

Nationwide permits (NWPs) are a type of general permit issued by the Chief of Engineers and are designed to expedite the regulatory process for those types of projects/activities expected to have minimal impacts on jurisdictional areas.

The nationwide permitting program is reauthorized every five years. The current NWP program became effective on March 19, 2007 and includes 49 different nationwide permit categories including "Linear Transportation Projects" (NWP 14), "Residential Developments" (NWP 29), "Commercial and Institutional Developments" (NWP 39) and "Stormwater Management Facilities" (NWP 43) among others. Each NWP establishes thresholds, which trigger the need for submitting a pre-construction notification (PCN) to USACE and which set upper limits to accepted impacts based on the total acreage and/or linear feet of impacts, which result from project. Exceeding these limits will require processing an Individual Permit (IP), which may involve a significantly longer processing time.

Federal Jurisdiction over Waters and Wetlands

The USACE will assert jurisdiction over waters that are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. The definition of "waters of the US," are set forth in the Code of Federal Regulations (CFR) 328.3. The term "waters of the US" means:

(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(2) All interstate waters including interstate wetlands;

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

    (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes;

    (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; and

    (iii) Which are used or could be used for industrial purpose by industries in interstate commerce.

(4) All impoundments of waters otherwise defined as waters of the United States under the definition;

(5) Tributaries of waters identified in paragraphs (a) (1)-(4) of this section;

(6) The territorial seas;

(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)-(6) of this section. (Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States), and

(8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.

Subsequent to the US Supreme Court decision in *Rapanos, et al v. United States* (2006) the Environmental Protection Agency (EPA) and the USACE (the agencies) issued a joint memorandum (*Clean Water Act Jurisdiction Following Rapanos v. United States*, [June 5, 2007]), which integrates the *Rapanos* standards with the process presented in 33 CFR 328.3(a).

Pursuant to the memorandum, federal jurisdiction will be asserted over the following categories of waterbodies:

- Traditional Navigable Waterways (TNW): including territorial seas;
- Wetlands adjacent to TNWs;
- Relatively Permanent Waters (RPWs): Non-navigable tributaries of TNWs with relatively permanent water flow that are flow directly or indirectly to TNWs. "Relatively permanent" means water flowing for at least three months of the year. (Usually, perennial streams and some intermittent streams); and
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs.

In addition, the agencies will assert jurisdiction over the following categories of waterbodies only if, based on fact-specific analysis, the waterbody is determined to have a significant nexus with a TNW:

- (Non-RPWs): Non-navigable tributaries that do not have relatively permanent water flow that flow directly or indirectly into TNWs (Usually ephemeral and some intermittent streams);
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs; and
- Wetlands adjacent to, but not directly abutting RPWs that flow directly or indirectly into TNWs.

> "A significant nexus exists if the tributary, in combination with all of its adjacent wetlands has more than a speculative or an insubstantial effect on the chemical, physical, and/or biological integrity of a TNW."

The agencies will not assert jurisdiction over the following geomorphic features:

- "Swales or erosional features (e.g., gullies small washes characterized by low volume, infrequent or short duration flows)," and
- "Ditches (including roadsides ditches) excavated wholly in and draining only uplands that do not carry relatively permanent water flows."

The agencies now require that all determinations for non-navigable waters, isolated waters and/or wetlands be evaluated by the USACE and EPA before making a final jurisdictional determination.

In the absence of wetlands the lateral extent of federal jurisdiction over non-tidal waters of the US is defined by the ordinary high water mark (OHWM). The OHWM is defined in 33 CFR 328.3, 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 soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

In June 2001, the USACE South Pacific Division issued "Guidelines for Jurisdictional Delineations for Waters of the United States in the Arid Southwest." The purpose of this document was to aid delineators in assessing the physical characteristics of dry land drainage systems in the Arid West. With respect to jurisdictional determinations, the factors for determining waters of the US include evaluating the flow regime geomorphic feature, and general indicators of flow. These methods are consistent with the criteria set forth in 328.3(a) and 328.3(e), but are also subject to guidance set forth in the *Rapanos* guidance, including "significant nexus determinations," as appropriate.

Subject to *Rapanos* limitations, Federal Jurisdiction will extend to "adjacent" wetlands. "Adjacent" means "bordering, contiguous, or neighboring." According to the USACE "Wetlands Delineation Manual, Technical Report" (1987), three criteria must be satisfied to classify an area as a jurisdictional wetland:

1. A predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation);
2. Soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and
3. Permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology).

The USACE has established regional guidance to address specific regional variations in wetlands determinations. These regional guidance documents supplement the 1987 manual. The Interim Regional Supplement for the Arid West was published in December 2006. Similarly, "Draft Guidance for Western Mountains, Valleys and Coast Regions" was published in April 2007. In performing its delineations, MBA applies these supplemental guidance as appropriate.

Resulting from the 2001 US Supreme Court in *Solid Waste Agency of North Cook County v. USACE* (SWANCC) case, federal jurisdiction will not reach wholly intra-state wetlands, which are not "adjacent" to a jurisdictional stream course. Similarly, as previously established, the *Rapanos* decision may further limit jurisdiction, on a case-specific basis, where a significant nexus determination is required.

Primary General Conditions of 404 Permits

General Condition No. 4: Compliance with the Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) protects all common wild birds found in the US except the house sparrow, starling, feral pigeon, and resident game birds such as pheasant, grouse, quail, and wild turkey. Resident game birds are managed separately by each state. The MBTA makes it unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird including feathers, parts, nests, or eggs.

The primary responsibility for complying with the MBTA is that of the project proponent (permittee) and is independent of Department of the Army permitting processes (404). However, that the nationwide permitting program General Condition No. 4 does require that breeding areas for migratory birds in waters of the United States must be avoided to the maximum extent practicable.

General Condition No. 17: Compliance with Federal Endangered Species Act

In administering the Section 404 permitting program, the USACE is required to abide by Section 7(a)(2) of the Federal Endangered Species Act (ESA), which requires federal agencies to consult with the United States Fish and Wildlife Service (USFWS) "to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat." As a result, the presence of federally listed species must be determined prior to submittal of the Section 404 Application. In the nationwide permitting program compliance with the ESA is set forth in General Condition No. 17.

The USFWS administers the Federal Endangered Species Act. The ESA provides a process for listing species as either threatened or endangered, and methods of protecting listed species. The ESA defines as "endangered" any plant or animal species that is in danger of extinction throughout all or a significant portion of its known geographic range. A "threatened" species is a species that is likely to become endangered. A "proposed" species is one that has been officially proposed by the USFWS for addition to the federal threatened and endangered species list.

Section 9 of the ESA prohibits "take" of threatened or endangered species. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Take can include disturbance to habitats used by a threatened or endangered species during any portion of its life history. The presence of any federally threatened or endangered species in a project area generally imposes severe constraints on development, particularly if development would result in take of the species or its habitat. Under the regulations of the ESA, the USFWS may authorize take when it is incidental to, but not the purpose of, an otherwise lawful act.

General Condition No. 18: Compliance with National Historic Preservation Act

In processing a Section 404 Permit, the USACE is required to comply with Section 106 of the National Historic Preservation Act (NHPA). Section 106 Consultation is triggered when historic or archaeological sites are potentially affected by the proposed project. In the nationwide permitting program compliance with the NHPA is set forth in General Condition No. 18. The USACE will initiate Section 106 Consultation with the appropriate state agency (SHPO in California) with federal oversite by the Advisory Council on Historic Preservation (ACHP). The process usually requires one month from the date the USACE triggers consultation with the state agency.

General Condition No. 21: Compliance with Section 401 of the Clean Water Act

In connection with notification to the USACE under the CWA, pursuant to 33 CFR Part 330, a written request for Section 401 Water Quality Certification must be submitted to the RWQCB to

ensure that no degradation of water quality will result from the proposed project. Subject to CWA Section 401(a)(1), the USACE cannot issue a Section 404 Dredge/Fill Permit until such time as a CWA Section 401 Water Quality Certification (WQC) has been approved by the applicable RWQCB. In the nationwide permitting program compliance with the Section 401 is set forth in General Condition No. 21.

In order to meet the requirements of the RWQCB for issuance of a Section 401 Water Quality Certification, the project proponent must provide assurances that the project will not adversely affect the water quality of receiving waterbodies. A written request for Section 401 Water Quality Certification must be prepared and submitted to the RWQCB for review. The request will include a detailed project description, a description of proposed impacts, identification and discussion of beneficial uses of affected receiving waters (as described within the appropriate Basin Plan), a water quality plan identifying project-specific best management practices (BMPs), discussion of other approvals and certifications being obtained, a conceptual restoration plan, and a completed notification form.

CEQA Compliance: Pursuant to Title 23, Section 3856(f) of the California Code of Regulations (CCR), the Regional Water Quality Control Board (RWQCB) may not issue a Clean Water Act (Section 401) Water Quality Certification (WQC) for a project before being provided with (and having had ample time to review) a copy of the final CEQA documents prepared for the project. Upon formal request for certification, water quality certification should be forthcoming within 90 to 120 days of completion of the CEQA process.

Fee Structure: Subject to CCR, Title 23, Section 3833, a Section 401 application must be accompanied by an initial deposit of not less than $500.00. If the initial deposit does not cover the agency's application review costs, the RWQCB may require an additional (one-time) amount using the calculations set forth in Section 2200(e), Title 23, of the CCR.

General Condition No. 22: Compliance with the Coastal Zone Management Act

In administering the Section 404 Permitting Program, the USACE is required to abide by Section 307(c)(1) of the Coastal Zone Management Act (CZMA). This requirement is set forth in General Condition No. 22 of the NWP (2007) program and detailed in 33 CFR 330.4(d). This condition requires the USACE to provide a consistency determination and receive state agreement prior to the authorization of activities affecting land, water, or natural resources within the coastal zone.

The California "Coastal zone" means that land and water area within California extending seaward to the state's outer limit of jurisdiction, including all offshore islands, and extending inland generally 1,000 yards from the mean high tide line of the sea. In significant coastal estuarine habitat, and recreational areas it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less; in developed urban areas the zone generally extends inland less than 1,000 yards. The coastal zone does not include the area of jurisdiction of the

San Francisco Bay Conservation and Development Commission, established pursuant to Title 7.2 (commencing with Section 66600) of the Government Code, nor any area contiguous thereto, including any river, stream, tributary, creek, or flood control or drainage channel flowing into such area.

State Statues and Regulations - RWQCB

The State of California has concurrent jurisdiction with the Federal government over Section 401 Water Quality Certification over jurisdictional waters and wetlands of the US. Where isolated waters and wetlands (not subject to federal jurisdiction) are involved, the State will exert independent jurisdiction via the Porter-Cologne Water Quality Act.

Porter-Cologne Water Quality Act

Section 13260(a) of the California Water Code (Water Code, or Porter-Cologne) requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, which could affect the quality of the waters of the State, file a report of waste discharge (ROWD). The discharge of dredged or fill material may constitute a discharge of waste that could affect the quality of waters of the State (defined in Water Code Section 13050(e)).

Typically, the State of California relies upon its authority under Section 401 of the Federal Clean Water Act (CWA) (33 USC Section 1341) to regulate discharges of dredged or fill material to California waters that are also within the jurisdiction of the USACE. Given the water quality certification (WQC) process employed under Section 401, waste discharge requirements under Porter-Cologne are typically waived for those projects requiring a water quality certification. In 2001 the US Supreme Court decision in *Sold Waste Agency of Northern Cook County v. US Army Corps of Engineers*, 531 US 159 (2001) (SWANCC) invalidated the USACE's use of the "Migratory Bird Rule" to establish federal jurisdiction over isolated waters. Since 2001, the State of California has reasserted its authority under state law to assert jurisdiction over isolated waters for water quality purposes by requiring a ROWD.

Regulation of Isolated Waters

Dredging, filling, or excavation of "isolated" waters constitutes a discharge of waste to waters of the State, and prospective dischargers are required to submit a report of waste discharge to the RWQCB and comply with other requirements of the Water Code.

Scope of Regulation: With respect to isolated waters, discharges and/or dredging of wetlands, active channels or beds of waterbodies are regulated. Discharges to riparian or areas in proximity to a waterbody are regulated when such activity will directly or indirectly result a change to water quality. Such changes may include discharge of stormwater pollutants and runoff; change in the nature of vegetation that could affect water quality (e.g., affecting pollutant removal, stream shading or bank stability); or change to the hydrological or geomorphic characteristics of the waterbody.

Application of Regulation: Whenever the USACE issues a jurisdictional disclaimer (concurs with a finding of no federal jurisdiction), the respective RWQCB is notified of the disclaimer. Typically, the RWQCB will issue a letter notifying the project proponent that a ROWD must be filed. A ROWD must be submitted in one of two forms, depending on the anticipated impacts.

(1) General Waste Discharge Requirement (GWDR): The GWDR program is substantively set forth in SWRCB Water Quality Order No. 2004-0004-DWQ. GWDRs are generally prescribed for a category of discharges (either temporary or permanent) involving earth, rock, or similar solid materials if the discharge will not be greater than 0.2 acre and 400 linear feet (for fill or excavation) or 50 cubic yards (for dredging). The type of projects that may be covered under these General WDRs include land development, detention basins, disposal of dredged material, bank stabilization, revetment, channelization, and other similar projects. GWDRs do not apply to discharges that adversely impact, either directly or through habitat modification, any plants or animals identified as candidate, sensitive, or special status species in local or regional plans, or by the CDFG (including NCCPs), or USFWS (including HCPs). Similarly, GWDRs do not apply to discharges impacting significant historical, archaeological or paleontological resources.

Requirements: The GWDR typically requires submittal of the following items: (1) A Notice of Intent (NOI), (2) Any CEQA documents that have been prepared for the project, (3) A fee pursuant to Title 23, Section 2200 of the CCR, (4) A Mitigation Plan demonstrating that the discharger will sequentially avoid, minimize, and compensate for the adverse impacts to the affected waterbodies, and beneficial uses (as set forth in the applicable Basin Plan), and (5) Any other relevant information requested by the SWRCB or RWQCB. A copy of the application must be submitted to both the applicable RWQCB and to the SWANCC-ROWD, Water Quality Certification Unit in Sacramento.

Timing: Pursuant to the requirements of the California Permit Streamlining Act, RWQCB has 30 days to deem the application complete. Upon receipt of a complete submittal, the RWQCB has 45 days in which to issue a Notice of Applicability (NOA) (authorizing the activity) or a Notice of Exclusion (NOE) (denying authorization). The discharge activity is operationally authorized if no NOE is issued within the 45-day evaluation period, provided that the proposed activity is not a prohibited activity.

(2) Individual Waste Discharge Requirements (IWDR): Projects not qualifying for the GWDRs will need to satisfy individual waste discharge requirements, typically requiring submittal of Section 401 Water Quality Certification forms and supporting documentation as set forth by the respective RWQCB. Such submittals are subject to fees as set forth in CCR Title 23 Section 2200(a)(2). Pursuant to the Water Code the project proponent is required to file with the appropriate RWQCB a ROWD describing the proposed discharge at least 140 days before it occurs (Water Code Sections 13260, 13264).

State Statutes and Regulations - CDFG

Section 1600/1602 of the California Fish and Game Code
In the public interest of protection and conservation of fish and wildlife resources of the State (Section 1600), Fish and Game Code Section 1602 requires any person, state or local governmental agency, or public utility to notify the CDFG before beginning any activity that will do one or more of the following: (1) substantially obstruct or divert the natural flow of a river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. CDFG's jurisdiction includes ephemeral, intermittent, and perennial watercourses, including dry washes, characterized by:

1 The presence of hydrophytic vegetation.

2. The location of definable bed and banks.

3. The presence of existing fish or wildlife resources.

Furthermore, CDFG jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function as part of the riparian system. Historic court cases have further extended CDFG jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFG definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional. However, CDFG does not regulate isolated wetlands; that is, those that are not associated with a river, stream, or lake.

CDFG Regulated Activities

The CDFG regulates activities that involve diversions, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife resources. When a project requires such activities, a Section 1602 Streambed Alteration Notification will be prepared and submitted to the CDFG for review. The request will include a detailed project description, a description of proposed impacts, a conceptual mitigation plan, and completed notification forms. Typically, CDFG will be able to complete the agreement within 60 to 90 days of the completion of the CEQA process.

CEQA Compliance: CDFG must also comply with the California Environmental Quality Act (CEQA) (Public Resources Code, Section21000, et seq.) before it may issue a final Lake or Streambed Alteration Agreement. Issuance of a final Lake or Streambed Alteration Agreement occurs after the CDFG receives a draft Lake or Streambed Alteration Agreement from the applicant and the CDFG signs it. In many instances, the CDFG will receive a signed draft Lake or Streambed Alteration Agreement from an applicant before the lead agency has fully complied with CEQA. In

those instances, the CDFG must wait for the lead agency to fully comply with CEQA before it may sign the draft Lake or Streambed Alteration Agreement, thereby making it final.

Fee Structure: Pursuant to CCR, Title 14 Section 699.3, CDFG assesses a fee to cover the cost of reviewing Section 1602 applications. The fee calculation is based on the sum cost of the proposed activities within the streambed or riparian community.

Sensitive Plant and Wildlife Species

Sensitive species are native species that have been accorded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

California Endangered Species Act

The CDFG administers the California Endangered Species Act (CESA). The State of California considers an "endangered" species one whose prospects of survival and reproduction are in immediate jeopardy. A "threatened" species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A "rare" species is one present in such small numbers throughout its portion of its known geographic range that it may become endangered if its present environment worsens. The rare species designation applies to California native plants. State threatened and endangered species are fully protected against take, as defined above. The term "species of special concern" is an informal designation used by CDFG for some declining wildlife species that are not state candidates for listing. This designation does not provide legal protection under CESA, but signifies that these species are recognized as sensitive by CDFG.

California Native Plant Society

The California Native Plant Society (CNPS) is a California resource conservation organization that has developed an inventory of California's sensitive plant species (Tibor 2001). This inventory summarizes information on the distribution, rarity, and endangerment of California's vascular plants. The inventory is divided into four lists based on the rarity of the species. In addition, the CNPS provides an inventory of plant communities that are considered sensitive by the state and federal resource agencies, academic institutions, and various conservation groups. Determination of the level of sensitivity is based on the number and size of remaining occurrences as well as recognized threats.

Section 3503 and 3511 of the California Fish and Game Code

The CDFG administers the California Fish and Game Code. CFG Code 3503 makes it illegal to destroy any birds' nest or any birds' eggs that are protected under the MBTA. CFG Code 3503.5 further protects all birds in the orders *Falconiformes* and *Strigiformes* (birds of prey, such as hawks and owls) and their eggs and nests from any form of take. Section 3511 of the Code lists fully

protected bird species, where the CDFG is unable to authorize the issuance of permits or licenses to take these species.

Appendix B:
Jurisdictional Wetlands and Significant Nexus Determination

CRITERIA FOR WETLAND DETERMINATIONS

USACE

As defined in 33 CFR part 328.3(a)(7) and as established by current case law, the USACE will currently assert jurisdiction over wetlands adjacent to waters of the US, except for those wetlands adjacent to other wetlands.

The term "wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence or vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR Part 328.3(b)).

Typically, the term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the US by man-made dikes or barriers, natural river berms, beach dunes, and the like are also adjacent (33 CFR part 328.3(c)). Similarly, the wetland must be adjacent to either a navigable in-fact waterway or tributary thereof. Where "adjacency" cannot be established, the wetlands will be determined to be an "isolated" non-jurisdictional feature unless an independent nexus to interstate or foreign commerce can be established as per 33 CFR part 328.3(a)(3). (Also see SWANCC v. US, 2001).

Based on the standards established in *Rapanos v. US*, the USACE will not assert jurisdiction over wetlands where: (1) the wetlands are adjacent to non-navigable tributaries that lack relatively permanent flows, or (2) wetlands are adjacent to but not abutting non-navigable tributaries with relatively permanent water, unless in both cases the relevant portion (reach) of the drainage, together with all of its wetlands, have a significant nexus to a TNW.

According to the USACE "Wetlands Delineation Manual, Technical Report" (1987), three criteria must be satisfied to classify an area as a jurisdictional wetland:

1. **Hydrophytic Vegetation**: A predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation);
2. **Hydric Soils**: Soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils), and
3. **Wetland Hydrology**: Permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology).

The USACE has established regional guidance to address specific regional variations in wetlands determinations. These regional guidance documents supplement the 1987 manual The Interim Regional Supplement for the Arid West; published in December 2006. Similarly, "Draft Guidance

for Western Mountains, Valleys and Coast Regions" was published in April 2007. In performing its delineations, MBA applies this supplemental guidance as appropriate.

As established in both the USACE 87 Manual and the "Arid West" regional guidance, the following criteria apply.

Hydrophytic Vegetation

Hydrophytic vegetation is defined as plant life growing in water, soil, or substrate that is at least periodically deficient in oxygen because of excessive water content. The USFWS has published the "National List of Vascular Plant Species that Occur in Wetlands," (1996 National Summary, hereafter NLVPS) and divided plants into five groups based on their "wetland indicator status:"

1. Obligate wetland plants (OBL) that occur almost always in wetlands under natural conditions;
2. Facultative wetland plants (FACW) that usually occur in wetlands but occasionally are found in upland areas;
3. Facultative plants (FAC) that are equally likely to occur in wetlands as well as upland;
4. Facultative upland plants (FACU) that usually occur in upland areas but occasionally are found in wetlands; and
5. Upland plants (UPL) that occur almost always in upland areas under natural conditions.

Plus (+) and minus (-) values, used in identifying indicator status in the NLVPS are not applied when evaluating plants in the arid west region. In the arid west, an area is deemed to have hydrophytic vegetation when either it: (1) passes the dominance test; (2) has a prevalence index ≤3; (3) morphological adaptations are present; or (4) the area is a "problem area." (See "Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region," December 2006.)

Dominance Test: An area has hydrophytic vegetation when, under normal circumstances, more than 50 percent of the composition of dominant plant species (using the 50/20 rule) from all strata are obligate wetland (OBL), facultative wetland (FACW), and/or facultative species (FAC). If the plant community passes the dominance test, then the vegetation is hydrophytic and no further vegetation analysis is required. If the plant community fails the dominance test, and indicators of hydric soil and/or wetland are absent then hydrophytic vegetation is absent unless the site meets requirements for a problematic wetland situation.

Prevalence Test: In areas failing the dominance test yet having indicators of hydric soil and wetland hydrology, the vegetation must be re-evaluated using the "prevalence index" (PI). The prevalence index takes into account all plant species in the community, not just a few dominants. The index is a

weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric code (OBL =1, FACW =2, FAC = 3, FACU = 4, and UPL = 5) and weighting is by abundance (percent cover). The sum of the weighted indicator values are then divided by the sum of the percent cover values for each indicator type. Where the PI value is ≤3, the area is considered positive for hydrophytic vegetation. Generally, the index is a more comprehensive analysis of the hydrophytic status of the community than one based on just a few dominant species. The index is particularly useful: (1) in communities where there are only one or two dominants; (2) in highly diverse communities where many species may be present at roughly equal coverage; and (3) when strata differ greatly in total plant cover. The prevalence index is used on sites where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test.

Morphological Adaptations: In areas failing both the dominance test and prevalence test, yet having indicators of hydric soil and wetland hydrology, hydrophytic vegetation will still be deemed present when the morphological adaptations are present. In the arid west the most common morphological adaptations are adventitious roots and shallow root systems developed on or near the soil surface on FACU species. If more than 50 percent of the FACU species have morphological adaptations, then these species are classified as FAC species and the dominance test and/or prevalence index are recalculated. The vegetation is hydrophytic if either test is positive.

Hydric Soils

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. "Long enough" generally means 1 week during the growing season and soils that are saturated for this period usually support hydrophytic vegetation. The criteria for establishing the presence of hydric soils vary among different types of soils and between normal circumstances, disturbed areas, and problem areas. Due to their wetness during the growing season, hydric soils usually develop certain morphological properties that can be readily observed in the field. Prolonged anaerobic soil conditions typically lower the soil redox potential, causing a chemical reduction of some soil components, mainly iron oxides and manganese oxides. This reduction is typically reflected by the presence of iron or manganese concretions, gleying or mottling. Other field indicators of hydric soils include the presence of sulfidic material, an aquic or peraquic moisture regime, or a spodic horizon. (All organic soils, with the exception of Folists, are classified as hydric soils.)

Wetland Hydrology

Wetland hydrology is permanent or periodic inundation, or soil saturation for a significant period during the growing season. Numerous factors influence the wetness of an area, including precipitation, stratigraphy, topography, soil permeability, and plant cover. At certain times of the year in most wetlands, and in certain types of wetlands at most times, wetland hydrology is quite evident, since surface water or saturated soils may be observed. Yet, in many instances, especially

along the uppermost boundary of wetlands, hydrology is not readily apparent. Despite this limitation, hydrologic indicators can be useful for confirming that a site with hydrophytic vegetation and hydric soils still exhibit wetland hydrology. While hydrologic indicators are sometimes diagnostic of the presence of wetlands, they are generally either operationally impracticable (e.g. in the case of recorded data) or technically inaccurate (e.g., in the case of some field indicators) for delineating wetland boundaries.

The following hydrologic indicators, while not necessarily indicative of hydrologic events during the growing season or in wetlands alone, do provide evidence that inundation or soil saturation has occurred at some time: visual observation of inundation, visual observation of soil saturation, oxidized channels (rhizospheres) associated with living roots and rhizomes, water marks, drift lines, waterborne sediment deposits, water-stained leaves, surface scoured areas, morphological plant adaptations, and hydric soil characteristics.

Problem Areas and Atypical Situations

In the arid west some wetlands may periodically lack indicators of hydrophytic vegetation, hydric soils or wetland hydrology due to normal (natural) seasonal or annual variability. Similarly, indicators in some areas may be affected by atypical situations brought about by recent human activities or unusual natural events. The "Arid West Regional Guidance" sets forth a number of procedures to identify and analyze problems areas. Examples of problem areas and atypical situations may include:

Problematic Vegetation:

- Temporal Shifts in Vegetation: plant communities in playas, venal pools, seepas, and springs change in response to seasonal climatic fluctuations. These changes may result from:
  - Seasonal shifts in plant communities between normal wet/dry season
  - Drought conditions lasting more than one growing season.
- Sparse and Patchy Vegetation: A seasonal pond must have at least 5 percent plant cover to be considered vegetated. To be considered jurisdictional, unvegetated areas may be considered as other waters of the US if they exhibit Ordinary High Water (OHW) indicators as set forth in 33 CFR 328.3
- Riparian Areas: Where there is high variability in wetland vegetation indicator status between the different strata. (Usually the tree strata have wetter indicator status than other strata.)
- Areas Affected by Grazing
- Managed Plant Communities: horticulture, tilling/disking.
- Areas Affected by Fires, Floods and Other Natural Disturbances

- Vigor and Stress Response to Wetland Conditions: horticulture is either robust or impeded by hydric soils, and/or wetland hydrology.

Problematic Hydric Soils:

- Moderately to Very Strong Alkaline Soils: Redox concentrations and depletions are not always evident in soils with pH of 7.9 or higher.
- Volcanic Ash: Soils of volcanic origin are high in silica content and low in redoximorphic minerals such as iron, manganese, and sulfur.
- Vegetated Sand and Gravel Bars within Flood Plains: Flood plains may lack hydric soil indicators because seasonal flooding deposits new layers of soil material or the deposited material may lack redoximorphic minerals.
- Recently Developed Wetlands: may include mitigation sites, wetland management areas, unintentionally produced wetlands (flood irrigation, leaking water pipes, etc.).
- Seasonally Ponded Soils: depressional wetlands, usually with perched systems above a restrictive soil layer (hardpan or clay) where the saturation depth or saline conditions prohibit hydric soil indicators.
- Soils with Relict or Induced Hydric Soil Indicators: in some areas redoximorphic features in hydric soils were formed in the recent or distant past when conditions were substantially wetter than at present. Hydric soil indicators may persist in lowland areas which were historically flooded (such as in California's Central Valley), even though the area has been drained for agricultural purposes. Alternatively, hydric soils indicators in upland areas may have formed historically from flood irrigation or like agricultural activities which no longer persist.

Problematic Wetland Hydrology:

- Site Visits During the Dry Season: Hydrophytic vegetation may be absent or diminished during the dry season (when evapo-transpiration exceeds precipitation). When possible, the site should be visited (or re-visited) during the normal wet season.
- Periods with Below Normal Rainfall: Rainfall in the 3-month period prior to the site visit should be compared to historical averages from the National Water and Climate Center (NRCS). Rainfall should be between the high and low 30 percent probability values.
- Drought Years: Areas subject to drought conditions particularly lasting several years may affect wetland hydrology indicators. The Palmer Drought Severity Index (PDSI) (known operationally as the Palmer Drought Index [PDI]) attempts to measure the duration and intensity of the long-term drought-inducing circulation patterns. Long-term drought is cumulative, so the intensity of drought during the current month is dependent on the current weather patterns plus the cumulative patterns of previous months. Since weather patterns can

change rapidly from a long-term drought pattern to a long-term wet pattern, the PDSI (PDI) can respond fairly rapidly. PDSI values range between -6 and +6, with negative values indicating dry periods and positive values indicating wet periods:

- (-4 to -6) - Extreme Drought
- (-3) - Severe Drought
- (-2) - Moderate Drought
- (-1) - Mild Drought

- Years with Unusually Low Winter Snowpack: the hydrology of areas with water-sheds in adjacent mountain regions may be affected by annual variability in the liquid equivalent of the snow pack.
- Reference Sites: If indicators of hydric soil and hydrophytic vegetation are present on a site that lacks wetland hydrology indicators, the site may be considered to be a wetland if the landscape setting, topography, soils, and vegetation are substantially the same as those on nearby reference areas.
- Hydrology Tools: A collection of methods can be used to determine whether wetland hydrology is present on a potential wetland site that lacks indicators due to disturbances or other reasons (particularly in agricultural areas).
- Long-term Hydrological Monitoring: Areas may be monitored over long periods of time.

California Department of Fish and Game

The California Wildlife Protection Act as codified in the Fish and Game code (Fish and Game Code Section 2785(g)) and defines "wetlands" as:

> ...lands which may be covered periodically or permanently with shallow water and which include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, fens, and vernal pools.

Significant Nexus Determination

A significant nexus determination is required when the following waterbodies are present:
(1) Non-navigable tributaries that do not have relatively permanent water flow that flow directly or indirectly into TNWs (usually ephemeral and some intermittent streams); (2) Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs; or (3) Wetlands adjacent to, but **not directly abutting** RPWs that flow directly or indirectly into TNWs.

The determination begins by first identifying the relative reach of the applicable tributary. With respect to "significant nexus determinations," the "relevant reach" will include all tributary waters of

the same order. Typically this will include the tributary and all adjacent wetlands reaching down stream from the study area to the confluence with the next tributary, and upstream to any a similar confluence.

To have a significant nexus a tributary and its adjacent wetlands must have more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. A significant nexus determination requires evaluation of hydrological and ecological factors, which may contribute to the maintenance of water quality, aquatic life, commerce, navigation, recreation, and public health in the TNW.

- Hydrological Factors:
  - Volume, duration, and frequency of flow: including consideration of certain characteristics of the tributary, including historic records of flow, flood predictions, gauge data and personal observations (OHWM, Shelving, water staining, sediment sorting and scouring);
  - Proximity to the TNW: If a tributary is too far from the TNW its remoteness is more likely to make the impact on the TNW speculative;
  - Contextual hydrological factors: including (1) size of the watershed, (2) average annual rainfall, and (3) average annual snow pack, and
  - The presence of tributary or wetland within the flood plain: A significant nexus determination cannot be based solely on presence of the waterbody within or outside the flood plain.
- Ecological Factors:
  - The ability of the tributary and its adjacent wetlands (if any) to carry pollutants and flood waters to TNW;
  - The Ability of the tributary and its adjacent wetlands (if any) to provide aquatic habitat that supports biota of a TNW;
  - The ability of adjacent wetlands to trap and filter pollutants or store flood water, and
  - The ability to maintain water quality.

Coastal Zone

Jurisdictional assessments in the California coastal zone must also evaluate potential wetland areas using the criteria established in the California Coastal Act and set forth in the CCR.

The California "Coastal zone" means that land and water area within the State extending seaward to the state's outer limit of jurisdiction, including all offshore islands, and extending inland generally

1,000 yards from the mean high tide line of the sea. In significant coastal estuarine, habitat, and recreational areas it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards. The coastal zone does not include the area of jurisdiction of the San Francisco Bay Conservation and Development Commission, established pursuant to Title 7.2 (commencing with Section 66600) of the Government Code, nor any area contiguous thereto, including any river, stream, tributary, creek, or flood control or drainage channel flowing into such area.

The California Coast Act Section 30121 defines the term "wetland" as,

> Lands within the coastal zone which be covered periodically or permanently with shallow water and includes saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mud flats, and fens.

The Coastal Act is administered in the State by the California Coastal Commission (CCC). Coastal Commission regulations (CCR Title 14 [14CCR]) establish a "one parameter definition" that only requires evidence of a single parameter to establish wetland conditions:

> Wetland shall be defined as land where the water table is at near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentration of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some during each year and their location within, or adjacent to vegetated wetland or deepwater habitats. (14 CCR 13577)

The Commission's one parameter definition is similar to the USFWS wetlands classification system, which states that wetlands must have one or more of the following three attributes: (1) at least periodically the land supports predominantly hydrophytes; (2) the substrate is predominantly un-drained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.

San Francisco Bay Conservation and Development Commission Jurisdiction

Within the area of San Francisco Bay Conservation and Development Commission (BCDC) CCC jurisdictional criteria does not apply, however USACE wetland determination criteria will apply.

It is also noted that the primary State law governing the BCDC, the McAteer-Petris Act, does not define wetlands but does outline the BCDC's jurisdiction respective of wetlands.

Managed wetlands consisting of all areas which have been diked off from the bay and have been maintained during the three years immediately preceding the effective date of the amendment of this section during the 1969 Regular Session of the Legislature as a duck hunting preserve, game refuge or for agriculture. (Government Code Section 66610(b))

Appendix C:
Glossary of Terms

Glossary of Terms

Term	Source	Page	Definition
Abutting	6	69	With respect to jurisdictional determinations, wetlands that are not separated from the tributary by an upland feature, such as a berm or dike, is "abutting."
Adjacent	7	N/A	The term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the US by man-made dikes or barriers, natural river berms, beach dunes and the like are "adjacent wetlands."
Aerial Miles	6	53	With respect to jurisdictional determinations, an "aerial mile(s)" is the straight line (linear) distance between the waterbodies in question.
Best Management Practices (BMPs)	4	11196	Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.
Clean Water Act (CWA) of 1972	NA	NA	Also known as the Federal Water Pollution Control Act (FWPCA) 33USCA Sections 1251 to 1387 (alternatively cited as Sections 101 - 607). The primary goal as defined in Section 1251(a) is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Jurisdiction to regulate "waters of the US," vested under this Act include: Section 303 (Water Quality Standards and implementation Plans), Section 311 (Spill Program and Oil Pollution Act), Section 401 (State Water Quality Certification), Section 402 (National Pollutant Discharge Elimination System [NPDES]), Section 404 (permits for dredge or fill material).
Clean Water Act (CWA) Section 303	NA	NA	Section 303 Water Quality Standards Program: Under this program, State and authorized Indian Tribes establish water quality standards for navigable waters to "protect the public health or welfare" and "enhance the quality of water," "taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agriculture, industrial, and other purposes, and also taking into consideration their use and value for navigation."
Clean Water Act (CWA) Section 311	NA	NA	Section 311 Spill Program and the Oil Production Act (OPA): Under this program, the CWA addresses pollution from both oil and hazardous substance releases. Together with the Oil Pollution Act, it provides EPA and the US Coast Guard with the authority to establish a program for preventing, preparing for, and responding to, spills that occur in navigable waters of the US.
Clean Water Act (CWA) Section 401	NA	NA	Section 401 State Water-Quality Certification: Provides that no Federal permit or license for activities that might result in a discharge to navigable waters may be issued unless a CWA Section 401 Water Quality Certification is obtained from or waived by States or authorized Tribes.
Clean Water Act (CWA)	NA	NA	Section 402 National Pollutant Discharge Elimination Program (NPDES): This program established a permitting system to

Term	Source	Page	Definition
Section 402			regulate point source discharges of pollutants (other than dredged or fill material) into waters of the US.
Clean Water Act (CWA) Section 404	NA	NA	Section 404 Dredged and Fill Material Permit Program: This program established a permitting system to regulate discharges of dredged or fill material into waters of the US.
Compensatory Mitigation	4	11196	The restoration, establishment (creation), enhancement, or reservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.
Currently Serviceable	4	11196	Useable as is, or with some maintenance, but not so degraded as to essentially require reconstruction.
Discharge	4	11196	The term "discharge'' means any discharge of dredged or fill material and any activity that causes or results in such a discharge.
Enhancement	4	11196	The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.
Ephemeral Stream	4	11196	An ephemeral stream has flowing water only during and, for a short duration, after precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.
Establishment (Creation)	4	11196	The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.
Facultative Plants (FAC)	1	14	Plants with a similar likelihood (estimated probability of 33 percent to 67 percent) of occurring in both wetlands and non-wetlands.
Facultative Wetland Plants (FACW)	1	14	Plants that occur usually (estimated probability >67 percent to 99 percent) in wetlands, but also occur (estimated probability 1 percent to 33 percent) in non-wetlands.
Facultative Upland Plants (FACU)	1	14	Plants that occur sometimes (estimated probability 1 percent to <33 percent) in wetlands, but occur more often (estimated probability >67 percent to 99 percent) in non-wetlands.
High Tide Line	7	N/A	The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other

Term	Source	Page	Definition
			high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.
Historic Property	4	11196	Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization which meet the National Register criteria (36 CFR Part 60).
Hydrological Units	8	1-3	As prescribed by the USGS, refers to the four levels of subdivisions, used for the collection and organization of hydrological data. The hierarchy of hydrological units include: (1) Regions (2) Subregions (3) Accounting Units, and (4) Cataloging Units. The identifying codes associated with these units are "hydrological unit codes."
Hydrological Units - Regions	8	3	The first level of USGS hydrological classification, which divides the Nation into 21 Major geographic areas. These geographic areas (hydrologic areas based on surface topography) contain either the drainage area of a major river, or the combined drainage areas of a series of rivers. Most of California is located within region "18." Notable exceptions include the Tahoe basin (Great Basin Region 16) and the Colorado River (Lower Colorado Region 15). All smaller hydrological units with the region begin with the region number (18).
Hydrological Units - Subregions	8	3	The second level of USGS hydrological classification, divides the 21 regions into 222 subregions (nationally). A subregion includes the area drained by a river system a reach of a river and its tributaries in that reach, a closed basin(s), or a group of streams forming a coastal drainage area. Within Region 18, the state of California includes 10 sub-regions.
Hydrological Units - Accounting Units	8	3	The third level of USGS hydrological classification, subdivides many of the subregions in accounting units. These 352 hydrologic accounting units nest within, or are equivalent to, the subregions. The accounting units are used by the Geological Survey for designing and managing the National Water Data Network. Within Region 18, the state of California includes 16 Accounting Units.
Hydrological Units - Cataloging Units	8	3	The fourth level of USGS hydrological classification is the cataloging unit, the smallest element in the hierarchy of hydrologic units. A cataloging unit is a geographic area representing part or all of a surface drainage basin, a combination of drainage basins, or a distinct hydrological feature. There are 2,150 cataloging units in the US. Within Region 18, the state of California includes 135 cataloging units.

Term	Source	Page	Definition
Independent Utility	4	11196	A test to determine what constitutes a single and complete project in the USACE regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.
Intermittent Stream	4	11196	An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.
Loss of Waters of the United States	4	11196	Waters of the US that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the US is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for a Nationwide Permit (NWP); it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of streambed includes the linear feet of streambed that is filled or excavated. Waters of the US temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the US. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the US.
Non-tidal Wetland	4	11196	A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).
Obligate Wetland Plants (OBL)	1	14	Plants that occur almost always (estimated probability >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated probability <1 percent) in non-wetlands.
Obligate Upland Plants (UPL)	1	14	Plants that occur rarely (estimated probability <1 percent) in wetlands, but occur almost always (estimated probability >99 percent) in non-wetlands under natural conditions.
Open Water	4	11196	For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters.

Term	Source	Page	Definition
			Examples of ``open waters'' include rivers, streams, lakes, and ponds.
Ordinary High Water Mark	7	N/A	The term "ordinary high water mark" means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
Ordinary High Water Mark	4	11196	An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).
Perennial Stream	4	11197	A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.
Practicable	4	11197	Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.
Pre-construction Notification	4	11197	A request submitted by the project proponent to the USACE for confirmation that a particular activity is authorized by a NWP. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a NWP, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by a NWP.
Preservation	4	11197	The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.
Re-establishment	4	11197	The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.
Rehabilitation	4	11197	The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.
Relatively	5	5,69	In the context of CWA jurisdiction post-Rapanos, a waterbody

Term	Source	Page	Definition
Permanent Water (RPW)			is "relatively permanent" if it flows year round or its flow is continuous at least "seasonally," (e.g., typically 3 months). Wetlands adjacent to a "relatively permanent" tributary are also jurisdictional if those wetlands directly abut such a tributary.
Relevant Reach	6	40	With respect to "significant nexus determinations," the "relevant reach" will include all tributary waters of the same order. Typically this will include the tributary and all adjacent wetlands reaching down stream from the study area to the confluence with the next tributary or upstream to a similar confluence.
Restoration	4	11197	The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into 2 categories: re-establishment and rehabilitation.
Riffle and Pool Complex	4	11197	Riffle and pool complexes are special aquatic sites under the CWA Section 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. Pools are characterized by a slower stream velocity, a streaming flow, a smooth surface, and a finer substrate.
Riparian Area	4	11197	Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems through which surface and subsurface hydrology connects waterbodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See General Condition No. 20, in the NWP.)
River Miles	6	53	The flowing distance between the waterbodies in question. Typically not a straight line; rather, the measurement is based on how far the water will travel from waterbody A to waterbody B. For example, the water in a meandering tributary will flow further than water flowing in a channelized tributary provided the two waterbodies are the same distance apart in the landscape.
Shellfish Seeding	4	11197	The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.
Significant Nexus	5	40	In the context of CWA jurisdiction post-Rapanos, a waterbody is considered to have a "significant nexus" with a traditional navigable water if its flow characteristics and functions in

Term	Source	Page	Definition
			combination with the ecological and hydrological functions performed by all wetlands adjacent to such a tributary, affect the chemical, physical, and biological integrity of a downstream traditional navigable water.
Single and Complete Project	4	11197	The term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete project must have independent utility (see definition). For linear projects, a "single and complete project" is all crossings of a single water of the US (i.e., a single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.
Stormwater Management	4	11197	Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.
Stormwater Management Facilities	4	11197	Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.
Streambed	4	11197	The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the streambed, but outside of the ordinary high water marks, are not considered part of the streambed.
Stream Channelization	4	11197	The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the US.
Stream Order	NA	NA	A method of numbering streams as part of a drainage basin network. The smallest unbranched mapped tributary is called first order, the stream receiving the tributary is called second order, and so on.
Structure	4	11197	An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.
Tidal Waters	7	N/A	The term "tidal waters" means those waters that rise and fall in a

Term	Source	Page	Definition
			predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.
Tidal Wetland	7	N/A	A tidal wetland is a wetland (i.e., water of the US) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channel-ward of the high tide line, which is defined at 33 CFR 328.3(d).
Traditional Navigable Water (TNW)	6	68	A "traditional navigable water" includes all the "navigable waters of the US," defines in 33 CFR Section 329, and by numerous decisions of the Federal courts, plus all other waters that are navigable-in-fact. Per 33 CFR Section 329: Navigable waters of the US are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events which impede or destroy navigable capacity. The USACE is currently drafting new regulations defining TNWs.
Tributary	6	69	A "tributary," as defined in the Rapanos guidance document, means a natural, man-altered, or man-made waterbody that carries directly or indirectly into a traditional navigable water. For the purposes of determining significant nexus with a traditional navigable water, a "tributary" is the entire reach of the stream that is of the same order (i.e., from the point of confluence, where two lower order streams meet to form the tributary, downstream to the point such tributary enters a higher order stream).
Upland Plants (UPL)	1	14	Plants that occur rarely (estimated probability <1 percent) in wetlands, but occur almost always (estimated probability >99 percent) in non-wetlands under natural conditions.
Vegetated shallows	4	11197	Vegetated shallows are special aquatic sites under the CWA Section 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as sea grasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.
Waterbody	4	11197	For purposes of the NWPs, a waterbody is a jurisdictional water of the US that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland

Term	Source	Page	Definition
			is adjacent—meaning bordering, contiguous, or neighboring—to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.
Waters of the United States	7	N/A	The term "waters of the US" means: (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) All interstate waters including interstate wetlands; (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) Which are used or could be used for industrial purpose by industries in interstate commerce; (4) All impoundments of waters otherwise defined as waters of the US under the definition; (5) Tributaries of waters identified in paragraphs (a)(1)-(4) of this section; (6) The territorial seas; (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section, (waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA [other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition] are not waters of the US.) and (8) Waters of the US do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA.
Wetlands	1,2,7	N/A	The term "wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. The criteria for determining wetlands is set forth in the USACE Wetlands Delineation Manual (1987) and relevant Regional Supplements (Arid West, December 2006)

Sources:
1. USACE Wetlands Delineation Manual, January 1987.
2. USACE Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest, June 2001.
3. USACE Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region,

Term	Source	Page	Definition
December 2006. 4. FEDERAL REGISTER: Department of Defense; Department of the Army, Corps of Engineers, Re-issuance of Nationwide Permits; Notice, March 12, 2007. 5. EPA/USACE Joint Memorandum: Clean Water Act Jurisdiction Following the US Supreme Court's Decision in Rapanos v. United States and *Carabell v. United States*, (June 5, 2007). 6. USACE Jurisdictional Delineation Form Instructional Guidebook; May 30, 2007. 7. Code of Federal Regulations (CFR): 33 CFR 328.3 Definitions of Waters of the United States and/or 33 CPR 329 Definitions of Navigable Waters of the United States. 8. USGS Hydrologic Unit Maps, US Geological Survey Water-Supply Paper 2294 (1994), by Paul R. Seaber, F. Paul Kapinos, and George L Knapp.			

Appendix D:
Site Photographs

Photograph 1: Looking north at the downstream portion of Drainage 1 as it exits the project site.

Photograph 2: Looking north at Drainage 2 from the western portion of the project site. This ephemeral feature is typical throughout the agricultural fields and is an artificial drainage created in an previous upland area.

Source: Michael Brandman Associates, 2012.

Michael Brandman Associates

Appendix D
Site Photographs 1 and 2

Photograph 3: Looking southwest from the northeast corner of the temporary detention basin south of the Sketcher's Logistic Center. This area contains ruderal vegetation and is of low habitat quality.

Photograph 4: Looking south at the road-side ditch associated with flows along the west side of Theodore Street (Drainage 5). At this location, there is no evidence of any OHWM or bed and bank features.

Source: Michael Brandman Associates, 2012.

Michael Brandman Associates

Appendix D
Site Photographs 3 and 4

Photograph 5: Looking south at the southern extent of Drainage 4 before it sheet flows in the extensive agricultural area.

Photograph 6: Looking southeast at the corner of Theodore Street and Eucalyptus Street. Drainage 5 is in the foreground and Drainage 6 is in the background.

Source: Michael Brandman Associates, 2012.

Michael Brandman Associates

Appendix D
Site Photographs 5 and 6

Photograph 7: Looking south at the southern extension of Drainage 7. The mulefat shrub in the background indicates the beginning of sheet flow for this drainage.

Photograph 8: Looking south from the northern portion of Drainage 8. Virginia Street and existing utility lines shown on the right side of the photo.

Source: Michael Brandman Associates, 2012.

Michael Brandman Associates

Appendix D
Site Photographs 7 and 8

Photograph 9: Looking northeast at Drainage 9 at the Gilman Springs Road crossing. No evidence of an OHWM at this location.

Photograph 10: Looking south at the large erosional area associated with Drainage 9 just south of Alessandro Boulevard. Large amounts of trash are scattered throughout this portion of the drainage.

Source: Michael Brandman Associates, 2012.

Michael Brandman Associates

Appendix D
Site Photographs 9 and 10

Photograph 11: Looking northeast at the southern extent of Drainage 10 before it flows offsite. Riparian vegetation ends at this point.

Photograph 12: View of Drainage 11 as it flows off the project site to the south. The feature sheet flows after a short distance and does not have direct connectivity to Mystic Lake, shown in the distance.

Source: Michael Brandman Associates, 2012.

Michael Brandman Associates

Appendix D
Site Photographs 11 and 12

Photograph 13: Looking south at the southern extent of Drainage 7 after the confluence with Drainage 5. The drainage continues in an upland swale for approximately 300 feet before it sheet flows and is no longer detectable.

Photograph 14: Looking west at the southern extent of Drainage 9. At this point, the drainage no longer has an OHWM and sheet flows for approximately 1,000 feet before entering the artificially created ponded features adjacent to Mystic Lake.

Source: Michael Brandman Associates, 2012.

Michael Brandman Associates

Appendix D
Site Photographs 13 and 14

ORDINANCE NO. 851

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MORENO VALLEY, CALIFORNIA, APPROVING PA10-0022 TO AMEND TITLE 9 OF THE MORENO VALLEY MUNICIPAL CODE, CHAPTER 9.08, SECTION 9.08.100 "LIGHTING" AND SECTION 9.08.190 "STREET LIGHTING", CHAPTER 9.16, ARTICLE IV APPLICATIONS FOR HILLSIDE DEVELOPMENT SECTION 9.16.235 "HILLSIDE DESIGN GUIDELINES", ARTICLE VI "APPLICATIONS FOR LIGHTING", SECTION 9.16.280, "GENERAL REQUIREMENTS" AND CHAPTER 9.15, SECTION 9.15.030, "DEFINITIONS" RELATING TO MODIFICATIONS OF GENERAL SITE, STREET AND ATHLETIC FIELD/PARK LIGHTING WITH AN EMPHASIS ON DARK SKY STANDARDS CITYWIDE

The City Council of the City of Moreno Valley does ordain as follows:

SECTION 1: RECITALS

1.1 Pursuant to the provisions of law, public hearings were held before the City of Moreno Valley Planning Commission and the City Council.

1.2 The matter was fully discussed and the public and other agencies presented testimony and documentation.

1.3 The ordinance amendment is attached hereto and incorporated herein as Exhibits A through E.

1.4 The item was first heard as a public hearing by the City Council on July 12, 2011. At said meeting the item was continued to a study session meeting in March/April of 2012.

1.5 The item was discussed at City Council Study Session on April 3, 2012, with Council directing staff to place on an agenda for public hearing in August of 2012.

1.6 A second City Council public hearing was conducted for the project on August 28, 2012.

SECTION 2: FINDINGS

2.1 Based upon substantial evidence presented to this City Council during the above-referenced meeting on August 28, 2012, including written and oral staff reports, and the record from the public hearing, this City Council hereby specifically finds as follows:

1. **Conformance with General Plan Policies** – The proposed modifications to the Municipal Code are consistent with the General Plan, and its goals, objectives, policies and programs.

FACT: The citywide project consists of modifications to existing lighting standards established in the City of Moreno Valley Municipal Code. Numerous sections of the Code will be modified regarding lighting for general site, athletic field and street lighting to provide a further reduction of light spillover onto adjacent properties, a dark sky approach and a reduction of overall energy/electricity use. All of the proposed clarifications and modifications included within the Municipal Code amendment are consistent with, and do not conflict with the goals, objectives, policies, and programs established within the General Plan. Particularly, Objective 2.10.7 of the General Plan indicates that on-site lighting should not cause nuisance levels of light or glare on adjacent properties.

2. **Conformance with Zoning Regulations** – The proposed modifications to the Municipal Code comply with all applicable zoning and other regulations.

   FACT: The primary purpose of modifying current lighting ordinance practices is to permit reasonable uses of outdoor lighting for nighttime safety, utility, security, and enjoyment while preserving the ambiance of the night, curtail and reverse any degradation of the nighttime visual environment and the night sky, minimize glare and obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary and conserve energy. The amendments to the Municipal Code are consistent with applicable zoning standards and all other regulations within the Code. The newly established language within the amendment are internally consistent and compatible with the purpose and intent of Title 9, and will refine the language within the existing lighting and design standards within the various sections of the Code. The amendments are also internally compatible with other regulations established within the Moreno Valley Development Code.

3. **Health, Safety and Welfare** – The proposed modifications to the Municipal Code will not be detrimental to the public health, safety or welfare or materially injurious to properties or improvements in the vicinity.

   FACT: The modification and enhancement of existing Municipal Code general and design standards for on-site and street lighting with an emphasis on maintaining dark night skies creates a positive environment for the development of Moreno Valley's future and allows for the preservation of night skies and reduction of glare and light in more environmental sensitive land use areas such as residential hillside and open space areas.

Pursuant to Section 15061 of the CEQA Guidelines, the project meets requirements for project exemption as there is no possibility that the modification of existing light standards to further prevent light spillover into adjacent properties and into the night sky may have a significant effect on the environmental, while the activity is not subject to CEQA requirements. The proposed amendment also does not have the potential to adversely affect the public health, safety or welfare of the population residing in the City of Moreno Valley or surrounding jurisdictions.

SECTION 3: ADOPTION

Based on the foregoing recitals and findings, the City Council of the City of Moreno Valley does hereby adopt and approve the ordinance amendment attached hereto as Exhibit A.

SECTION 4: EFFECT OF ENACTMENT:

Except as specifically provided herein, nothing contained in this ordinance shall be deemed to modify or supersede any prior enactment of the City Council which addresses the same subject addressed herein.

SECTION 5: NOTICE OF ADOPTION:

Within fifteen days after the date of adoption hereof, the City Clerk shall certify to the adoption of this ordinance and cause it to be posted in three public places within the city.

SECTION 6: EFFECTIVE DATE:

This ordinance shall take effect thirty days after the date of its adoption.

APPROVED AND ADOPTED this 11th day of September, 2012.

Richard A. Stewart
Mayor

ATTEST:

Jane Thilsted
City Clerk

APPROVED AS TO FORM:

Robert A. Ashmun
City Attorney

ORDINANCE JURAT

STATE OF CALIFORNIA)

COUNTY OF RIVERSIDE) ss.

CITY OF MORENO VALLEY)

I, Jane Halstead, City Clerk of the City of Moreno Valley, California, do hereby certify that Ordinance No. 851 had its first reading on August 28, 2012 and had its second reading on September 11, 2012, and was duly and regularly adopted by the City Council of the City of Moreno Valley at a regular meeting thereof held on the 11th day of September, 2012, by the following vote:

AYES: Council Members Co, Hastings, Molina, Mayor Pro Tem Batey and Mayor Stewart

NOES: None

ABSENT: None

ABSTAIN: None

(Council Members, Mayor Pro Tem and Mayor)

CITY CLERK

(SEAL)

9.08.100 Lighting.

A. Purpose and Intent. The purpose of this section is to establish regulations and standards for outdoor lighting which will reduce light pollution and trespass generated by residential and non-residential lighting fixtures and devices, while maintaining dark skies. It is also the intent of this section to encourage, through the regulation of the types, construction, installation and uses of outdoor illuminating devices, lighting practices and systems to conserve energy without decreasing safety, security and productivity.

B. Applicability. Lighting standards included in this chapter shall apply to:

1. All new development

2. Any existing development or parking area providing five or more spaces, which is enlarged, reconstructed, altered or changed from its previous configuration shall be subject to illumination requirements included in this chapter.

3. Existing land uses are exempt from specific lighting requirements included in this chapter, except that they are subject either to general lighting intensity standards (i.e. foot candle requirements) in place prior to the effective date of this ordinance or standards of a prior point by point or photometric lighting plan approved by the City. Any general modifications to existing on-site lighting structures or fixtures and/or intensity of lighting may be subject to the regulations provided in the entirety of this chapter as determined by the submittal and review of a new or revised photometric lighting plan.

C. Minimum Development and Performance Standards. All exterior lighting shall meet the following requirements:

1. Single Family Residential Uses.

a. In all single family residential areas, light should be shielded such that the lamp itself or the lamp image is not directly visible outside the property perimeter.

b. The maximum wattage for residential lighting shall be 100 watts incandescent or equivalent light intensity and 26 watts compact fluorescent or equivalent light intensity, except for recreational courts.

c. Lighting standards for recreational courts are subject to Section 9.09.190 "Swimming pools, spas and recreational courts", while approval of all recreational court lighting is subject to a point by point photometric lighting plan submittal.

2. Multiple Family Residential Uses.

a. All outdoor lighting associated with residential uses shall be fully shielded and directed away from adjacent residential properties. Such lighting shall not exceed one-quarter (0.25) foot candle minimum maintained lighting measured from within five (5) feet of any property line, and shall not blink, flash, oscillate or be of unusually high intensity or brightness.

b. All lighting installations shall be designed and installed with full cutoff and be fully shielded to reduce glare and light trespass.

c. The maximum wattage for residential lighting shall be 100 watts incandescent or equivalent light intensity and 26 watts compact fluorescent or equivalent light intensity, except as allowed for parking lot lighting and recreational courts.

d. Parking lot lighting for designated multiple family residential parking areas shall meet the requirements included in item (4) (a-c) below.

3. Non-Residential Uses.

a. All outdoor lighting associated with nonresidential uses shall be fully shielded and directed away from surrounding residential uses. Such lighting shall not exceed one quarter (0.25) foot candle minimum maintained lighting measured from within five feet of any property line, and shall not blink, flash, oscillate or be of unusually high intensity or brightness;

b. All lighting installations shall be designed and installed with full cutoff and be fully shielded to reduce glare and light trespass;

c. The maximum wattage for non residential uses shall be 250 watts or equivalent light intensity of high intensity discharge (HID) lighting.

4. Off-Street Parking.

a. All parking lots or structures providing more than five spaces for use by the general public and their pedestrian links shall be provided with a minimum coverage of one (1) foot candle of light with a maximum of eight (8) foot candles on the parking or walkway surface, unless otherwise approved, for visibility and security. Such lighting shall not exceed one quarter (0.25) foot candle minimum maintained lighting measured from within five (5) feet of any property line, and shall not blink, flash, oscillate or be of unusually high intensity or brightness. All wiring shall be underground;

b. All lighting installations shall be designed and installed with full cutoff and be fully shielded to reduce glare and light trespass;

c. The maximum wattage for parking lot lighting shall be 250 watts or equivalent light intensity of high intensity discharge (HID) lighting;

5. Public Parks, Trails and Athletic Field Lighting.

a. The illumination of outdoor public recreational (sports) facilities, unless a specific recreational activity requiring the lighting is already in progress is prohibited between midnight and dawn. Lighting shall be provided as specified in this chapter. All lighting shall be designed and installed in compliance with the Parks and Community Services document titled "LIGHTING STANDARDS FOR PARKS AND RELATED PUBLIC FACILITIES".

b. Public Parks: New lighting designs and retrofit fixtures shall contain horizontal cutoff to reduce vertical lighting above the fixture. New lighting for parks and related facilities should have a maximum of twenty-five one-hundredths (.25) foot-candles at five (5) feet from property line*. Due to geographic difficulties or areas that require higher lighting levels for security, a maximum output of five-tenths (0.5) foot-candles of light at ground level at property line may be utilized.

c. Trails: New lighting designs and retrofit fixtures shall contain horizontal cutoff to reduce vertical lighting above the fixture. Lighted trails not incorporated in the roadway shall be illuminated with a minimum maintained twenty-five one-hundredths (0.25) foot-candles of light at ground level during the hours of darkness. New lighting for trails should have a maximum of twenty-five one-hundredths (.25) foot-candles at five (5) feet from property line*. Due to geographic difficulties or areas that require higher lighting levels for security, a maximum output of five-tenths (0.5) foot-candles of light at ground level at property line may be utilized.

d. Athletic Field Lighting: New lighting designs and retrofit fixtures shall contain horizontal cutoff to reduce vertical lighting above the fixture. The maximum lighting value that shall be used in lighting recreational athletic fields shall be an average maintained 50 foot candles. Minimum lighting values shall be per Parks and Community Services Standards. New lighting for athletic fields should have a maximum of twenty-five one-hundredths (.25) foot-candles at five (5) feet from property line*. Due to geographic difficulties or areas that require higher lighting levels for security, a maximum output of five-tenths (0.5) foot-candles of light at ground level at property line may be utilized.

*Where the adjacent property line is another City facility, the foot-candles may exceed the maximum requirements.

6. Street Lighting

a. Purpose. The purpose of this section is to establish a set of guidelines with which to regulate the installation, operation and maintenance of overhead street lighting in the City. The City seeks to make provisions for street lighting that will be

beneficial to City residents, and to provide for this lighting in an orderly, efficient and equitable manner. This section serves to establish a uniform standard for location of lights and illumination levels within the City, and clarifies responsibilities for payment of the various costs involved.

b. General Requirements. Unless otherwise waived by the public works director/city engineer for developments within the OS, HR, RR and R1 districts, the provision of streetlights shall be a requirement of all development proposals. Prior to acceptance and approval of a final map, a developer shall construct or enter into an agreement to construct a street lighting system. The following specifications apply to all street lighting in the City, on all public and private roadways. The City has adopted the Southern California Edison (SCE) scheduled rates LS-1, LS-2 and LS-3 or comparable Moreno Valley Utility (MVU) rate standards. Prior to any planning, design, or installation of street lighting, the developer shall confirm the applicable rate schedule with the City. Installation of street lighting shall comply with the provisions of Chapter 9.14 for underground utility installation and shall be in accordance with the specifications of and plans approved by either SCE or MVU and the public works director/city engineer. (Ord. 359 (part), 1992). The developer will pay all costs related to the installation of the street lighting and establish a method for the payment of maintenance and operations. All street lighting installed shall be solely for the purpose of illuminating the public way and shall conform to the city street lighting standards.

c. Luminaire and Lamp Requirements.

1. All street lighting in residential areas shall not exceed 9,500 lumen (one hundred watt), high pressure sodium vapor (HPS) lamps, or equivalent, unless otherwise approved by the public works director/city engineer.

2. All street lighting in nonresidential areas shall not exceed 9,500 lumen (one hundred watt), high pressure sodium vapor (HPS) lamps, or equivalent, unless otherwise approved by the public works director/city engineer.

3. All street lighting for arterial roadways shall not exceed 22,000 lumen (two hundred watt), high pressure sodium vapor (HPS) lamps, or equivalent, unless otherwise approved by the public works director/city engineer.

4. All street lighting shall utilize full-cutoff luminaries and be fully shielded.

5. All street lighting shall meet the current City street lighting standards, unless otherwise approved by the public works director/city engineer.

d. Specific Warrants for Lighting Locations.

The City street lighting standards shall be used to determine locations for all street lighting, unless otherwise approved by the public works director/city engineer.

D. Lighting Height Limits

1. Hillside Residential Areas – Outdoor on-site lighting on hillside residential properties, except for street lighting, shall be mounted on a post with full cutoff not to exceed eight (8) feet above finished grade, or on a building wall or structure not to exceed eight (8) feet above finished grade and fully shielded. Such lighting shall be designed to project downward and shall not create glare on adjacent properties. Lighting attached to a single family residential structure shall not exceed the height of the roof eave.

2. All Other Residential Areas – Outdoor on-site lighting within all other residential areas, except for street lighting, shall be on poles or other supports not exceeding twelve (12) feet in height and fully shielded. Such lighting shall be designed to project downward and shall not create glare on adjacent properties. Lighting attached to all residential structures shall not exceed the height of the roof eave.

3. Non-Residential Areas – Outdoor on-site lighting on commercial and industrial properties, except for street lighting, shall be mounted on a post and fully shielded not to exceed a maximum height of thirty (30) feet, except within 100 feet of a residential use, where the post shall not exceed a maximum height of twenty (20) feet. Posts shall be appropriately scaled for small buildings and lots. All lighting fixtures shall be in scale with the proposed building height. Lighting attached to a building shall not exceed the height of the roof eave or twenty feet, whichever is less.

4. Walkway and Courtyard Lighting - Outdoor on-site lighting for all residential and non-residential walkway and courtyard lighting shall be directed downward and mounted on a post or adjacent structure not to exceed a maximum height of twelve (12) feet or the height of the eaves, whichever is less.

E. Light Trespass Standards. Light trespass shall be minimized by complying with the following standards:

1. Light spillover or trespass for all multiple family residential and non-residential properties shall not exceed one-quarter (0.25) foot candle minimum maintained of illumination measured from within five (5) feet of any property line.

2. All exterior lighting shall be full-cutoff type_and fully shielded to prevent spillover onto adjacent properties.

3. All wall pack lighting shall be full-cutoff type and non-adjustable, with light directed away from surrounding properties. Wall packs shall incorporate internal house (wall) side shields, baffles or reflectors to minimize wall brightness.

F. General Guidelines

1. All exterior commercial doors during the hours of darkness shall be illuminated with one (1) to a maximum of three (3) foot candles of maintained lighting.

2. Aisles and passageways related to and within a building complex, during the hours of darkness, shall be illuminated with a maximum of one-half (0.50) to one (1) foot candles of maintained lighting.

3. All lighting shall be enclosed in vandal-resistant fixtures.

4. Lighting shall be adequate to help ensure a safe environment, but not to cause excessive glare or intense light.

5. For safety, identification and convenience, the entrances of building and parking areas shall be illuminated.

6. In multifamily developments, laundry rooms shall be well-lit at all times as they are intended for tenant use. Lights shall be placed on photo cell or automatic timers, and no switches shall be available to tenants to turn the lights off.

G. Lighting Curfew

1. Except as specified elsewhere in this Section, outdoor lighting systems in non-residential areas shall be turned off or reduced by at least fifty percent (50%) beginning at 10:00 p.m. or the close of business, whichever is later, until dawn or the start of business, whichever is earlier. The reduction of lighting shall be determined as an overall average for the parcel. When possible, the lighting system shall be turned off rather than reduced in lighting levels. Lighting shall be equipped with controls for photocell on and timer off.

2. All walkway, security and street lighting may remain on all night.

H. Lighting Prohibitions

1. Overhead roof lighting is prohibited.

2. The installation of mercury vapor outdoor lighting fixtures is prohibited.

3. Adjustable outdoor lighting fixture mounts are prohibited. All fixtures shall be permanently installed so as to maintain shielding requirements, except that landscape and ornamental lighting may use flexible or adjustable mounting systems.

4 Lighting fixtures mounted in such a way as to aim only towards a property line are prohibited.

5. Lighting which interferes with the safe operation of a motor vehicle as determined by the Police Chief or City Engineer is prohibited.

6. Billboard lighting which is pointed upward is prohibited.

I. Lighting Exemptions. The following lighting is exempt from this Chapter:

1. Swimming pool lighting

2. Lighting for exit signs and other illumination required by the building code

3. Lighting for exterior stairs and ramps, as required by the building code

4. Decorative lighting, as approved by the Community and Economic Development Director

5. Holiday and temporary lighting

6. Low voltage landscape lighting

7. Lights used for the illumination of flags as required by law.

8. Portable temporary lighting used by law enforcement or emergency services personnel to protect life or property.

9. Motion detector lighting fixtures are exempt provided that there is no light trespass onto adjacent residential properties.

10. Exposed string outdoor lighting is exempt provided that:

a. Lighting shall consist exclusively of white light with a clear bulb;

b. Installation of such lighting shall be limited to the lighting of living landscape features (shrubs and trees) in outside dining areas or within parking areas of a commercial center or plaza.

J. Lighting plans and evidence of lighting compliance. The application for any required city approval involving residential and non-residential nonexempt outdoor light fixtures shall include evidence that the proposed work will comply with this chapter. The submission shall contain the following:

1. The location of the site where the outdoor light fixtures will be installed;

2. Plans showing the location and type of all fixtures, both existing and proposed, on the premises, including point by point photometric lighting levels;

3. A description of the outdoor light fixtures including, but not limited to manufacturer's catalog cuts, photometric reports with candela distribution, drawings, and shielding information;

4. Submittal drawings shall be signed by a licensed professional engineer or by the licensed electrical contractor that is performing the work. This engineer or contractor shall be held responsible for the content and accuracy of the submittal design. Submittals must contain the name of the company that prepared the drawings and the name, title, and telephone number of the person that performed the design work.

5. All plans resubmitted for approval shall include a written description of all changes and comments attached to the plan check comments.

~~**9.08.190 Street lighting.**~~

~~A. Unless otherwise waived by the public works director for developments within the OS, HR, RR and R1 districts, the provision of street lights shall be a requirement of all development proposals.~~

~~B. Prior to acceptance and approval of a final map, a developer shall construct or enter into an agreement to construct a street lighting system of either:~~

~~1. A utility-owned ornamental system consisting of standard ornamental electroliers customarily furnished by the utility or other design approved by the utility and the public works director; or~~

~~2. A municipally-owned ornamental system consisting of reinforced concrete or steel standards with underground wiring or other design approved by the public works director.~~

~~C. If a utility-owned ornamental system is installed, the developer shall be liable for and shall pay all charges attributable to such installation.~~

~~D. If a municipally-owned underground ornamental system is installed, the developer shall be liable for and shall pay all costs incurred in installing the entire system.~~

~~E. Installation of street lighting shall comply with the provisions of Chapter 9.14 for underground utility installation and shall be in accordance with the specifications of and plans approved by the utility-owned system and the public works director. (Ord. 359 (part), 1992)~~

9.16.235 Hillside design standards.

A. Site Plan Design. Each structure shall be located in the most accessible, least visually prominent, most geologically stable portion or portions of the site, and at the lowest feasible elevation. Structures shall also be aligned with the natural contours of the site. Locating structures in the least prominent locations is particularly important on open hillsides where the high visibility of construction should be minimized by placing structures so that they will be screened by existing vegetation, depressions in topography, or other natural features. In addition, the following standards shall apply:

1. Significantly visible rock outcroppings should be preserved and incorporated into the site plan.

2. All pads and driveways shall, to the fullest extent practicable, follow and utilize the natural contours of the land to minimize disturbance and shall not be located on the crest of a natural ridgeline.

3. Clustering of development on flatter areas of the site is strongly encouraged.

4. Dwelling units and structures shall be sited in a manner that will:

a. Retain outward views from each unit;

b. Preserve or enhance vistas and ridgelines, particularly those seen from public places and rights-of-way in the valley below;

c. Preserve natural hydrology, native plant materials and areas of historic significance.

5. In areas adjacent to a ridgeline or in moderate slope areas, dwelling units and structures shall be sited to:

a. Use the natural ridgeline as a backdrop for structures;

b. Use landscape plant materials as a backdrop;

c. Use the structure to conceal cut slopes;

d. Retain major natural skyline profiles;

e. The topmost point of a proposed structure and all site grading shall be at least thirty (30) feet below the top of the nearest ridge or knoll.

6. Encourage smaller pad to lot size ratios for all dwelling units.

7. Streets, both public and private, shall be developed below the crest of a natural ridgeline.

B. Architectural Design. The following architectural design standards shall apply:

1. Building development color palettes, including roofing, fencing and exterior building materials, shall be "earth tones" compatible with the natural color of the terrain and vegetation, and shall be approved by the community development director.

2. The design of the structure should give consideration to the lot's size and configuration in order to avoid the appearance of overbuilding and to minimize the blocking of views.

3. Large expanses of a single material on walls, roofs or paving areas should be avoided. Create interesting small scale patterns by breaking up building mass, varying building materials, etc. Building plans and elevations should be varied throughout a development to avoid a monotonous "cookie-cutter" look.

4. Horizontal and vertical architecture detailing of building articulation, such as overhangs, projections, alcoves, varied roof-plains, building offsets, etc. should be used to avoid large expanses of a wall in a single plain and to create light and shadow.

5. Brightly colored structures and roofs and reflective glass or building materials are expressly prohibited. Materials and colors shall blend with the natural hillside environment to the greatest degree feasible. Specific materials that are encouraged are those with natural colors and textures, including stone, wood, textured stucco and brick.

6. Where it will not result in increased grading and landform alteration, the limitation of structures to a single story is strongly encouraged.

7. The use of undulating walls that follow the land form are highly encouraged.

8. Detaching the garage shall be encouraged, while retaining walls shall be integrated into the garage walls on sloping lots to reduce grading and minimize visibility of walls.

9. Include architectural enrichments and variations in roof massing. Roofs should have low profiles to minimize their visual impact. On sloping land, the roof pitch should follow the slope of the hillside, instead of being perpendicular to the hillside or

opposing hillside slope. Upper stories should not be cantilevered out of the opposite direction of the hillside slope.

C. Lighting Design. The intent of lighting standards for designated hillside properties is to preserve the low light level conditions that are inherently characteristic of hillside areas. The following lighting design standards shall apply:

1. Lights shall not be located on the portion(s) of the site that has not been disturbed.

2. Lights mounted on dwellings, buildings or structures shall be fully shielded and directed away from adjacent developments.

3. All light fixtures should be directed downward and properly aimed on the targeted areas to maximize their effectiveness and minimize the total number of light fixtures.

4. All lighting shall be low scale and low intensity and directed downward and away from the view of others.

5. Road, driveway and walkway lights should be located on the "downhill" side and aimed toward the "uphill" side and should be fully shielded from below and only light the driveway surface.

6. Lighting fixtures on properties should be mounted on a post not to exceed a height of eight (8) feet above finished grade, or on a building wall not to exceed a height of eight (8) feet above finished grade and fully shielded, or on a structure not to exceed a height of eight (8) feet above finished grade and fully shielded for security lighting.

7. Street lighting shall be limited to the greatest degree feasible to maintain a "dark sky" environment. Typically, streetlights should be limited to street intersections or other locations where safety concerns predicate the need for illumination. (Ord. 773 § 3, 2008)

"Land use ordinance" means the city of Moreno Valley development code as amended.

Lighting (Minimum Maintained). "Minimum maintained lighting" means a method of measuring light at the ground level.

9.15.030

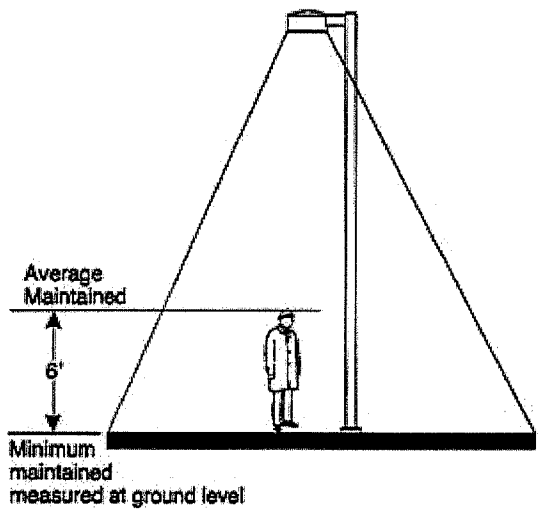

Figure 9.15.030-10

Lighting (Minimum Maintained)

"Light Trespass" means any artificial light or glare from a light fixture onto neighboring property that interferes with viewing of the night sky, or eliminates the ability to have darkness on the adjacent property, or shines into neighboring windows, properties or structures.

"Livestock" means and includes cows, bulls, calves and heifers, except pigs.

"Live/work unit" means a residential dwelling unit where there is one or more rooms containing working space located within, adjacent to, or near the residential unit, and one or more individuals living in the residential unit regularly use the working space to earn their livelihood, usually in professional or design related activities.

9.16.280 General requirements.

A. Purpose and Intent Lighting shall serves both safety and aesthetic purposes, while reducing unnecessary light pollution and maintaining dark skies. Effective lighting will highlight building features and add emphasis to important spaces and entryways, while limiting glare and light trespass onto adjacent properties. The intent of these guidelines is to encourage effective and innovative lighting as an integral design component of a project.

B. General Guidelines.

1. Exterior lighting should relate to the design the project, highlighting architectural elements and details without deflecting unnecessary light and glare onto surrounding properties.

2. Lighting should improve the visual identification of residences and businesses.

3. Energy efficient lighting of buildings is encouraged.

4. High-intensity security lighting fixtures should be concealed by landscaping or building architectural elements.

5. The location, color and intensity of private lighting should relate to and complement public lighting.

6. Lighting fixture design should complement the overall design theme of the project in which they are located.

7. At hazardous locations such as changes of grade, low level supplemental lighting units should be used.

8. Where low level lighting (below five feet) is used, fixtures should be placed so that they do not produce glare.