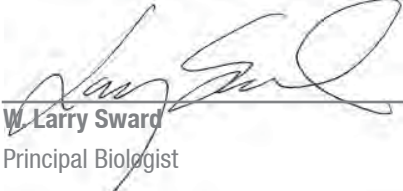


# Mt. San Antonio College 2015 Facilities Master Plan Update

Biological Technical Report

April 14, 2016



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# Mt. San Antonio College 2015 Facilities Master Plan Update Biological Technical Report

## TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
1.0	INTRODUCTION .....	1
	1.1 Project Location .....	1
	1.2 Site Description.....	1
	1.3 Surrounding Land Use .....	2
2.0	SURVEYS AND METHODS .....	2
3.0	RESULTS OF RESEARCH, SURVEYS, AND MAPPING .....	2
	3.1 Vegetation Communities .....	2
	3.1.1 Mule Fat Scrub .....	3
	3.1.2 Venturan Coastal Sage Scrub .....	4
	3.1.3 Non-native Grassland .....	4
	3.1.5 Extensive Agriculture .....	4
	3.1.6 Non-native Vegetation .....	5
	3.1.7 Disturbed Habitat .....	5
	3.1.8 Developed Land .....	5
	3.2 Plant Species .....	5
	3.3 Animal Species .....	5
	3.4 Sensitive Resources .....	5
	3.4.1 Sensitive Vegetation Communities .....	5
	3.4.2 Sensitive Plant Species.....	6
	3.4.3 Sensitive Animal Species .....	9
4.0	REGIONAL AND REGULATORY CONTEXT .....	13
	4.1 Federal Government.....	13
	4.2 State of California .....	15
	4.3 Wildlife Corridors.....	15
5.0	IMPACTS .....	16
	5.1 Thresholds of Significance .....	16
	5.2 Direct Impacts.....	17
	5.2.1 Vegetation Communities and Developed Land.....	17
	5.2.2 Sensitive Vegetation Communities .....	17
	5.2.3 Sensitive Plants.....	18
	5.2.4 Sensitive Animals.....	18

**TABLE OF CONTENTS (cont.)**

<b><u>Section</u></b>	<b><u>Title</u></b>	<b><u>Page</u></b>
5.0	IMPACTS (cont.)	
	5.3 Indirect Impacts .....	18
	5.3.1 Water Quality .....	19
	5.3.2 Fugitive Dust .....	19
	5.3.3 Non-native Plant Species.....	19
	5.3.4 Human Activity/Edge Effects .....	19
	5.3.5 Roadkill .....	20
	5.3.6 Night Lighting .....	20
	5.3.7 Errant Construction Impacts.....	20
	5.3.8 Noise.....	20
6.0	MITIGATION.....	20
	6.1 Direct Impacts.....	21
	6.1.1 Sensitive Vegetation Communities .....	21
	6.1.2 Sensitive Animals.....	21
	6.2 Indirect Impacts .....	22
	6.2.1 Non-native Plant Species.....	22
	6.2.2 Night Lighting .....	23
	6.2.3 Errant Construction Activities.....	23
7.0	SIGNIFICANCE AFTER MITIGATION.....	23
8.0	CERTIFICATION/QUALIFICATION .....	24
9.0	REFERENCES .....	25

**LIST OF APPENDICES**

A	Plant Species Observed
B	Animal Species Observed or Detected
C	Explanation of Status Codes for Plant and Animal Species
D	Representative Site Photos
E	Burrowing Owl Habitat Assessment and Burrow Survey

**TABLE OF CONTENTS (cont.)**

**LIST OF FIGURES**

<b><u>No.</u></b>	<b><u>Title</u></b>	<b><u>Follows Page No.</u></b>
1	Regional Location Map.....	2
2	Project Vicinity Map (USGS Topography) .....	2
3	Project Vicinity Map (Aerial Photograph).....	2
4a	Vegetation Map – Irrigation Well.....	2
4b	Vegetation Map – Detention Basin.....	2
4c	Vegetation Map – Fire Academy .....	2
4d	Vegetation Map – Wildlife Sanctuary .....	2

**LIST OF TABLES**

<b><u>No.</u></b>	<b><u>Title</u></b>	<b><u>Page No.</u></b>
1	Existing Vegetation Communities .....	3
2	Potentially Occurring Sensitive Plant Species.....	7
3	Listed or Sensitive Animal Species with Potential to Occur .....	10
4	Vegetation Impacts .....	17
5	Vegetation Mitigation Analysis .....	21

## 1.0 INTRODUCTION

Mt. San Antonio College (Mt. SAC) has proposed a 2015 Facilities Master Plan Update (FMPU). Three proposed elements of the Mt. SAC 2012 Master Plan Update occur in areas that have not previously been developed. These elements include (1) irrigation well site, (2) detention basin upgrade, and (3) fire academy relocation. This biological technical report analyzes the biological impacts of these elements. These elements cover approximately 13 acres of the 420-acre campus.

### 1.1 PROJECT LOCATION

Mt. SAC is located in the San Gabriel Valley in southeast Los Angeles County, California (Figure 1). The college is situated near the intersection of North Grand and Temple Avenues in the City of Walnut. It is within un-sectioned land of the Puente Land Grant, Township 2 South, Range 9 East on the U.S. Geological Survey (USGS) 7.5-minute San Dimas quadrangle map (Figures 2 and 3).

### 1.2 SITE DESCRIPTION

The study area is approximately 22 acres and supports a mix of developed and undeveloped land with landscaping and native, naturalized, and disturbed habitat communities (Figures 4a through 4c). The study area includes the impact footprint in the three impact areas (irrigation well, detention basin, and fire academy) and a 100-foot-wide area beyond the impact footprint/work area. Elevations within the study area range from approximately 715 to 975 feet above mean sea level.

The FMPU includes additional elements such as re-design of the athletic facilities south of Temple Avenue and east of Bonita Avenue including demolition of the existing stadium and construction of a new stadium. Other changes for the 2015 FMPU include the relocation of the Public Transportation Center to Lot D3, and a pedestrian bridge across Temple Avenue connecting the Physical Education Complex to Lot F. These elements of the FMPU, while shown as work areas on the figures, are not analyzed in this report because they occur in previously developed portions of the campus. In addition, the Wildlife Sanctuary designation would be increased from 10 acres to 26 acres. Within the expanded Wildlife Sanctuary (Figure 4d), Mt. SAC is also planning to restore the extensive agriculture to coastal sage scrub, create 0.06 acre of mule fat scrub, and weed the existing sage scrub and wetland habitats. A portion of the Wildlife Sanctuary that is planned for coastal sage scrub restoration was mistakenly paved during the recent paving of Lot M. The pavement within the restoration area and 50-foot buffer will be removed to allow for the restoration project, which will provide mitigation for a previously approved solar project on the west side of Grand Avenue. The expansion and restoration of the Wildlife Sanctuary is not analyzed in this report because it is expected to improve the habitat quality of the campus.

### **1.3 SURROUNDING LAND USE**

Residential land uses exist on the north, west, and south sides of the campus. To the east of the campus is the Spadra Landfill and undeveloped land. Within the campus, the detention basin site is surrounded by the stadium complex to the west, a parking lot to the north, and a larger maintained detention basin to the east, with a trail through California walnut woodland to the southeast. The fire academy site is located within an asphalt parking lot and surrounded by wildlife preserve, undeveloped land, and trails. The irrigation well site is located on a steep, heavily grazed hillside adjacent to an existing water tank, surrounded by grazing land and agricultural facilities.

## **2.0 SURVEYS AND METHODS**

Prior to conducting biological field surveys, HELIX Environmental Planning, Inc. (HELIX) performed a review of existing literature, including searches of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB; 2016) and the California Native Plant Society (CNPS; 2016) online database for information regarding sensitive species reported in the project vicinity. Results of previous analyses of the 2008 and 2012 Master Plan Updates (HELIX 2008a, b, and c; 2012a) were also consulted.

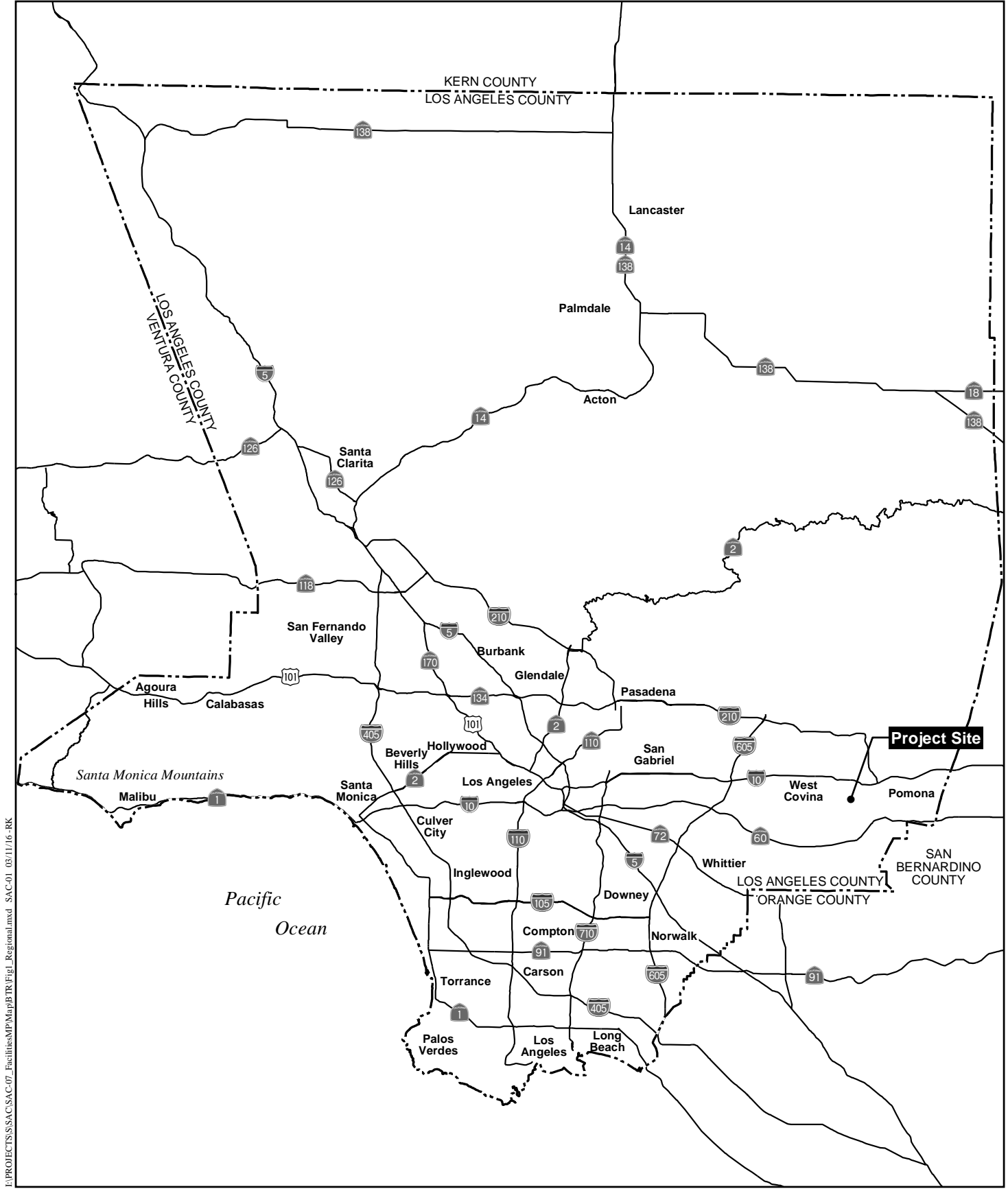
Vegetation mapping, general botanical, and zoological surveys were conducted on March 4, 2016 by HELIX biologist Beth Ehsan. Vegetation communities and sensitive species observed or detected were mapped on a 1"=200' scale aerial photograph map. Upland vegetation communities were mapped to the nearest tenth of an acre and wetland communities were mapped to the nearest hundredth of an acre. A protocol burrowing owl habitat assessment and burrow survey was conducted by HELIX biologist Rob Hogenauer on March 22, 2016.

Vegetation community classifications follow Holland (1986). Plants were identified according to Baldwin, et. al. (2012), while common names are derived from either Baldwin, et. al., CNPS (2016), or Calflora (2016). Sensitive plant status follows the CNPS (2016) and CDFW CNDDDB (2016). Animal nomenclature used in this report is taken from Crother (2001) for amphibians and reptiles, American Ornithologists' Union (2015) for birds, and Baker et al. (2003) for mammals. Sensitive animal status follows the CDFW CNDDDB (2016).

## **3.0 RESULTS OF RESEARCH, SURVEYS, AND MAPPING**

### **3.1 VEGETATION COMMUNITIES**



Four native or naturalized vegetation communities occur within the study area (Table 1; Figures 4a through 4c). The majority of the campus is either in active use for agriculture or has been significantly altered by improvements for the college. Large portions of the study area have been mapped as extensive agriculture because of past and ongoing grazing, which is particularly evident at the irrigation well site. The other mapped habitats (i.e., mule fat scrub, California walnut woodland, and Venturan coastal sage scrub) retain significant native and naturalized

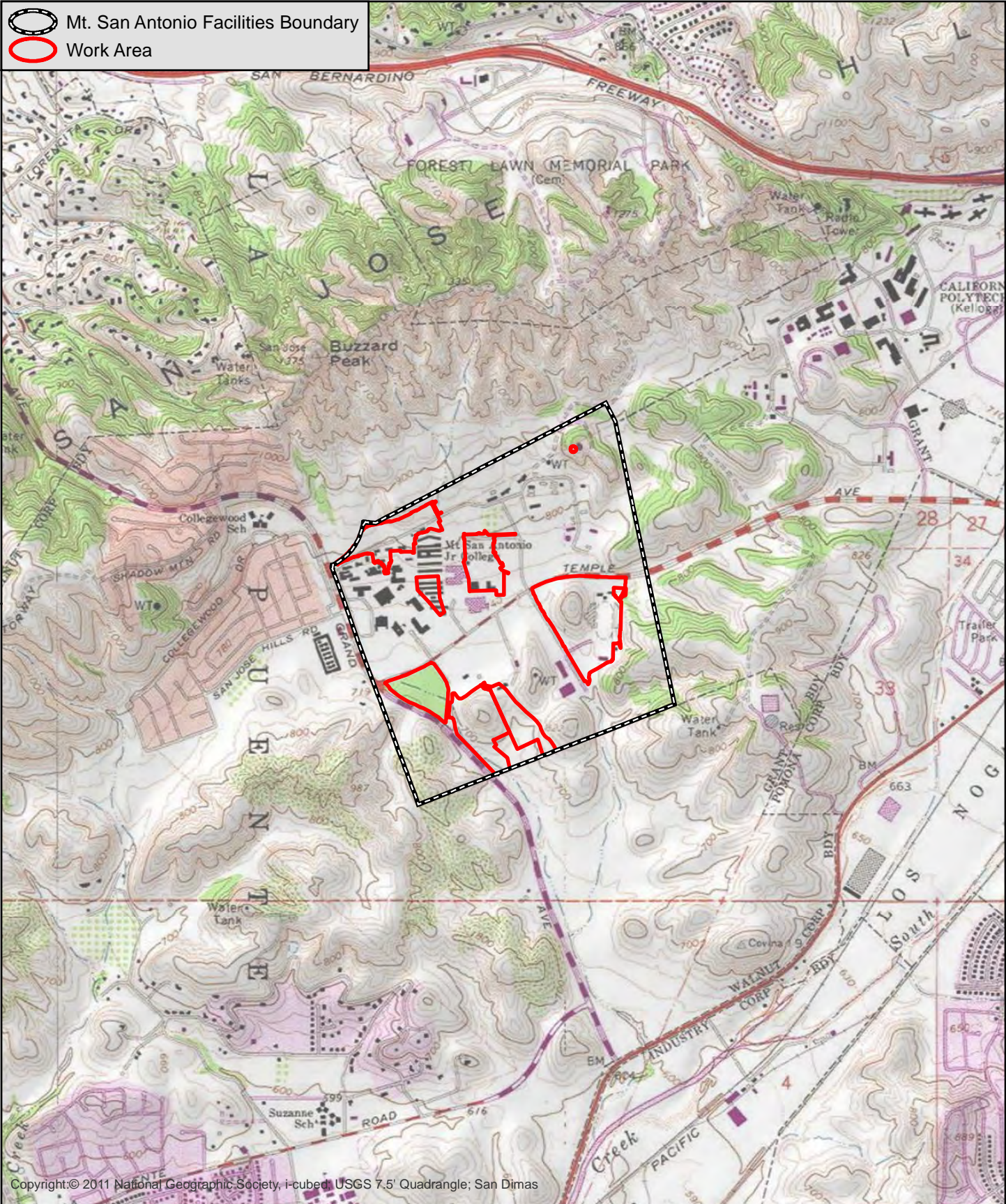


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## Regional Location Map

MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE

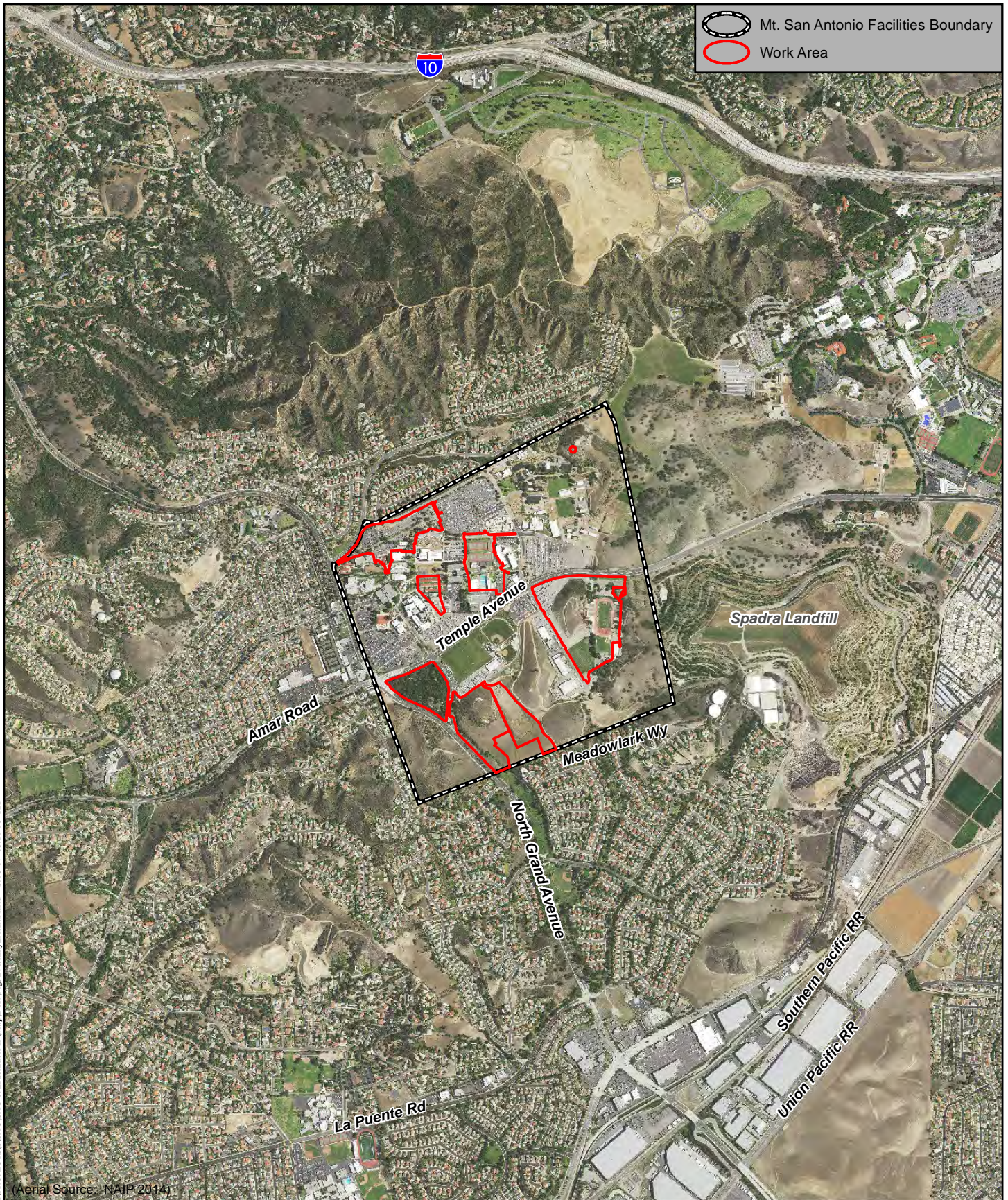
-  Mt. San Antonio Facilities Boundary
-  Work Area



## Project Vicinity Map (USGS Topography)

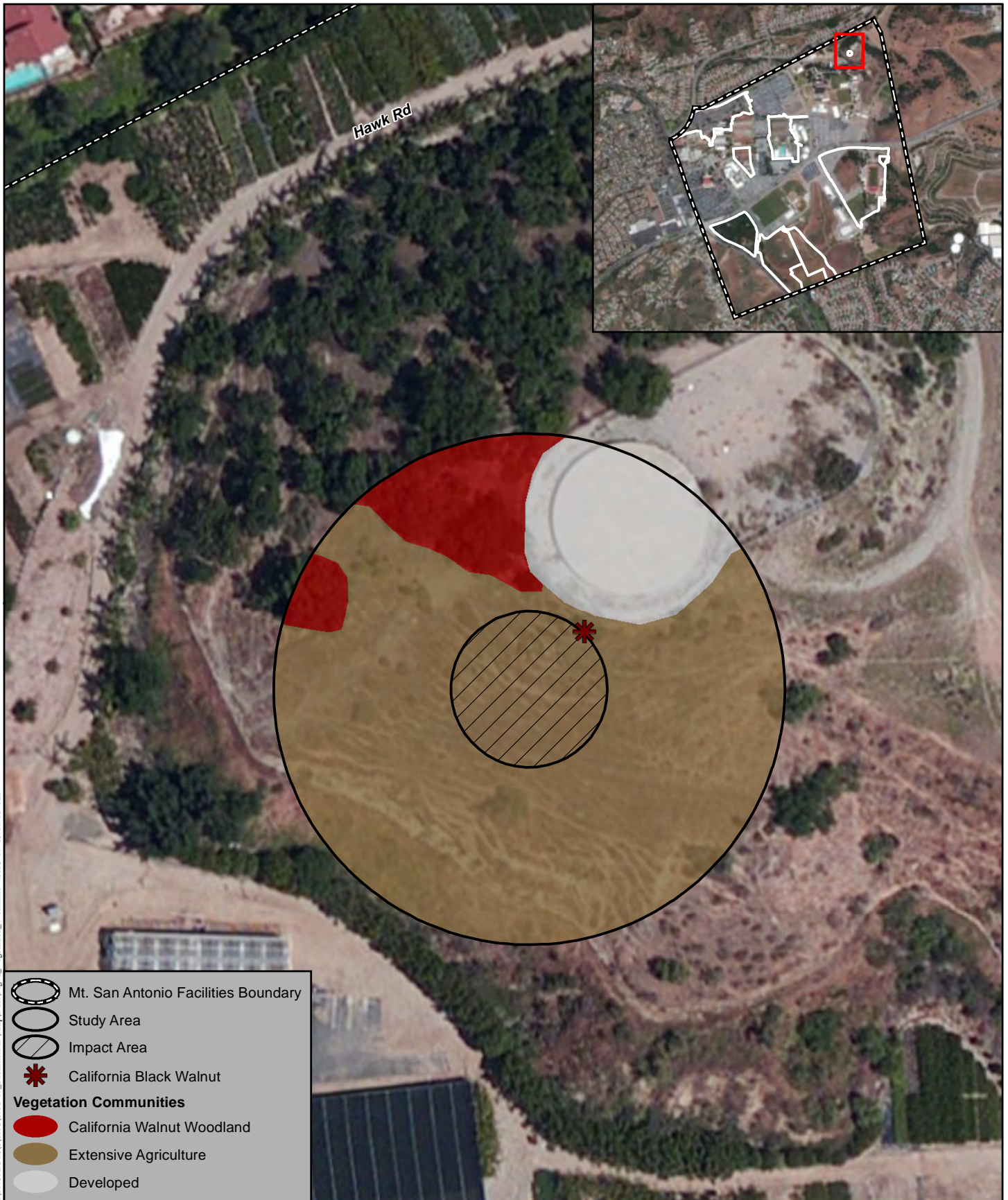
MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE












## Project Vicinity Map (Aerial Photograph)

MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE



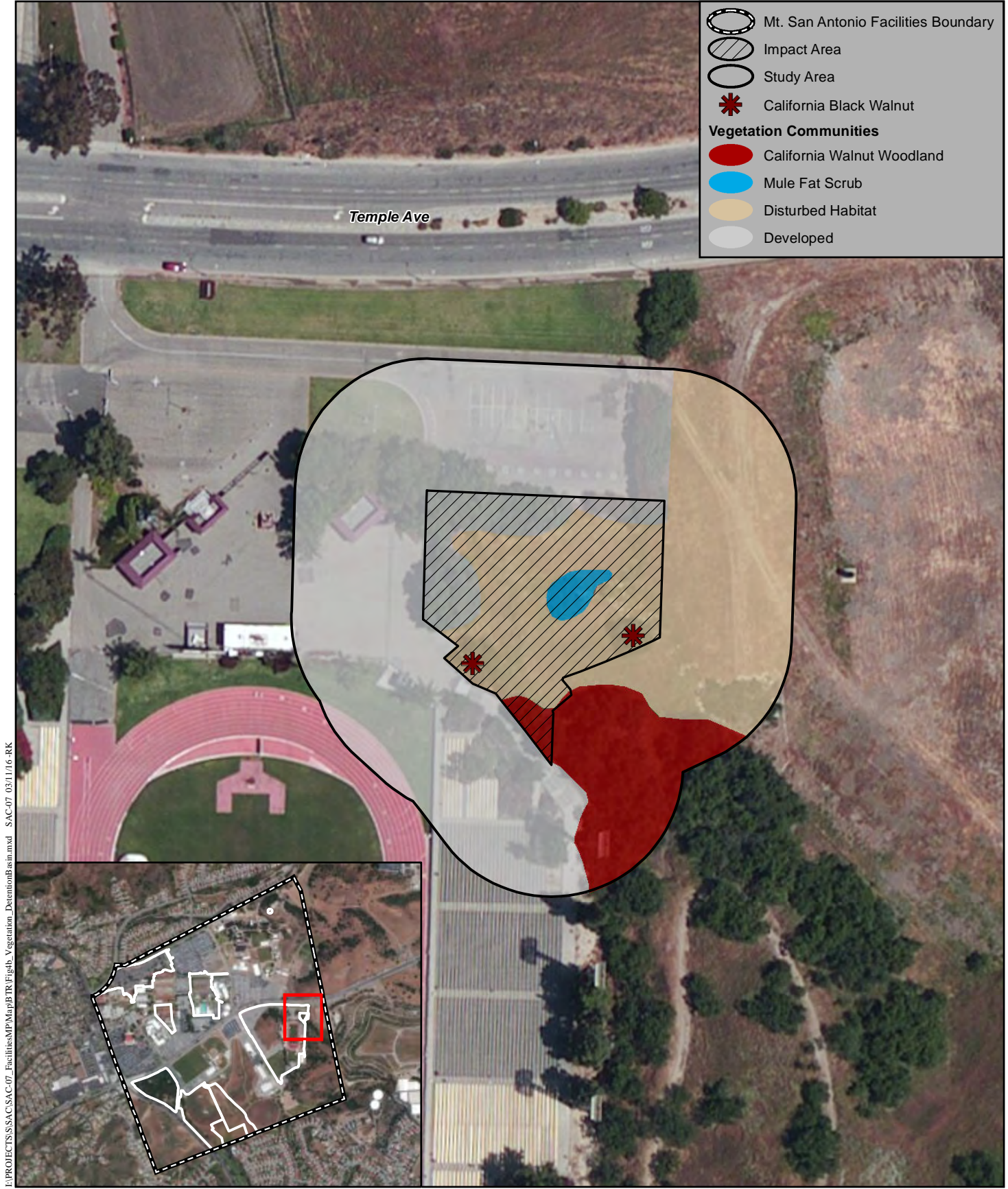
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-  Mt. San Antonio Facilities Boundary
-  Study Area
-  Impact Area
-  California Black Walnut
- Vegetation Communities**
-  California Walnut Woodland
-  Extensive Agriculture
-  Developed

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community (May 2014)

## Vegetation Map - Irrigation Well

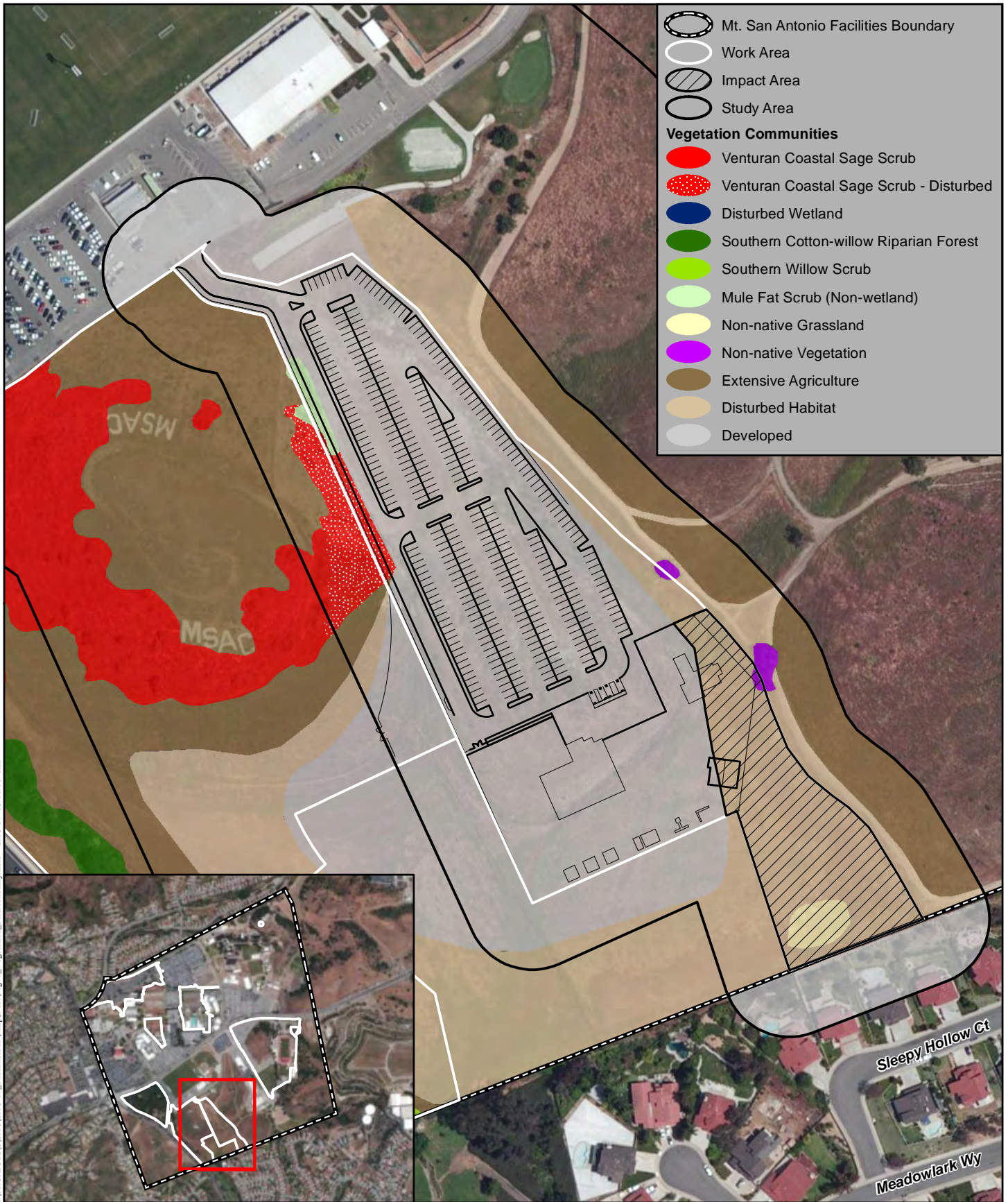
MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE



Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community (May 2014)

## Vegetation Map - Detention Basin

MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE



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Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community (May 2014)

## Vegetation Map - Fire Academy

MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE



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Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community (May 2014)

## Vegetation Map - Wildlife Sanctuary

MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE

species, but have also been affected by grazing. These effects include decreased species diversity, trampling, and the relatively high cover of broad-leaved weed species. Descriptions of these communities are provided below. The non-native grassland in the study area is protected from grazing by a fence along the trail on the east side and a paved parking lot and silt fencing on the west side.

<b>Table 1 EXISTING VEGETATION COMMUNITIES</b>	
<b>NATIVE AND NATURALIZED VEGETATION</b>	<b>ACREAGE</b>
Mule fat scrub (in detention basin)	0.03
Mule fat scrub (upland)	0.1
Venturan coastal sage scrub (including disturbed)	0.5
Non-native grassland	0.1
California walnut woodland	0.5
<b>Subtotal</b>	<b>1.23</b>
<b>ACTIVE USE AND ALTERED AREAS</b>	
Extensive agriculture	3.9
Non-native vegetation	0.1
Disturbed habitat	4.8
Developed	12.1
<b>Subtotal</b>	<b>20.9</b>
<b>TOTAL</b>	<b>22.13</b>

### **3.1.1 Mule Fat Scrub**

Mule fat is rated as facultative (FAC) in the U.S. Army Corps of Engineers (USACE) list of wetland plants (Lichvar et. al. 2014). This rating is for plants that have an equal probability of occurring in a wetland or an upland. The landscape position is the determining factor for whether or not mule fat scrub is a wetland or an upland.

Mule fat scrub as a wetland habitat is a shrubby riparian scrub community dominated by mule fat (*Baccharis salicifolia*) and usually interspersed with shrubby willows (*Salix* spp.; Holland 1986). The mule fat scrub in the detention basin is in a wetland landscape position and consists of mule fat located at the bottom of a manmade detention basin, surrounded by short-pod mustard (*Hirschfeldia incana*) and other non-native weedy species. It does not qualify as jurisdictional wetland because it occurs within a constructed detention basin fed by pipes and a riprap drainage channel. It is a stormwater facility, not a lake or stream. There is 0.03 acre of mule fat scrub in the detention basin.

The mule fat scrub in the fire academy area occurs in an upland landscape position and likely functions as disturbed coastal sage scrub consistent with the nearest habitat. As an upland habitat, it is not regarded as a sensitive habitat. Approximately 0.1 acre of upland mule fat scrub occurs within the study area.

### **3.1.2 Venturan Coastal Sage Scrub**

Coastal sage scrub is one of the two major shrub types that occur in cismontane southern California, with the other shrub type being chaparral. Sage scrub occupies relatively xeric sites characterized by shallow soils. Significant portions of sage scrub habitat in southern California have been destroyed or modified, primarily as a result of urban expansion. Venturan coastal sage scrub is dominated by low, soft-woody shrubs with crowns usually touching (and typically with bare ground beneath and between them). Growth occurs in late winter and early spring, following the onset of the winter rains. Characteristic species of Venturan coastal sage scrub include California sagebrush (*Artemisia californica*), various buckwheats (*Eriogonum fasciculatum*, *E. cinereum*, and *E. parvifolium*), white sage (*Salvia apiana*), black sage (*S. mellifera*), and lemonade berry (*Rhus integrifolia*). This habitat type also occurs as a sparse, low-growing disturbed phase. Approximately 0.5 acre of Venturan coastal sage scrub (including the disturbed phase) occurs adjacent to the fire academy area. This habitat occurs within the study area primarily in the disturbed phase. Disturbed stands have a lower density of shrubs, which may also be smaller than the undisturbed stands, and a greater cover of weedy herbaceous species.

### **3.1.3 Non-native Grassland**

Non-native grassland is a dense to sparse cover of annual grasses often associated with numerous species of showy-flowered native annual forbs. This association occurs on gradual slopes with deep, fine-textured, usually clay soils. This habitat occurs in the southern end of the fire academy hillside clearing area. Common species present in non-native grassland within the project area include ripgut grass (*Bromus diandrus*), red brome (*B. Madritensis* ssp. *rubens*) Mediterranean barley (*Hordeum murinum*), filaree (*Erodium cicutarium*), short-pod mustard (*Hirschfeldia incana*), and Russian thistle (*Salsola tragus*). Approximately 0.1 acre of non-native grassland occurs within the study area.

### **3.1.4 California Walnut Woodland**

California walnut woodland is similar to and intergrades with coast live oak woodland, but has a more open tree canopy and is locally dominated by southern California black walnut (*Juglans californica*). The open tree canopy allows for the development of a grassy understory, which usually comprises introduced winter-active annuals that complete most of their growth cycles before the deciduous black walnuts begin to show their leaves in the spring. The vegetation community is found on relatively moist, fine-textured soils of valley slopes and bottoms, as well as encircling rocky outcrops. Approximately 0.5 acre of California walnut woodland occurs within the project study area.

### **3.1.5 Extensive Agriculture**

Extensive agriculture includes those parts of the study area that are actively grazed and support an herbaceous-dominated community. The extensive agriculture in the irrigation well site appears heavily grazed with substantial areas of bare dirt and species including tocalote (*Centaurea melitensis*), short-pod mustard, Indian sweet clover (*Melilotus indicus*), Russian

thistle, and cheeseweed (*Malva parviflora*). The extensive agriculture near the fire academy site is more vegetated and also includes non-native grasses. Approximately 3.9 acres of extensive agriculture occur within the study area.

### **3.1.6 Non-native Vegetation**

Non-native vegetation areas are those areas that support ornamental species that have either become naturalized or were once part of a maintained landscape but were then abandoned. Two large Peruvian pepper (*Schinus molle*) trees occur in the fire academy study area and constitute 0.1 acre.

### **3.1.7 Disturbed Habitat**

Disturbed habitat includes land cleared of vegetation (e.g., dirt roads) and land containing a preponderance of non-native ruderal species that colonize disturbed or previously cleared areas, without a significant grass component. The disturbed habitat in the detention basin area is dominated by short-pod mustard. The disturbed habitat in the fire academy area is dominated by cheeseweed and Russian thistle. Disturbed habitat totals approximately 4.8 acres within the study area.

### **3.1.8 Developed Land**

Developed land was mapped where permanent structures, pavement, and/or maintained landscaping have been placed. This includes the large asphalt parking lot that was installed in the fire academy site since the aerial photo was taken, as well as planted landscape trees near the detention basin. Developed land within the study area comprises approximately 12.1 acres.

## **3.2 PLANT SPECIES**

Forty-six plant species were observed on site (Appendix A). Thirty-three of these species, or 72 percent, were non-native. This is a relatively large percent of non-native species and reflects the extensive disturbance to the study area.

## **3.3 ANIMAL SPECIES**

Eighteen animal species were observed on site, including 14 birds, three insects, and one mammal (Appendix B).

## **3.4 SENSITIVE RESOURCES**

### **3.4.1 Sensitive Vegetation Communities**

Four vegetation communities found on the project site are considered sensitive by the resource agencies: mule fat scrub, Venturan coastal sage scrub, California walnut woodland, and non-native grassland.



### 3.4.2 Sensitive Plant Species

No sensitive plant species (listed species and Rare Plant Rank 3 and above) were observed during the current or previous surveys. One locally significant species, California black walnut, was observed on site. California walnut woodland was mapped in the irrigation well and detention basin sites, and three mature California black walnut trees were mapped within disturbed habitat and extensive agriculture at those sites.

#### **Sensitive Plant Species with Potential to Occur**

A database search revealed that 35 sensitive plant species, as defined above, are known from the vicinity of Mt. SAC. Four of these are not expected to occur within the study area because they are only known from places with a higher elevation (Greata's aster [*Symphotrichum greatae*], lemon lily [*Lilium parry*], San Bernardino grass-of-Parnassus [*Parnassia cirrata* var. *cirrata*], and San Gabriel bedstraw [*Galium grande*]). Nine others are not expected in the study area because their appropriate habitat is absent:

- alkaline soils near hot springs (hot-springs fimbristylis [*Fimbristylis thermalis*]);
- granitic cliffs and canyon walls (San Gabriel Mountains dudleya [*Dudleya densiflora*]);
- alkaline soils (chaparral ragwort [*Senecio aphanactis*]; smooth tarplant [*Centromadia pungens* spp. *laevis*]; Davidson's saltscale [*Atriplex serenana* var. *davidsonii*]; and salt spring checkerbloom [*Sidalcea neomexicana*]);
- chaparral with granitic soil (San Gabriel River dudleya [*Dudleya cymosa* ssp. *crebrifolia*]);
- recently burned or disturbed areas with sandstone soils with carbonate layers (Braunton's milk-vetch [*Astragalus brauntonii*]); and
- coastal salt marshes and swamps, playas, and vernal pools (Coulter's goldfields [*Lasthenia glabrata* ssp. *coulteri*]).

Twenty-two other sensitive species potentially occur in the study area (Table 2). Differences in the climate from year-to-year can influence the size of certain herbaceous species; however, the site was surveyed in the spring of a year with near normal precipitation and none of these species were observed. This is consistent with the results of previous surveys of Mt. SAC, none of which observed any sensitive plant species. Because the entire impact area has been previously disturbed and/or currently grazed, the project site has a very low potential to support sensitive species, as evidenced by the dominance of non-native ruderal species.

**Table 2  
POTENTIALLY OCCURRING SENSITIVE PLANT SPECIES**

<b>SPECIES</b>	<b>STATUS*</b>	<b>POTENTIAL TO OCCUR</b>	<b>NOTES</b>
Chaparral sand-verbena ( <i>Abronia villosa</i> var. <i>aurita</i> )	--/-- CNPS Rank 1B.1	Low	Flowers from June to September. Coastal sage scrub. Annual.
Coulter's saltbush ( <i>Atriplex coulteri</i> )	--/-- CNPS Rank 1B.2	Low	Flowers from May to October. Coastal sage scrub in clay soils. Perennial herb.
Nevin's barberry ( <i>Berberis nevinii</i> )	FE/SE CNPS List 1B.1	Low	Flowers March to June. Chaparral, woodland, coastal, and riparian scrubs. Would have been observed if present.
Thread-leaved brodiaea ( <i>Brodiaea filifolia</i> )	FT/SE CNPS Rank 1B.1	Low	Flowers from March to June. Clay soils in woodlands, coastal sage scrub, and grasslands. Perennial herb.
Round-leaved filaree ( <i>California macrophylla</i> )	--/-- CNPS Rank 1B.2	Low	Flowers from March to May. Clay soils in woodland and grassland. Annual.
Slender mariposa lily ( <i>Calochortus clavatus</i> var. <i>gracilis</i> )	--/-- CNPS Rank 1B.2	Low	Flowers from March to June. Coastal sage scrub and grassland. Perennial herb.
Intermediate mariposa lily ( <i>Calochortus weedii</i> var. <i>intermedius</i> )	--/-- CNPS Rank 1B.2	Low	Flowers May to July. Coastal sage scrub and grassland. Perennial herb.
Lucky morning glory ( <i>Calystegia felix</i> )	--/-- CNPS Rank 3.1	Low	Flowers March to September. Meadows and seeps (sometimes alkaline), alluvial riparian scrub. Annual rhizomatous herb.
Lewis' evening-primrose ( <i>Camissonia lewisii</i> )	--/-- CNPS Rank 3	Low	Flowers March to June. Sandy or clay soils in coastal bluff scrub, dunes, cismontane woodland, valley and foothill grassland.
Southern tarplant ( <i>Centromadia parryi</i> ssp. <i>australis</i> )	--/-- CNPS Rank 1B.1	Low	Flowers from May to November. Margins of freshwater marsh and vernally mesic grasslands. Annual.
Parry's spineflower ( <i>Chorizanthe parryi</i> var. <i>parryi</i> )	--/-- CNPS Rank 1B.1	Low	Flowers from May to July. Sandy or rocky soil in coastal sage scrub. Annual.
California sawgrass ( <i>Cladium californicum</i> )	--/-- CNPS Rank 2B.2	None	Flowers from June to September. Freshwater marsh. Large perennial herb.

**Table 2 (cont.)  
POTENTIALLY OCCURRING SENSITIVE PLANT SPECIES**

<b>SPECIES</b>	<b>STATUS*</b>	<b>POTENTIAL TO OCCUR</b>	<b>NOTES</b>
Slender-horned spineflower ( <i>Dodecahema leptoceras</i> )	FE/SE CNPS Rank 1B.1	Low	Flowers from April to June. Sandy areas in woodlands. Annual.
Many-stemmed dudleya ( <i>Dudleya multicaulis</i> )	--/-- CNPS Rank 1B.2	None	Flowers from April to July. Coastal sage scrub and grassland. Perennial herb.
Mesa horkelia ( <i>Horkelia cuneata</i> var. <i>puberula</i> )	--/-- CNPS Rank 1B.1	None	Flowers from February to September. Sandy or gravelly soils in coastal sage scrub. Perennial herb.
California satintail ( <i>Imperata brevifolia</i> )	--/-- CNPS Rank 2B.1	None	Flowers from September to May. Riparian scrub along Snow Creek. Perennial herb.
Prostrate navarretia ( <i>Navarretia prostrata</i> )	--/-- CNPS 1B.1	Low	Flowers from April to June. Mesic coastal sage scrub and grasslands. Annual.
South coast branching phacelia ( <i>Phacelia ramosissima</i> var. <i>austrolitoralis</i> )	--/-- CNPS Rank 3.2	Low	Flowers from March to August. Sandy, sometimes rocky chaparral, coastal dunes, coastal scrub, marshes, and swamps. Perennial herb.
Brand's star phacelia ( <i>Phacelia stellaris</i> )	FC/-- CNPS Rank 1B.1	Low	Flowers from March to June. Coastal sage scrub. Annual
White rabbit-tobacco ( <i>Pseudognaphalium leucocephalum</i> )	--/-- CNPS Rank 2B.2	Low	Flowers from July to December. Sandy and rocky soils in woodlands, coastal sage scrub, and grasslands. Perennial herb.
San Bernardino aster ( <i>Symphyotrichum defoliatum</i> )	--/-- CNPS Rank 1B.2	Low	Flowers from July to November. Near ditches, streams and springs in woodlands, scrubs, forests, meadows, marshes, and grasslands. Perennial rhizomatous herb.
Sonoran maiden fern ( <i>Thelypteris puberula</i> var. <i>sonorensis</i> )	--/-- CNPS Rank 2B.2	Low	Flowers from June to September. Meadows and seeps. Perennial herb.

\*A listing and explanation of status and sensitivity codes can be found in Appendix C.

### 3.4.3 Sensitive Animal Species

Three sensitive animal species have been previously observed in or near the study area: the federally listed threatened coastal California gnatcatcher (*Polioptila californica californica*), California Species of Special Concern coastal cactus wren (*Campylorhynchus Brunneicapillus sandiegensis*), and the federally and state listed endangered Least Bell's vireo (*Vireo pusillus bellii*).

#### **Coastal California gnatcatcher (*Polioptila californica californica*)**

**Listing:** FT/SSC

**Distribution:** Occurs throughout coastal lowlands.

**Habitat(s):** Coastal sage scrub and open chaparral.

**Status on site:** Observed in coastal sage scrub on Mt. SAC hill. A pair was observed on May 30, 2012 on the southeast part of the hill. A male was observed on June 15, 2012 on the west side of the hill. Protocol surveys conducted in 2015 on the west side of Grand Avenue also found gnatcatchers. These observations indicate that all of the Venturan coastal sage scrub in the study area is occupied by this species.

#### **Coastal cactus wren (*Campylorhynchus Brunneicapillus sandiegensis*)**

**Listing:** --/SSC

**Distribution:** Subspecies occurs throughout desert and coastal areas of southern California.

**Habitat(s):** Restricted to clumps of native prickly pear (*Opuntia littoralis* and *O. oricola*) or cholla (*Cylindropuntia prolifera*) growing in coastal sage scrub or along washes.

**Status on site:** Individuals were heard vocalizing in the coastal sage scrub located on Mt. SAC hill on May 30 and June 15, 2012. These observations indicate that the Venturan coastal sage scrub in the study area is likely occupied by this species.

#### **Least Bell's vireo (*Vireo bellii pusillus*)**

**Listing:** FE/SE

**Distribution:** Breeding distribution occurs in California from San Diego to Santa Clara counties.

**Habitat(s):** Uncommon in willow dominated riparian areas with a dense understory.

**Status on site:** During focused surveys for this species in 2008, an individual occurred once on the slope of the larger detention basin east of the detention basin area, in an area of Venturan coastal sage scrub – coyote brush phase. This is not regarded as typical least Bell's vireo habitat. This and the fact that an individual was only observed once over the eight survey protocol indicate that it was a transitory individual and not an inhabitant of the study area. In 2008, the larger detention basin supported disturbed wetland and a small patch of southern willow scrub. HELIX conducted a habitat assessment of this area in 2016 and determined no suitable habitat to be present for the least Bell's vireo. The entire bottom of the basin was recently cleared and no willows or riparian scrub are present, nor was there any water or evidence of recent ponding. It is apparent that this detention basin is regularly maintained by Mt. SAC to maintain its function. The site is considered unoccupied by least Bell's vireo based on the lack of suitable habitat.

Twenty-eight other sensitive animal species potentially occur in the study area (Table 3).

<b>Table 3</b>		
<b>LISTED OR SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR</b>		
<b>SPECIES</b>	<b>STATUS*</b>	<b>POTENTIAL TO OCCUR</b>
<b>VERTEBRATES</b>		
<b>Amphibians</b>		
Coast Range newt ( <i>Taricha torosa</i> )	--/SSC	Low. Lives in terrestrial habitats and will migrate over 1 kilometer to breed in ponds, reservoirs, and slow moving streams.
Western spadefoot ( <i>Spea hammondi</i> )	--/SSC	Low. Some habitat occurs on campus in the pools of the sanctuary. Habitat is grassland, sage scrub, or occasionally chaparral. Standing water, puddles, and vernal pools needed for reproduction.
<b>Reptiles</b>		
Coastal western whiptail ( <i>Aspidoscelis tigris stejnegeri</i> )	--/--	Moderate. Found in a variety of ecosystems, primarily hot and dry open areas with sparse foliage - chaparral, woodland, and riparian areas.
Red-diamond rattlesnake ( <i>Crotalus exsul</i> )	--/SSC	Low to moderate. Favors rocky outcrops (limited on site) in coastal sage scrub, chaparral, creosote bush scrub, and areas dominated by cactus.
San Diego horned lizard ( <i>Phrynosoma coronatum blainvillei</i> )	--/SSC	Low. Occurs in chaparral, open sage scrub, and away from development, in areas containing loose soil.
Two-striped garter snake ( <i>Thamnophis hammondi</i> )	--/SSC	Low. Property contains a limited amount of marginal habitat. Stream course with adjacent dense vegetation.
Western patch-nosed snake ( <i>Salvadora hexalepis virgulata</i> )	--/SSC	Low. Occurs primarily in chaparral and occasionally in coastal sage scrub.

**Table 3 (cont.)  
LISTED OR SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR**

SPECIES	STATUS*	POTENTIAL TO OCCUR
<b>VERTEBRATES (cont.)</b>		
<b>Birds</b>		
Burrowing owl ( <i>Athene cunicularia hypugea</i> )	--/SSC	Very Low. Prefers flat grassland, open sage scrub, and desert habitats. A protocol habitat assessment conducted on March 22, 2016 concluded that there is very low potential for burrowing owls within any of the impact sites, and further protocol surveys were not warranted.
California horned lark ( <i>Eremophila alpestris actia</i> )	--/SSC	Moderate. Common in agricultural fields and disturbed grasslands throughout southern California. Small flock observed in 2008.
Cooper's hawk ( <i>Accipiter cooperii</i> )	--/SSC	Moderate. Inhabits streamside groves, lowland riparian areas, and woodlands in proximity to suitable foraging areas such as scrublands or fields. Observed in the Wildlife Sanctuary during 2008 surveys.
Long-eared owl ( <i>Asio otus</i> )	--/SSC	Low. Species inhabits open woodlands, forest edges, riparian strips along rivers, hedgerows, juniper thickets, woodlots, and wooded ravines and gullies. Nests in thickly wooded areas with nearby open habitats for hunting. Winters in dense conifer groves or brushy thickets. Roosting sites are usually in the heaviest forest cover available. Will also roost in hedgerows or caves, and cracks in rock canyons.
Merlin ( <i>Falco columbarius</i> )	--/WL	Low. Winters in California. Occurs in grassland, estuaries, open woodlands, savannahs, and anywhere that small birds flock including farms and ranches.
Southern California rufous-crowned sparrow ( <i>Aimophila ruficeps canescens</i> )	--/SSC	Moderate. Occurs in coastal sage scrub on rocky hillsides and in open chaparral. Open areas of sage scrub occur in the study area.
Southwestern willow flycatcher ( <i>Empidonax traillii extimus</i> )	FE/SE	Not expected. A few areas with marginal habitat occur on campus. Dense mature riparian woodland with willows and/or cottonwoods.

**Table 3 (cont.)**  
**LISTED OR SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR**

SPECIES	STATUS*	POTENTIAL TO OCCUR
<b>VERTEBRATES (cont.)</b>		
<b>Birds (cont.)</b>		
Tri-colored blackbird ( <i>Agelaius tricolor</i> )	--/SSC	Not expected. Occurs in marsh habitat near grasslands, pastures, and agricultural fields.
Western yellow-billed cuckoo ( <i>Coccyzus americanus occidentalis</i> )	--/SE	Not expected. Very limited habitat on campus. Dense, thick riparian with willows, dense understory, slow-moving watercourses. Species rare.
Yellow breasted chat ( <i>Icteria virens</i> )	--/SSC	Not expected. Wide riparian woodland, dense willow thickets, with well-developed understory. Riparian area on campus not wide or dense, and has limited understory.
<b>Mammals</b>		
American badger ( <i>Taxidea taxus</i> )	--/SSC	Not expected. Upland grasslands, meadows, and fields. Some marginal habitat occurs on campus.
Big free-tailed bat ( <i>Nyctinomops macrotis</i> )	--/SSC	Low. Mainly inhabits rugged and rocky terrain. Prefers rocky cliffs in weathered rock fissures and crevices, but has also been discovered roosting in buildings and in terrestrial plants, including ponderosa pines, Douglas firs, and desert shrubs. May be limited by suitable drinking sites. Appears to need large and obstacle-free ponds from which to drink.
Hoary bat ( <i>Lasiurus cinereus</i> )	--/--	Moderate to High. Species thought to prefer trees at the edge of clearings, but has been found in trees in heavy forests, open wooded glades, and shade trees along urban streets and in city parks.
Northwestern San Diego pocket mouse ( <i>Chaetodipus fallax fallax</i> )	--/SSC	Moderate. The northwestern San Diego pocket mouse inhabits coastal sage scrub, sage scrub/grassland ecotones, and chaparral communities. Inhabits open, sandy areas of both the Upper and Lower Sonoran life-zones of southwestern California and northern Baja California, Mexico.
Pallid bat ( <i>Antrozous pallidus</i> )	--/SSC	Moderate. Roosts in caves, mines, crevices, and abandoned buildings. Could forage on site.

<b>Table 3 (cont.)</b>		
<b>LISTED OR SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR</b>		
<b>SPECIES</b>	<b>STATUS*</b>	<b>POTENTIAL TO OCCUR</b>
<b>VERTEBRATES (cont.)</b>		
<b>Mammals (cont.)</b>		
Pocketed free-tailed bat ( <i>Nyctinomops femorosaccus</i> )	--/SSC	Not expected. Roosting habitat does not occur in study area. Usually found in desert scrub. Roosts in cliffs and rocky crevices in small colonies.
San Diego black-tailed jackrabbit ( <i>Lepus californicus bennettii</i> )	--/SSC	Low. Occurs primarily in open habitats, including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present.
San Diego desert woodrat ( <i>Neotoma lepida intermedia</i> )	--/SSC	Low. Occurs in open chaparral and coastal sage scrub, often building large stick nests in rock outcrops or around clumps of cactus or yucca.
Western mastiff bat ( <i>Eumops perotis californicus</i> )	--/SSC	Low. Limited roosting areas within the study site. Usually inhabits rocky areas and cliff faces. Known to roost in buildings.
Western yellow bat ( <i>Lasiurus xanthinus</i> )	--/--	Low. Habitat is desert grassland and scrub with an associated water feature.
Yuma myotis ( <i>Myotis yumanensis</i> )	--/--	Moderate to High. Found in a variety of habitats, ranging from juniper and riparian woodlands to desert regions near open water. Roosts in caves, attics, buildings, mines, underneath bridges, and other similar structures.

\*A listing and explanation of status codes for plant and animal species can be found in Appendix C.

## **4.0 REGIONAL AND REGULATORY CONTEXT**

Biological resources are subject to regulatory review by the federal government and State of California. The federal government administers non-marine plant- and wildlife-related issues through the U.S. Fish and Wildlife Service (USFWS), while waters of the U.S. (WUS) issues are administered by the USACE. California law relating to wetland, water-related, and wildlife issues is administered by the CDFW. The State Water Resources Control Board (SWRCB) also has a role in permitting impacts to WUS.

### **4.1 FEDERAL GOVERNMENT**

Administered by the USFWS, the federal Endangered Species Act (ESA) provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a “take” under the ESA. Section



9(a) of the ESA defines take as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” “Harm” and “harass” are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species’ behavioral patterns.

Sections 4(d), 7 and 10(a) of the federal ESA regulate actions that could jeopardize endangered or threatened species. A special rule under Section 4(d) was finalized, which authorizes incidental take of certain protected species within subregions that are actively preparing a Natural Communities Conservation Programs (NCCP) plan or under approved NCCPs, which are administered by the states. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. Federal actions by private, state, or local entities typically consist of activities that involve federal approvals/permits or federal funding. A biological assessment is required for any major construction activity if it may affect listed species. In this case, take can be authorized via a letter of biological opinion issued by the USFWS for non-marine related listed species issues. A Section 7 consultation (formal or informal) is required when there is a nexus between endangered species’ impacts and issuance of a Clean Water Act (CWA) permit by the USACE for work in jurisdictional areas or other federal actions. Section 10(a) allows issuance of permits for “incidental” take of endangered or threatened species with preparation of a habitat conservation plan (HCP). The term “incidental” applies if the taking of a listed species is incidental to (and not the purpose of) an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species’ survival must be submitted for issuance of Section 10(a) permits.

All migratory bird species that are native to the United States or its territories are protected under the federal Migratory Bird Treaty Act (MBTA), as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127; USFWS 2004). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the USFWS places restrictions on disturbances allowed near active raptor nests.

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the CWA. The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all WUS. Permitting for projects filling WUS (including wetlands) is overseen by the USACE under Section 404 of the CWA. Projects are permitted on an individual basis or by a general or nationwide permit. Individual permits are assessed individually based on the type of action, amount of fill, etc., and typically require substantial time (often longer than 6 months) to review and approve. Nationwide permits, on the other hand, are pre-approved if a project meets certain conditions and maximum areas of affect. A Section 401 certification or waiver under the federal CWA would also be required from the SWRCB in conjunction with any Section 404 permit that is required.

## 4.2 STATE OF CALIFORNIA

The California ESA is similar to the federal ESA in that it contains a process for listing of species and regulating potential impacts to listed species. Section 2081 of the California ESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes.

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

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

The California Environmental Quality Act (CEQA) and its implementing guidelines (CEQA Guidelines) require discretionary projects with potentially significant effects (or impacts) on the environment to be submitted for environmental review. Mitigation for significant impacts to the environment is determined through the environmental review process, in accordance with existing laws and regulations.

Mt. SAC is the Lead Agency for this project's CEQA review process. As Lead Agency, Mt. SAC will be responsible for certifying the CEQA document and making a decision on the 2015 FMPU.

Mt. SAC is not a participant in the NCCP, nor is it within an HCP planning area. The California NCCP Act (Section 2835) allows the CDFW to authorize take of species covered by plans in agreement with NCCP guidelines (CDFW 1997). An NCCP initiated by the State of California under Section 4(d) of the federal ESA focuses on conserving coastal sage scrub in order to avoid the need for future federal and state listing of coastal sage scrub-dependent species. The coastal California gnatcatcher is presently listed as threatened under the federal ESA, while several additional species inhabiting coastal sage scrub are candidates for federal listing. Because Mt. SAC is not enrolled as a participant in the NCCP, the proposed 2015 Master Plan Update cannot rely on a habitat loss permit under Section 4(d) of the federal ESA. Since there is not an existing HCP for the study area, any projects that would cause "take" of a listed species would require an application to the USFWS for issuance of a Section 10(a) permit for "incidental" take of endangered or threatened species (with preparation of an HCP.).

## 4.3 WILDLIFE CORRIDORS

Wildlife corridors can be local or regional in scale and may function in different ways, depending on species and time of year. They represent areas where wildlife movement is concentrated due to natural or manmade constraints. Local corridors provide access to resources such as food, water, and shelter. Animals can use these corridors (such as hillsides and tributary drainages to main drainages) to travel among different habitats (i.e., riparian and upland

habitats). Some animals require riparian habitat for breeding and upland habitat for burrowing. Regional corridors provide these functions and also link two or more large areas of open space. They provide avenues for wildlife dispersal, migration, and contact between otherwise distinct populations.

None of the three impact sites are expected to function as wildlife corridors for the following reasons. The irrigation well site is steep and bare of any substantial vegetation, and there is fencing at the base of the hill to confine cattle grazing, which would also block medium and large mammals. The California walnut woodland on the other side of the hill is more likely to support wildlife movement. The detention basin site is fenced on three sides and surrounded by the stadium area, a parking lot, and a maintained detention basin. The fire academy site is fenced on the east and south sides and the west side is a large paved parking lot and associated fill slopes.

## **5.0 IMPACTS**

Impacts addressed in this section are considered either direct or indirect. A direct impact occurs when the primary effects of the project replace existing habitat with graded or developed areas. All of the project area is considered impacted for the purposes of this report. An indirect impact consists of secondary effects of a project such as exotic species invasion, increased lighting, noise, and increased human intrusion. The magnitude of an indirect impact can be the same as a direct impact; however, the effect usually takes a longer time to become apparent.

### **5.1 THRESHOLDS OF SIGNIFICANCE**

Significance thresholds identified for biological resource issues include effects to rare, threatened, or endangered species or their associated habitats, and interference with the movements of resident or migratory fish or wildlife species. For purposes of this report, significance thresholds are summarized as follows: (1) 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 CDFW or USFWS; (2) a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS; (3) a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means; (4) a substantial interference 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; (5) a conflict with any applicable policies protecting biological resources; and (6) a conflict with the provisions of an adopted HCP, NCCP, or other applicable HCP. In response to the sixth threshold, it should be noted that there are no adopted plans applicable to the Mt. SAC study site.

## 5.2 DIRECT IMPACTS

### 5.2.1 Vegetation Communities and Developed Land

The project would directly impact three native vegetation types, as well as extensive agriculture, disturbed habitat, non-native vegetation, and developed land (Table 4; Figures 4a through 4c; photos in Appendix D). A total of 2.33 acres would be impacted by the project. As shown on Figure 4c, the impact area for the fire academy is smaller than the work area because most of the work area is paved parking lot.

<b>Table 4 VEGETATION IMPACTS</b>	
<b>VEGETATION TYPE</b>	<b>IMPACT ACREAGE</b>
<b>NATIVE AND NATURALIZED VEGETATION</b>	
Mule fat scrub (in detention basin)	0.03
Non-native grassland	0.1
California walnut woodland	<0.1
<b>Subtotal</b>	<b>0.13</b>
<b>ACTIVE USE AND ALTERED AREAS</b>	
Extensive agriculture	0.1
Non-native vegetation	<0.1
Disturbed habitat	1.9
Developed	0.2
<b>Subtotal</b>	<b>2.2</b>
<b>TOTAL</b>	<b>2.33</b>

### 5.2.2 Sensitive Vegetation Communities

Direct impacts will occur to 0.03 acre of mule fat scrub and 0.1 acre of non-native grassland. The impact to mule fat scrub is not considered significant because although it is a wetland habitat, the mule fat scrub is growing in a manmade detention basin, and would not persist without runoff water directed into the basin by pipes. Because the detention basin is a stormwater facility, it is not a jurisdictional wetland or water and can be maintained by Mt. SAC without requiring permitting and mitigation. The impacts to the remaining habitats or areas are not significant because the habitat is not regarded as sensitive habitat (extensive agriculture, non-native vegetation, disturbed habitat, and developed areas), or because of the de minimus acreage of the impact (California walnut woodland, non-native grassland).

### **5.2.3 Sensitive Plants**

The only sensitive plant species within the impact area is the California black walnut. Two mature California black walnut trees are located within disturbed habitat in the detention basin impact area, two within California walnut woodland in the detention basin impact area, and one within extensive agriculture on the edge of the irrigation well impact area. While impacts to five trees might be considered de minimus on their own, the loss of individual trees is significant in this case based on the cumulative impacts to California walnut woodland from previous projects on campus.

### **5.2.4 Sensitive Animals**

Marginally suitable habitat for burrowing owl (*Athene cunicularia hypugea*) exists in portions of the survey area; therefore, a protocol habitat assessment and burrow survey was conducted (Appendix E). Based on the habitat assessment, the probability of this species inhabiting Mt. SAC appears low, with no to very low potential within proposed impact areas. No owls or evidence of occupied burrows were observed in protocol burrowing owl surveys conducted in 2008 or 2015, or during any of the other surveys conducted on campus. The CNDDDB records show that the nearest burrowing owl record is approximately 9 miles southwest of Mt. SAC, in the City of Chino Hills (Danbury Park). However, because there is low potential for owls to occur within 500 feet of the impact areas, there is a potential for impact to burrowing owls from nest disruption during project construction.

### **Raptors**

Construction of the proposed project would potentially directly impact potential raptor foraging and nesting habitat through construction activity. Although non-native grassland can support raptor foraging, the loss of 0.1 acre of non-native grassland is considered less than significant in this case based on the small size of the impact, its location within a disturbed area, and the large amount of developed habitat nearby. Direct impacts to active raptor nests are prohibited under the federal MBTA. No nests were observed during surveys. There remains, however, a potential for impacts to raptors from nest disruption during project construction.

## **5.3 INDIRECT IMPACTS**

Potential indirect impacts from project construction could include decreased water quality (i.e., through sedimentation, contaminants, or fuel release), fugitive dust, colonization of non-native plant species in previously undisturbed areas, edge effects, animal behavioral changes, roadkill, night lighting, errant construction impacts, and noise. The proposed project will be subject to the restrictions and requirements that address erosion and runoff, including the federal CWA. Best management practices also should be used throughout construction to further reduce impacts. A discussion of potential indirect impacts follows.

### **5.3.1 Water Quality**

Water quality can be adversely affected by potential surface runoff and sedimentation. The use of petroleum products (i.e., fuels, oils, and lubricants) could potentially contaminate surface water and affect biological resources. Decreased water quality may adversely affect vegetation, aquatic animals, and terrestrial wildlife that depend on these resources. However, Mt. SAC must comply with control requirements of the National Pollutant Discharge Elimination System (enforced by the SWRCB) during the construction and operation of the proposed facilities. Compliance with the water quality regulations would mean that the potential impacts to downstream biological resources would be less than significant.

### **5.3.2 Fugitive Dust**

Fugitive dust can disperse onto sensitive vegetation, and a continual cover of dust may reduce the overall vigor of individual plants by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. In turn, this could affect animals that are dependent on these plants. Construction activities (including clearing and grading) occurring within or adjacent to vegetation could result in the deposition of significant amounts of dust on plants and trees, which could cause a significant impact. Implementation of dust control measures during clearing, grading, and construction (as required for air quality impacts) would reduce potential dust impacts on biological resources to less than significant levels.

### **5.3.3 Non-native Plant Species**

Non-native plants can colonize disturbed areas and can sometimes spread into adjacent native habitats. Many of these non-native plants are highly invasive and can displace native vegetation, reducing native species diversity. Compared to pristine habitat, an abundance of non-native species could potentially increase flammability and fire frequency, change ground and surface water levels, or adversely affect native wildlife that are dependent on native plant species. Revegetation for erosion control and the use of landscaping can increase colonization by non-native plant species in non-impact areas that contain native vegetation. The majority of the habitats on site already contain a large number of non-native plant species; however, additional species could potentially enter the native Venturan coastal sage scrub habitat if invasive landscaping plants are planted as part of the landscaping plans. Potential impacts by non-native plant species and the resulting degradation of habitat used by native species could be considered a significant impact.

### **5.3.4 Human Activity/Edge Effects**

Urbanization and increases in human activity can result in degradation to sensitive vegetation by fragmenting the land and forming edges between developed areas and habitat. These edges make it easier for non-native plant species to invade native habitats and for native and non-native predators to access prey that may have otherwise been protected within large, contiguous blocks of habitat. In addition, secondary extinctions through disruption of predator-prey, parasite-host, and plant-pollinator relations can also occur (Soulé 1986). Edge effects can be particularly significant. For example, when a nest parasite such as the brown-headed cowbird (*Molothrus*

ater) has easy access to other birds' nests, brood parasitism in that area will increase. Illegal dumping of trash may also increase in these areas.

Human activity and edge effects resulting from the proposed project are not considered significant. Once constructed, neither the detention basin nor the irrigation well will involve substantial human activity. The fire academy will involve human activity; however, with the exception of hillside clearing, all activity will occur in the area of an existing paved parking lot where people and cars already come and go on a regular basis.

### **5.3.5 Roadkill**

This project is not expected to significantly increase the amount of traffic in the area following construction; therefore, effects due to roadkill are not expected to be significant.

### **5.3.6 Night Lighting**

Night lighting exposes wildlife species to an unnatural light regime and may alter their behavior patterns, which could result in a loss of species diversity. Night lighting on native habitats also can provide nocturnal predators with an unnatural advantage over their prey. This could cause an increased loss in native wildlife. This impact would only be significant if the facility is illuminated at night. Unless appropriate measures are taken during the building design phase to prevent release of light into adjacent habitat, night lighting could result in a significant impact.

### **5.3.7 Errant Construction Impacts**

Another potentially significant indirect impact of project construction is errant construction impacts outside the limits of construction (i.e., construction vehicles encroaching beyond the limits of work and entering native habitat). Any such activities occurring outside the construction limits within sensitive habitat would be considered a significant indirect impact.

### **5.3.8 Noise**

Noise can cause animals to flee, which could be especially significant to birds that may abandon active nests. Additionally, birds may be susceptible to disturbances other than noise from construction activity. For example, construction activity within 500 feet of an active raptor nest may cause the nest to be abandoned and that impact would be considered significant. Although no active raptor nests were observed on site during the general survey, it is possible that they may occur on or adjacent to the study site near areas where construction activity is planned.

## **6.0 MITIGATION**

This section lists each of the significant impacts anticipated from construction of the proposed project. Following each impact is the corresponding mitigation measure(s) (MM) to reduce each impact to less than significant.

## 6.1 DIRECT IMPACTS

### 6.1.1 Sensitive Vegetation Communities

*Impact 6.1.1* Impacts to mule fat scrub, non-native grassland, walnut woodland, and walnut trees were documented on site. The impact to mule fat scrub is considered less than significant due to the small area affected and the location within a manmade stormwater facility. Impacts to 0.1 acre of non-native grassland and less than 0.1 acre of California walnut woodland are considered less than significant due to the small area affected and the disturbed surroundings; however, the loss of individual California black walnut trees considered significant.

*MM 6.1.1* Impacts to California black walnut trees, if they cannot be avoided, should be mitigated by the replacement of each impacted tree that has a diameter of 6 inches at 4 feet, 6 inches above the ground by a 24-inch boxed specimen (Table). These trees should be planted in an area to be preserved and maintained and monitored for 2 years. The campus already has a California Black Walnut Management Plan (HELIX 2012b) and these trees could be added to the planting required under that plan.

<b>SENSITIVE RESOURCE</b>	<b>IMPACT</b>	<b>MINIMUM MITIGATION RATIO</b>	<b>MITIGATION</b>
California black walnut trees	5 trees	1:1	5 trees

### 6.1.2 Sensitive Animals

Impacts were calculated under the assumption that all structures and improvements for the fire academy will be contained within the existing disturbed footprint of the existing paved parking lot, and no further clearing or grading will be required except for the slope clearing training area on the southeast side of Lot M. This limitation must be followed because any clearing or grading on the west side of the fire academy site (west side of Lot M against Mt. SAC Hill) would directly impact occupied coastal California gnatcatcher habitat. Because Mt. SAC is not enrolled as a participant in the NCCP, the proposed Master Plan cannot rely on a habitat loss permit under Section 4(d) of the federal ESA. Since there is not an existing HCP for the study area, any projects that would cause “take” of a listed species would require an application to the USFWS for issuance of a Section 10(a) permit for “incidental” take of endangered or threatened species (with preparation of an HCP). Any impacts to coastal sage scrub would require mitigation at a 2:1 ratio.



*Impact 6.1.2* Construction activities during the bird breeding season could potentially indirectly impact burrowing owls, raptors, and other species protected by the MBTA, which would be significant if not mitigated. Impacts could occur from either habitat loss or noise impacts, and may be significant.

*MM 6.1.2* If clearing, grading, or construction is planned to occur during the raptor and migratory bird breeding season (February 1 through July 31) or the burrowing owl breeding season (February 1 through August 31), pre-construction surveys should be conducted in the construction area and in appropriate nesting habitat within 500 feet of the construction area. A pre-construction nest/owl survey should be completed for each project or work area within 14 days of the start of construction. Multiple pre-construction surveys may be required because the start of specific projects may be separated in time by months or years. If there are no nesting owls, raptors or protected birds within each area, development would be allowed to proceed. However, if raptors or migratory birds are observed nesting within this area and within sight or sound of the work, development within 300 feet must be postponed either until all nesting has ceased, until after the breeding season, or until construction is moved far away enough so that the activity does not impact the birds. If burrowing owls are observed, impacts shall be avoided according to the Staff Report on Burrowing Owl Mitigation (CDFW 2012).

## **6.2 INDIRECT IMPACTS**

Indirect impacts due to the following causes are less than significant due to compliance with state law or with project design features:

- Dust related to construction shall be controlled through implementation of measures required per dust control mandates, including the application of water on unvegetated, unpaved surfaces during construction.
- Degraded surface water quality will be prevented by implementation of Best Management Practices in accordance with SWRCB guidelines.

### **6.2.1 Non-native Plant Species**

*Impact 6.2.1* Non-native plant species have the potential to colonize non-impact areas and would result in degradation of habitat used by native species, which could be considered a significant impact.

*MM 6.2.1* Erosion control seed mixes and landscape plans for the projects should be reviewed by a qualified biologist prior to final approval to ensure that no species on the California Invasive Plant Council (Cal-IPC) list of problem species would be incorporated into the plan(s).

### **6.2.2 Night Lighting**

*Impact 6.2.2* Night lighting on native habitats may result in altered behavioral patterns of wildlife species and possibly a decrease in native species diversity of the site.

*MM 6.2.2* All new lighting standards for the fire academy, Lot M, and Lot W immediately adjacent to the sensitive biological habitat areas (i.e., Wildlife Sanctuary/Open Space Zone, Mt. SAC Hill, and Reservoir Hill) shall not exceed 0.2 foot candles at 5 feet outside of the parking lot boundary. Lot M and Lot W lighting near Mt. SAC Hill shall employ automatic shutoff devices to ensure that the parking lot lighting intrusion is minimized unless required for public safety and security. Facilities Planning and Management shall monitor compliance.

### **6.2.3 Errant Construction Activities**

*Impact 6.2.3* Construction activities occurring outside the construction limits may significantly impact adjacent sensitive habitats.

*MM 6.2.3* The limits of construction for projects adjacent to sensitive habitats should be delineated with silt fencing/fiber rolls and orange construction fencing. A qualified biologist should attend a pre-construction meeting to inform construction crews about the sensitivity of any adjacent habitat. A qualified biologist should also inspect the fencing upon installation and monitor clearing and grading of (and near) native habitat to prevent unauthorized impacts.

## **7.0 SIGNIFICANCE AFTER MITIGATION**

With implementation of the mitigation measures for significant impacts to sensitive resources (listed in Section 6.0), impacts from implementation of the proposed FMPU to sensitive biological resources would be less than significant.

## 8.0 CERTIFICATION/QUALIFICATION

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

Beth Ehsan	M.S., Natural Resource Policy, University of Michigan, 2004 B.A., Conservation Biology, University of Wisconsin-Madison, 2001
Rebecca Kress	B.A., Geography, State University of New York, Geneseo, 1999
Aleksandra Richards	M.A., International Relations, University of San Diego, 2010 B.A., Communications, Emphasis in Print Journalism, California State University Fullerton, 2008
W. Larry Sward	M.S., Biology, San Diego State University, 1979 B.S., Biology, San Diego State University, 1975

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HELIX (cont.)

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# Appendix A

## PLANT SPECIES OBSERVED



**Appendix A**  
**PLANT SPECIES OBSERVED**  
**MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE**

<b><u>FAMILY</u></b>	<b><u>SCIENTIFIC NAME</u></b>	<b><u>COMMON NAME</u></b>	<b><u>HABITAT</u></b>
Adoxaceae	<i>Sambucus nigra ssp. canadensis</i>	black elderberry	3
Anacardiaceae	<i>Schinus molle</i> *	Peruvian pepper tree	2
	<i>Schinus terebinthifolius</i> *	Brazilian pepper tree	1
Arecaceae	<i>Washingtonia robusta</i> *	Mexican fan palm	2
Asteraceae	<i>Artemisia californica</i>	California sagebrush	3,4
	<i>Baccharis pilularis</i>	coyote brush	2
	<i>Baccharis salicifolia</i>	mule fat	5
	<i>Bidens pilosa</i> *	common beggar's tick	2
	<i>Centaurea melitensis</i> *	toçalote	2,3,4
	<i>Encelia californica</i>	California encelia	3
	<i>Lactuca serriola</i> *	wild lettuce	4
	<i>Malacothrix saxatilis</i>	cliff aster	3
	<i>Senecio vulgaris</i> *	common groundsel	2
	<i>Silybum marianum</i> *	milk thistle	2,4
Boraginaceae	<i>Sonchus oleraceus</i> *	common sow thistle	2
	<i>Amsinckia intermedia</i>	rancher's fiddleneck	4
Brassicaceae	<i>Capsella bursa-pastoris</i> *	shepherd's purse	3
	<i>Hirschfeldia incana</i> *	short-pod mustard	2,3,4
	<i>Raphanus sativus</i> *	wild radish	2
	<i>Sisymbrium orientale</i> *	hare's ear cabbage	2,4
Chenopodiaceae	<i>Chenopodium album</i> *	pigweed	4
	<i>Chenopodium murale</i> *	nettle-leaf goosefoot	2,4
	<i>Salsola tragus</i> *	Russian thistle	2,3,4
Euphorbiaceae	<i>Ricinus communis</i> *	castor bean	3
Fabaceae	<i>Acmispon maritimus</i>	alkali lotus	3
	<i>Lupinus succulentus</i>	arroyo lupine	2
	<i>Melilotus indicus</i> *	Indian sweet clover	3
Geraniaceae	<i>Erodium cicutarium</i> *	redstem filaree	2
	<i>Erodium moschatum</i> *	green-stem filaree	2
	<i>Juglans californica</i> var. <i>californica</i>	Southern California black walnut	2,3
Juglandaceae			
Lamiaceae	<i>Lamium amplexicaule</i> *	henbit	2
Malvaceae	<i>Malva parviflora</i> *	cheeseweed	2,3,4
Myrtaceae	<i>Callistemon</i> sp.*	bottle brush	1
Oleaceae	<i>Fraxinus uhdei</i> *	shamel ash	1
Poaceae	<i>Avena barbata</i> *	slender oat	4
	<i>Bromus diandrus</i> *	common ripgut grass	2,4
	<i>Bromus madritensis ssp. Rubens</i> *	red brome	2,4
	<i>Festuca perennis</i> *	Italian ryegrass	4

**Appendix A (cont.)**  
**PLANT SPECIES OBSERVED**  
**MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE**

<b><u>FAMILY</u></b>	<b><u>SCIENTIFIC NAME</u></b>	<b><u>COMMON NAME</u></b>	<b><u>HABITAT</u></b>
Poaceae (cont.)	<i>Hordeum murinum</i> *	Mediterranean barley	4
Polygonaceae	<i>Rumex crispus</i> *	curly dock	2
Rubiaceae	<i>Galium aparine</i>	goosegrass	2
Solanaceae	<i>Datura wrightii</i>	jimson weed	2
	<i>Nicotiana glauca</i> *	tree tobacco	2,3
	<i>Solanum douglasii</i>	Douglas nightshade	2
Urticaceae	<i>Solanum lycopersicum</i> *	tomato	2
	<i>Urtica urens</i> *	dwarf nettle	2

\*Non-native species

Habitats: 1 = developed, 2 = disturbed, 3 = extensive agriculture, 4 = non-native grassland, 5 = mule fat scrub





## Appendix B

# ANIMAL SPECIES OBSERVED OR DETECTED



**Appendix B**  
**ANIMAL SPECIES OBSERVED OR DETECTED**  
**MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE**

<u>FAMILY</u>	<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>
<b>Invertebrates</b>		
Apidae	<i>Apis mellifera mellifera</i>	honey bee
Coccinellidae	<i>Hippodamia convergens</i>	ladybird beetle
Lycaenidae	<i>Strymon melinus pudica</i>	gray hairstreak
<b>Birds</b>		
Accipitridae	<i>Buteo jamaicensis</i>	red-tailed Hawk
Aegithalidae	<i>Psaltriparus minimus</i>	bushtit
Columbidae	<i>Zenaida macroura</i>	mourning dove
Corvidae	<i>Aphelocoma californica</i>	Western scrub-jay
Corvidae	<i>Corvus brachyrhynchos</i>	American crow
Emberizidae	<i>Melospiza crissalis</i>	California towhee
Emberizidae	<i>Melospiza melodia</i>	song sparrow
Emberizidae	<i>Zonotrichia leucophrys</i>	white-crowned sparrow
Fringillidae	<i>Haemorhous mexicanus</i>	house finch
Fringillidae	<i>Spinus psaltria</i>	lesser goldfinch
Mimidae	<i>Mimus polyglottos</i>	Northern mockingbird
Turdidae	<i>Sialia mexicana</i>	Western bluebird
Tyrannidae	<i>Sayornis nigricans</i>	black phoebe
Tyrannidae	<i>Sayornis saya</i>	Say's phoebe
<b>Mammals</b>		
Sciuridae	<i>Spermophilus beecheyi</i>	California ground squirrel

†Listed or sensitive species

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Appendix C

EXPLANATION OF STATUS CODES FOR  
PLANT AND ANIMAL SPECIES



**Appendix C**  
**EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES**

**FEDERAL, STATE, AND LOCAL CODES**

**U.S. Fish and Wildlife Service (USFWS)**

FE      Federally listed endangered  
FT      Federally listed threatened

**California Department of Fish and Wildlife (CDFW)**

SE      State listed endangered  
ST      State listed threatened  
SSC     State species of special concern  
Fully Protected      May not be taken or possessed at any time, except for recovery activities for state-listed species.

**CALIFORNIA RARE PLANT RANKS**

**Lists**

1A = Presumed extinct.  
  
1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.  
  
2A = Plants presumed extinct in California, but more common elsewhere.  
  
2B = Rare, threatened, or endangered in California, but more common elsewhere. Eligible for state listing.  
  
3 = Distribution, endangerment, ecology, and/or taxonomic information needed. Some eligible for state listing.  
  
4 = A watch list for species of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.

**Threat Code Extensions**

.1 = Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)  
  
.2 = Fairly endangered in California (20 to –80 percent occurrences threatened)  
  
.3 = Not very endangered in California (less than 20 percent of occurrences threatened or no current threats known)

Note that all List 1A (presumed extinct in California) and some List 3 (need more information- a review list) plants lacking any threat information receive no threat code extension. Also, these Threat Code guidelines represent a starting point in the assessment of threat level. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are also considered in setting the Threat Code.

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## Appendix D

# REPRESENTATIVE SITE PHOTOS





Water Tank Site





Disturbed habitat, mule fat scrub, and California black walnut tree in detention basin area



Mule fat scrub and disturbed habitat in detention basin area



Paved parking lot and disturbed hillside in Fire Academy area



Non-native grassland on hillside in Fire Academy area



Appendix E

BURROWING OWL HABITAT ASSESSMENT  
AND BURROW SURVEY



HELIX Environmental Planning, Inc.  
7578 El Cajon Boulevard  
Suite 200  
La Mesa, CA 91942  
619.462.1515 tel  
619.462.0552 fax  
www.helixepi.com



April 14, 2016

SAC-07

Ms. Mikaela Klein  
Mt. San Antonio College  
Facilities Planning and Management Department  
1100 North Grand Ave.  
Walnut, CA 91789

**Subject:** Results of Burrowing Owl Habitat Assessment and Burrow Survey for the Mt. San Antonio College (Mt. SAC) 2015 Facilities Master Plan Update Located in the City of Walnut, County of Los Angeles, California

Dear Ms. Klein:

At your request, HELIX Environmental Planning, Inc. (HELIX) conducted a burrowing owl (*Athene cunicularia*) habitat assessment and burrow survey for the Mt. SAC Facilities Master Plan Update (FMPU). This report presents the results of the habitat assessment and burrow survey.

#### **PROPERTY LOCATION/DESCRIPTION**

Mt. SAC is located in the San Gabriel Valley, in southeast Los Angeles County, California (Figure 1). The college is situated near the intersection of North Grand and Temple Avenues in the City of Walnut. It is within un-sectioned land of the Puente Land Grant, Township 2 South, Range 9 East on the U.S. Geological Survey (USGS) 7.5-minute San Dimas quadrangle map (Figures 2 and 3).

The study area is approximately 22 acres and supports a mix of developed and undeveloped land with landscaping and native, naturalized, and disturbed habitat communities (Figures 4a through 4c). The study area includes the impact footprint in the three impact areas (irrigation well, detention basin, and fire academy) and a 100-foot-wide area beyond the impact footprint/work area. Elevations within the study area range from approximately 715 to 975 feet above mean sea level.

The FMPU includes additional elements such as re-design of the athletic facilities south of Temple Avenue and east of Bonita Avenue including demolition of the existing stadium and construction of a new stadium. Other changes for the 2015 FMPU include the relocation of the Public Transportation Center to Lot D3, and a pedestrian bridge across Temple Avenue connecting the Physical Education Complex to Lot F. These elements of the FMPU, while shown as work areas on the figures, are not analyzed in this report because they occur in previously developed portions of the campus. In addition, the Wildlife Sanctuary designation would be increased from 10 to 26 acres. Within the expanded Wildlife Sanctuary, Mt. SAC is also planning to restore the extensive agriculture to coastal sage scrub, create 0.06 acre of mule fat scrub, and weed the existing sage scrub and wetland habitats. The expansion and restoration of the Wildlife Sanctuary is not analyzed in this report because it is expected to improve the habitat quality of the campus.

## METHODS

The habitat assessment and burrow survey was conducted by HELIX biologist Rob Hogenauer in accordance with the current burrowing owl survey protocol (California Department of Fish and Wildlife [CDFW] 2012). The survey occurred between 0635 hours and 0930 hours on March 22, 2016. Sunrise occurred at 0650 hours. The temperature ranged from 57 to 61 degrees Fahrenheit. There was less than 20 percent cloud cover and wind was minimal at 1 to 2 miles per hour. Mr. Hogenauer conducted a habitat assessment on the impact areas and within a buffer of up to 500 feet where potential burrowing owl habitat bordered the proposed impact areas. Transects no greater than 20 meters wide were surveyed where potential burrowing owl habitat occurs. The biologist walked slowly and methodically, closely checking the areas that met the basic requirements of owl habitat:

- Open expanses of sparsely vegetated areas (less than 30 percent canopy cover from trees and shrubs),
- Gently rolling or level terrain,
- An abundance of small mammal burrows, especially those of California ground squirrel (*Spermophilus beecheyi*),
- Fence posts, rock, or other low perching locations.

All potential owl burrows were checked for sign of recent owl occupation, which includes:

- Pellets/casting (regurgitated fur, bones, and insect parts),
- White wash (excrement),
- Feathers.

## RESULTS

The project comprises three areas: irrigation well, detention basin, and fire academy (Figures 4a through 4c). The irrigation well area is on the top of a hill in agricultural habitat that is highly impacted by grazing. The majority of the 500-foot buffer in this area was made up of habitat that does not have potential to support burrowing owl. This habitat includes developed land,

California walnut woodland, steep slopes, and active agriculture (nursery). A single burrow was observed in the irrigation well survey area. This burrow was covered with plant debris and a spider web, and lacked sign of burrowing owl use. There is very low potential for burrowing owl to occur in the irrigation well area.

The detention basin area is located adjacent to the school stadium. Habitats adjacent to the detention basin include developed, California Walnut woodland, and disturbed habitat. The basin is ringed with ornamental trees, and includes a palm tree, black walnut trees, mule fat scrub, and a thick dense understory of mustards (*Hirschfeldia incana*) within the basin. A few burrows of the proper size for use by burrowing owl occur on the slope of the basin. These burrows occur adjacent to the ornamental trees that border the basin and are not within habitat typically associated with burrowing owl. The disturbed habitat in the 500-foot buffer area to the east includes a larger detention basin with minimal vegetation and no trees. A few burrows with potential to support burrowing owl were observed on the edge of the basin in the buffer. No burrowing owl or burrowing owl sign was observed in the basin area. There is very little to no potential for burrowing owl to occur in the basin impact area and a low potential for burrowing owl to occur within the eastern portion of the buffer.

The fire academy area occurs adjacent to an existing parking lot. Habitat in the fire academy impact area includes non-native grassland and disturbed habitat. No burrows with potential to support burrowing owls occur in the proposed fire academy impact area. The buffer habitat comprises developed land, coastal sage scrub, non-native vegetation, agriculture, and disturbed habitat. The agriculture and disturbed habitat included a few burrows with potential to support burrowing owls. There is no potential (due to a lack of burrows) for burrowing owls to occur within the proposed impact area of the fire academy. There is low potential for burrowing owl to occur in the buffer of the fire academy area.

The Mt. SAC FMPU project occurs in the U.S. Geological Survey (USGS) 7.5-minute San Dimas quadrangle. A California Natural Diversity Database (CNDDDB) search revealed that no burrowing owl sighting have been documented within this quadrangle. The nearest burrowing owl sightings in the CNDDDB database occur over 8 miles away in the cities of Chino and Chino Hills area.

A full 4-visit protocol burrowing owl survey is not recommended for this project. This conclusion is based on:

1. the lack of burrows with potential to support burrowing owls in the impact area,
2. the low to very low potential for burrowing owls to occur in the buffer zone,
3. the high level of human activity from agriculture and other school related functions,
4. the lack of CNDDDB records of burrowing owl in the vicinity, and
5. the lack of burrowing owl sign at the burrows that do occur.

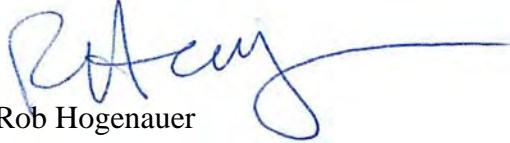
A pre-construction burrowing owl survey is recommended to ensure the project does not result in an impact to burrowing owls.

Letter to Ms. Mikaela Klein  
April 14, 2016

Page 4 of 4

Please call me at (562) 537-2426 if you have any questions.

Sincerely,



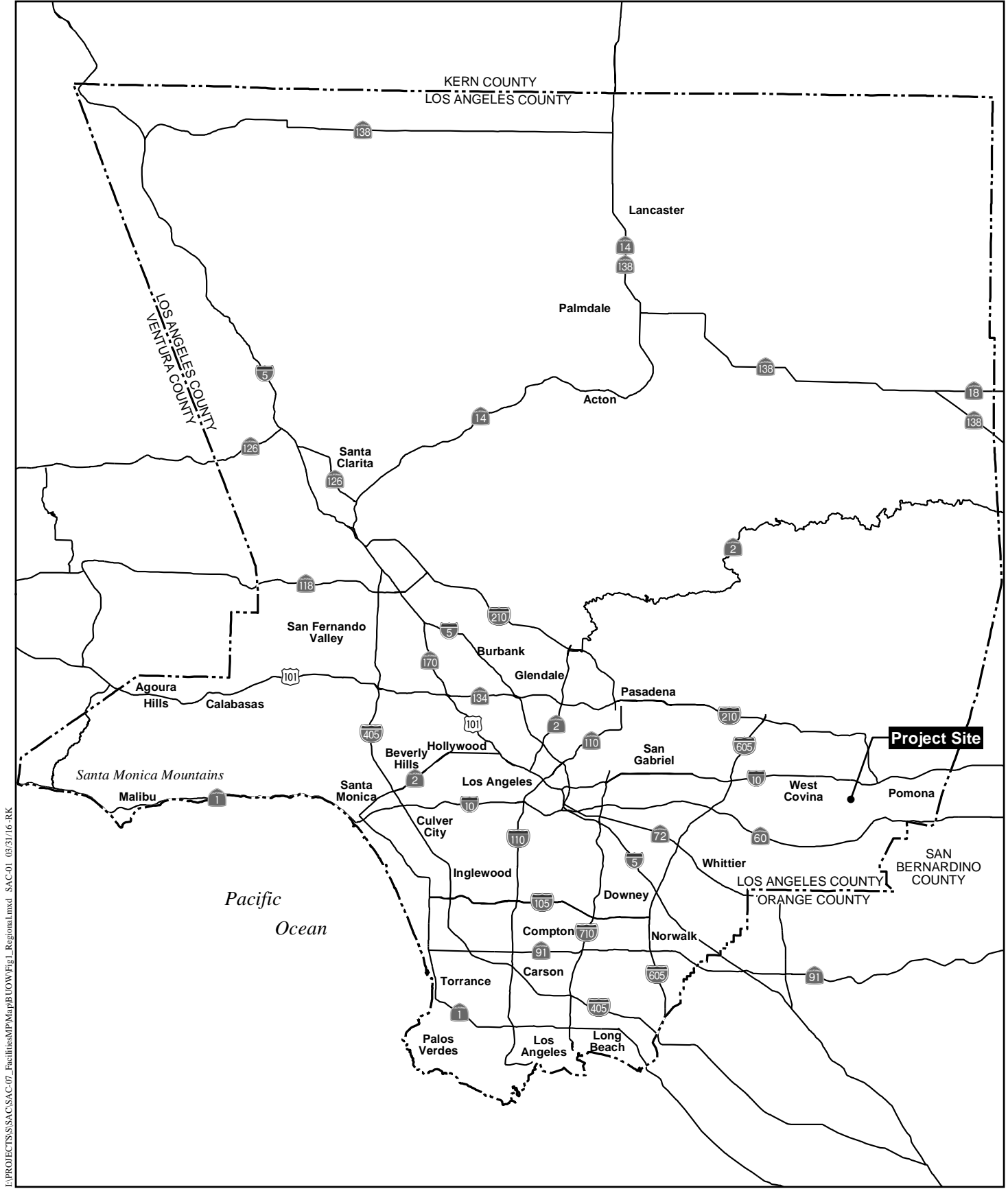
Rob Hogenauer  
Biologist

Enclosures:

- Figure 1 Regional Location Map
- Figure 2 Project Vicinity Map (USGS Topography)
- Figure 3 Project Vicinity Map (Aerial Photograph)
- Figure 4a Vegetation Map – Irrigation Well
- Figure 4b Vegetation Map – Detention Basin
- Figure 4c Vegetation Map – Fire Academy

**REFERENCES**

California Department of Fish and Wildlife (CDFW) 2012. State of California. Natural Resource Agency. Department of Fish and Game. Staff report on burrowing owl mitigation. March 7.





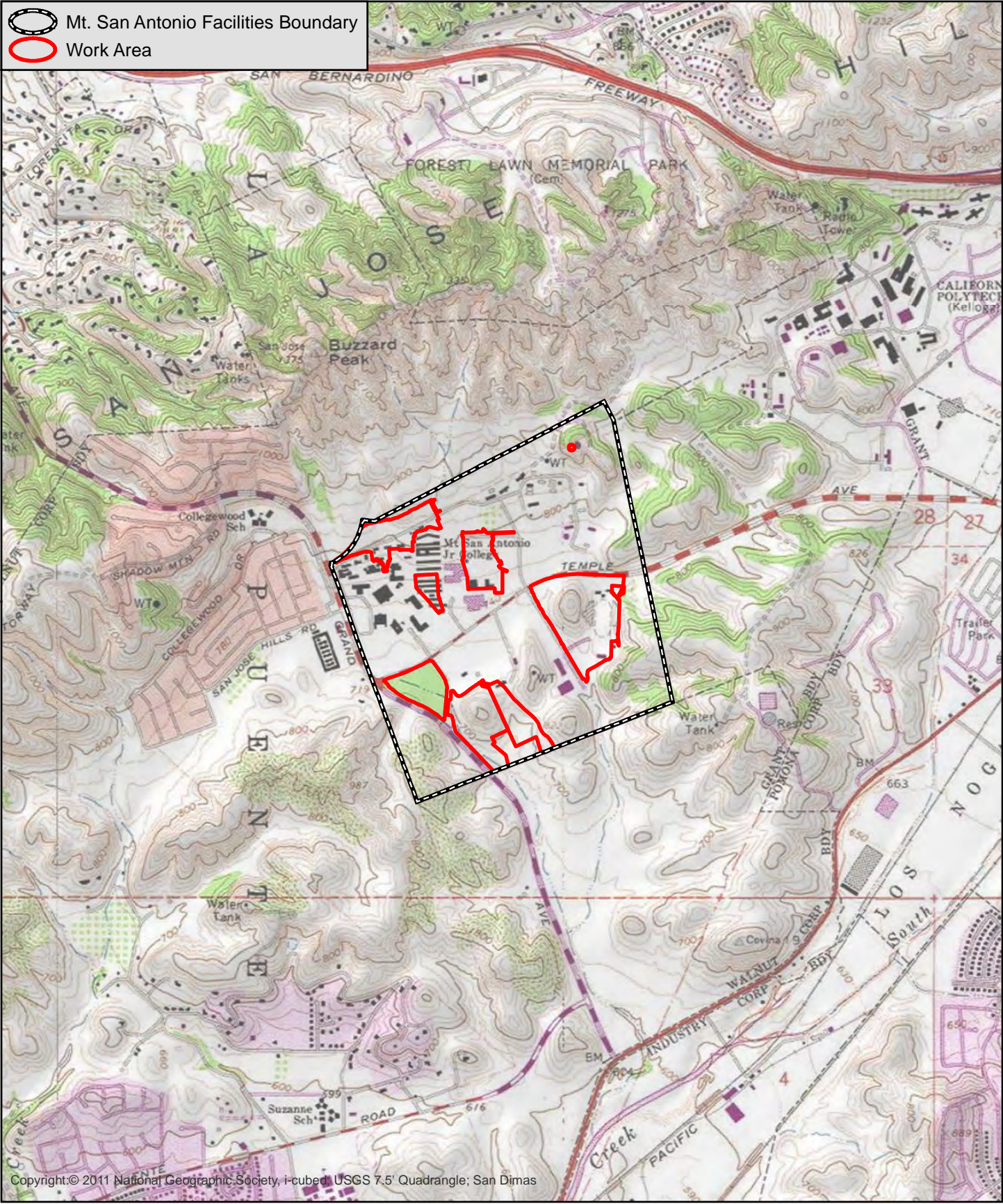
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## Regional Location Map

MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE



-  Mt. San Antonio Facilities Boundary
-  Work Area

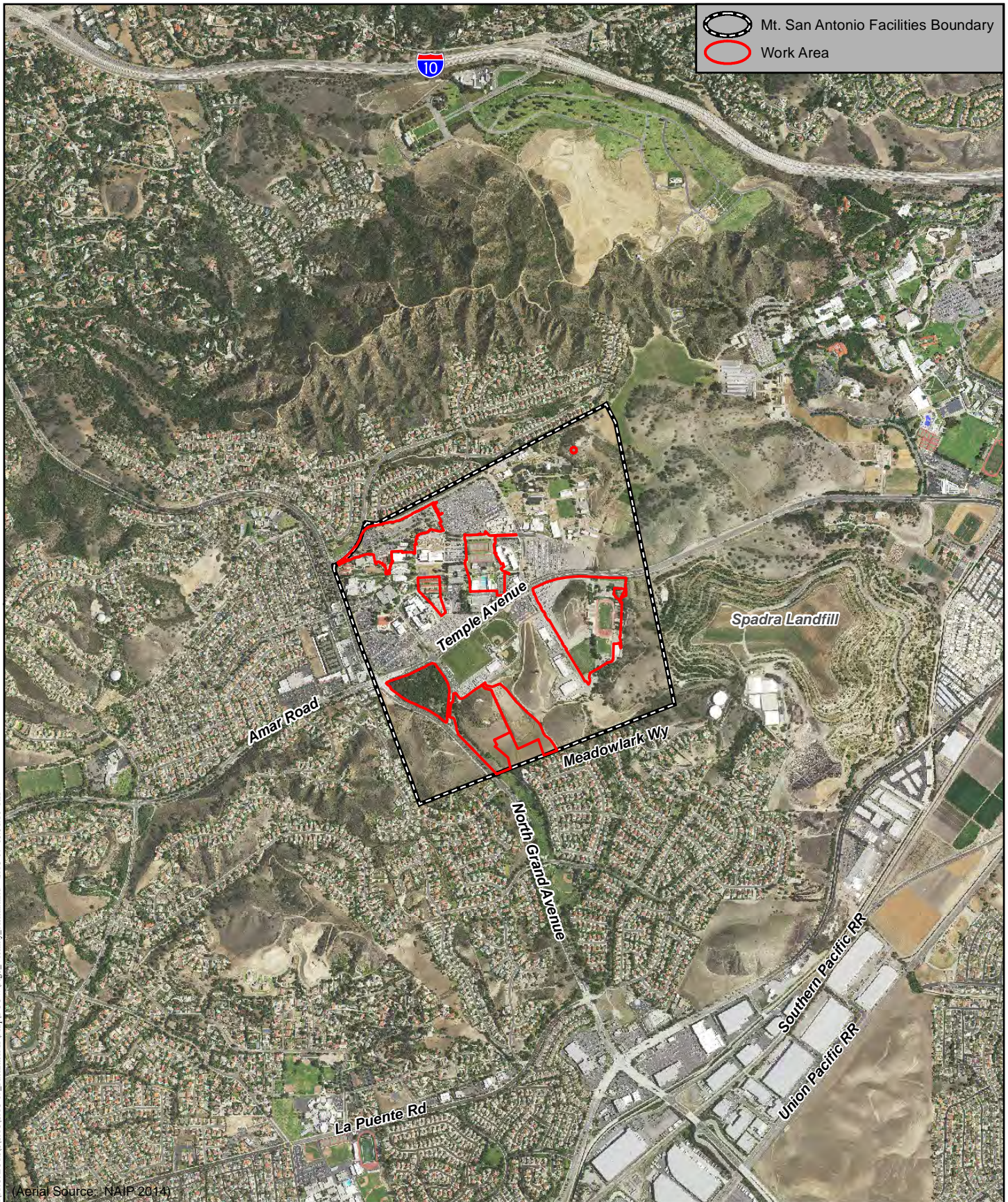


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Copyright © 2011 National Geographic Society, i-cubed, USGS 7.5' Quadrangle; San Dimas

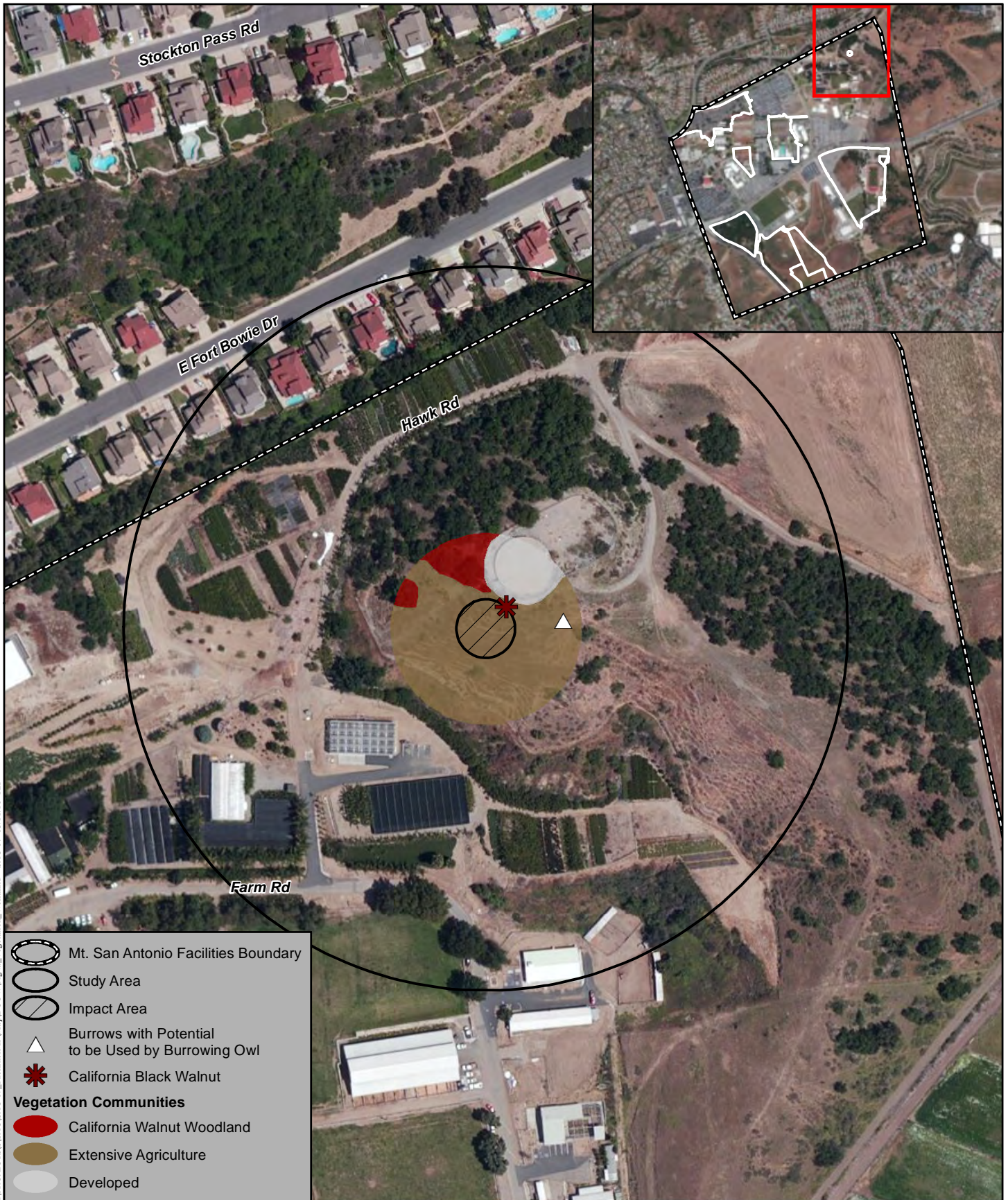
## Project Vicinity Map (USGS Topography)

MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE



## Project Vicinity Map (Aerial Photograph)

MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE

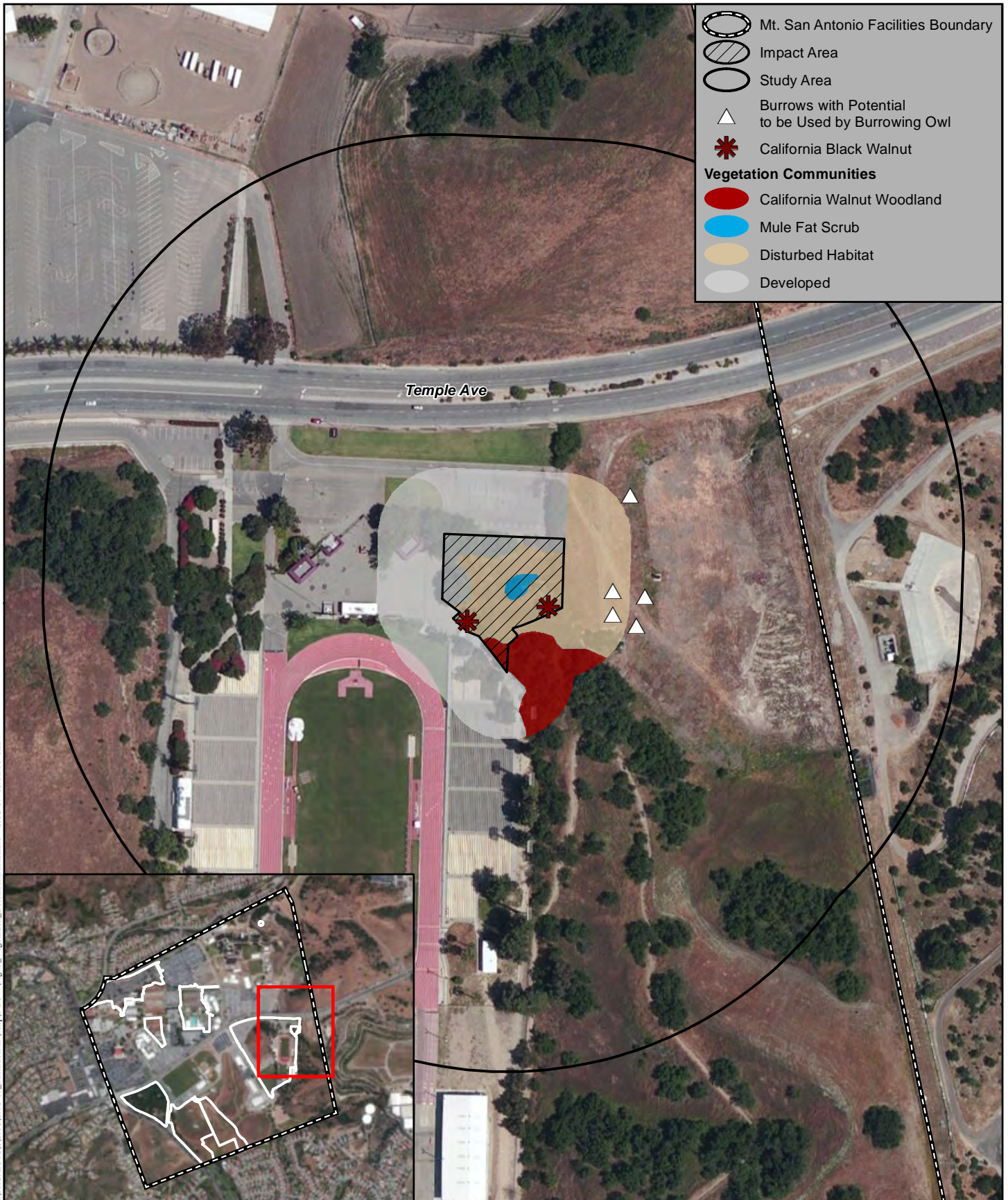


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Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community (May 2014)

## Vegetation Map - Irrigation Well

MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE



-  Mt. San Antonio Facilities Boundary
-  Impact Area
-  Study Area
-  Burrows with Potential to be Used by Burrowing Owl
-  California Black Walnut

**Vegetation Communities**

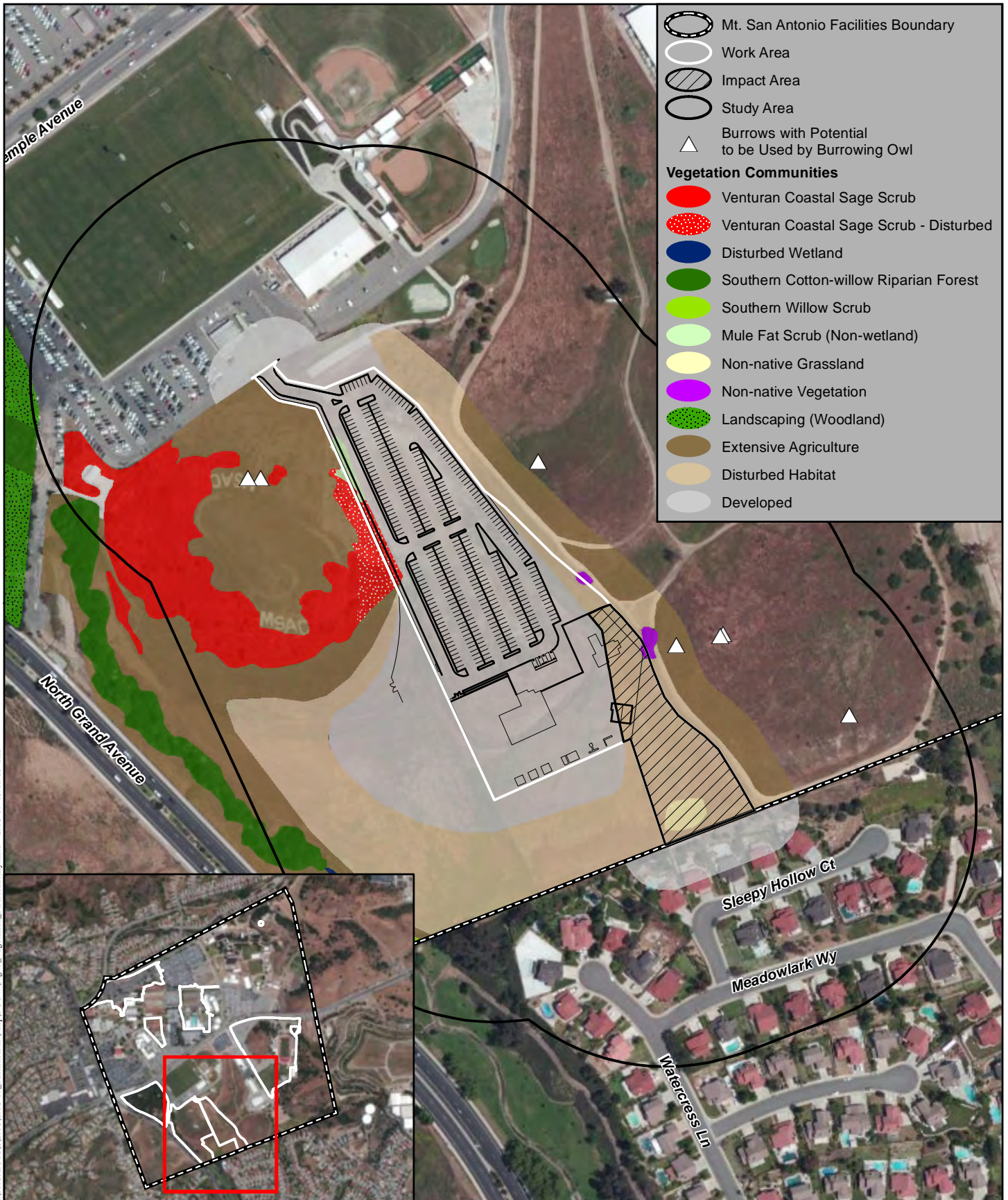
-  California Walnut Woodland
-  Mule Fat Scrub
-  Disturbed Habitat
-  Developed

E:\PROJECTS\SAC\SAC-07\_Facilities\Map\B\_UOW\Fig-4b\_Vegetation\_DetentionBasin.mxd SAC-07 03/11/16-RK

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community (May 2014)

## Vegetation Map - Detention Basin

MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE



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Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community (May 2014)

## Vegetation Map - Fire Academy

MT. SAN ANTONIO COLLEGE 2015 FACILITIES MASTER PLAN UPDATE