

APPENDIX 5.4-A
BIOLOGICAL TECHNICAL REPORT

**BIOLOGICAL TECHNICAL REPORT
FOR THE SAN DIEGO GAS & ELECTRIC COMPANY
ARTESIAN SUBSTATION EXPANSION PROJECT
SAN DIEGO COUNTY, CALIFORNIA**

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TABLE OF CONTENTS

	<u>Page</u>
ACRONYMS AND ABBREVIATIONS	IX
EXECUTIVE SUMMARY	1
SECTION 1.0 – BACKGROUND INFORMATION	3
1.1. PROJECT DESCRIPTION	3
1.2. SURVEY AREA.....	6
1.3. PROJECT COMPONENTS	6
1.3.1 Substations.....	6
1.3.2 Staging Yards.....	7
1.3.3 Stringing and Pulling Sites.....	8
1.3.4 Guard Structures.....	8
1.3.5 Underground Power Line Construction	9
1.4. SITE ACCESS	9
1.5. CONSTRUCTION METHODS	9
1.5.1 Directly-Embedded Steel Poles.....	10
1.5.2 Foundation Poles	10
1.5.3 Steel Replacement Poles.....	10
1.5.4 Wood Pole Removal.....	10
SECTION 2.0 – REGULATORY BACKGROUND	12
2.1. FEDERAL.....	12
2.1.1 Clean Water Act	12
2.1.2 Federal Endangered Species Act of 1973.....	12
2.1.3 Migratory Bird Treaty Act, as Amended	13
2.1.4 Bald and Golden Eagle Protection Act, as Amended	13
2.2. STATE	14
2.2.1 California Endangered Species Act	14
2.2.2 State Fully Protected Species.....	14
2.2.3 Sections 1600-1602 of the California Fish and Game Code.....	15
2.2.4 California Environmental Quality Act.....	15
2.2.5 California Native Plant Protection Act	15
2.2.6 Porter-Cologne Water Quality Control Act.....	15
2.3. LOCAL.....	16
2.3.1 County of San Diego General Plan	16
2.3.2 City of San Diego General Plan.....	17
2.3.3 City of Escondido General Plan	17
2.3.4 Black Mountain Ranch Subarea Plan (Subarea I).....	18
2.3.5 County of San Diego San Dieguito Community Plan.....	18

2.3.6	San Diego Multiple Species Conservation Plan.....	18
2.3.7	County of San Diego Multiple Species Conservation Plan Subarea Plan	19
2.3.8	4S Ranch Specific Plan.....	19
2.3.9	Santa Fe Valley Specific Plan	20
2.3.10	City of San Diego Multiple Species Conservation Program Subarea Plan	20
2.3.11	County of San Diego Tree Ordinance	21
2.4.	EXISTING SAN DIEGO GAS & ELECTRIC COMPANY PLANS	21
2.4.1	SDG&E Subregional Natural Community Conservation Plan	21
2.4.2	SDG&E Low-Effect Habitat Conservation Plan for Quino Checkerspot Butterfly	22
SECTION 3.0 – METHODS.....		27
3.1.	DEFINITIONS	27
3.2.	LITERATURE REVIEW	28
3.3.	PRELIMINARY EVALUATION OF POTENTIAL FOR OCCURRENCE.....	28
3.4.	VEGETATION SURVEYS.....	33
3.4.1	Habitat Communities	33
3.4.2	Special Status Plant Surveys.....	33
3.4.3	Weather Conditions (2014, 2015, and 2016).....	34
3.5.	AQUATIC RESOURCE CONSTRAINTS MAPPING	35
3.5.1	USACE Wetland	35
3.5.2	USACE Non-Wetland Waters of the United States	36
3.5.3	CDFW Jurisdictional Waters.....	36
3.5.4	RWQCB Jurisdictional Waters	37
3.6.	FOCUSED WILDLIFE SURVEYS	37
3.6.1	Quino Checkerspot Butterfly	37
3.6.2	Burrowing Owl	38
3.6.1	Least Bell’s Vireo	39
3.6.2	Coastal California Gnatcatcher	39
3.6.3	General Wildlife and Other Special Status Species.....	40
SECTION 4.0 – RESULTS AND DISCUSSION		41
4.1.	ECOSYSTEMS.....	41
VEGETATION COMMUNITY.....		41
APPROXIMATE AREA (ACRES).....		41
0.14	41	
4.1.1	California sagebrush-California buckwheat scrub (<i>Artemisia californica-Eriogonum fasciculatum</i> Shrubland Alliance)	42
4.1.2	Restored California sagebrush-California buckwheat scrub (<i>Artemisia californica-Eriogonum fasciculatum</i> Shrubland Alliance).....	42
4.1.3	Disturbed California sagebrush-California buckwheat scrub (<i>Artemisia californica-Eriogonum fasciculatum</i> Shrubland Alliance).....	42

4.1.4	Restored/Disturbed California sagebrush-California buckwheat scrub (<i>Artemisia californica</i> - <i>Eriogonum fasciculatum</i> Shrubland Alliance).....	42
4.1.5	Annual brome grassland (<i>Bromus [diandrus, hordeaceus]</i> – <i>Brachypodium distachyon</i> Semi-Natural Herbaceous Stands).....	43
4.1.6	Bare Ground.....	43
4.1.7	Urban/Developed	43
4.1.8	Arroyo Willow - Mulefat Woodland (<i>Salix lasiolepis</i> - <i>Baccharis salicifolia</i> Woodland Alliance).....	43
4.1.9	Cattail marshes (<i>Typha [angustifolia, domingensis, latifolia]</i> Herbaceous Alliance).....	43
4.1.10	Spiny rush marshes (<i>Juncus acutus</i> Herbaceous Alliance).....	44
4.1.11	Pale spike rush marshes (<i>Eleocharis macrostachya</i> Herbaceous Alliance).....	44
4.1.12	Sandbar willow thickets (<i>Salix exigua</i> Shrubland Alliance).....	44
4.1.13	Landscape/Ornamental	44
4.1.14	Disturbed Areas.....	44
4.1.15	Salt grass flats (<i>Distichlis spicata</i> Herbaceous Alliance).....	45
4.1.16	Disturbed tall cyperus patch (<i>Cyperus eragrostis</i> Herbaceous Alliance)	45
4.2.	TOPOGRAPHY	45
4.3.	SOILS	45
4.3.1	Cieneba Series.....	46
4.3.2	Diablo Series.....	46
4.3.3	Huerhuero Series	46
4.3.4	Las Flores Series	46
4.3.5	Linne Series	46
4.3.6	Olivenhain Series.....	47
4.3.7	Placentia Series	47
4.3.8	Redding Series.....	47
4.3.9	Salinas Series.....	47
4.3.10	San Miguel Series	48
4.3.11	Vista Series.....	48
4.4.	HYDROLOGY.....	48
4.5.	JURISDICTIONAL WATERS.....	48
4.6.	SPECIAL STATUS PLANTS.....	49
4.7.	SPECIAL STATUS PLANT SPECIES CONSIDERED PRESENT WITHIN THE SURVEY AREA	50
4.7.1	San Diego Barrel Cactus (CRPR List 2B.1, NCCP-covered).....	50
4.7.2	Decumbent Goldenbush (CRPR List 2B.2).....	51
4.7.3	Nuttall’s Scrub Oak (CRPR List 1B.1)	51
4.7.4	San Diego Marsh-Elder (CRPR List 2B.2)	51
4.7.5	Southwestern Spiny Rush (CRPR List 4.2)	51
4.7.6	Ashy Spike-Moss (CRPR List 4.1)	52
4.7.7	Engelmann Oak (CRPR List 4.2).....	52
4.7.8	Tecate cypress (CRPR List 1.B1, NCCP-covered)	52

4.8. FEDERAL AND/OR STATE-LISTED PLANT SPECIES WITH A MODERATE POTENTIAL TO OCCUR WITHIN THE SURVEY AREA.....	52
4.8.1 Encinitas Baccharis (FT, CE, CRPR List 1B.1, NCCP-covered).....	52
4.8.2 San Diego Ambrosia (FE, CRPR List 1B.1, NCCP-covered)	52
4.8.3 Spreading Navarretia (FT, CRPR List 1B.1, NCCP-covered)	53
4.8.4 Willowy Monardella (FE, CE, CRPR List 1B.1, NCCP-covered).....	53
4.9. SPECIAL STATUS WILDLIFE.....	53
4.9.1 Special Status Wildlife Species Presumed Absent	53
4.9.2 Special Status Wildlife Species with a Low PFO	54
4.9.3 Special Status Wildlife Species with a Moderate PFO	55
4.9.4 Special Status Wildlife Species Considered Present	56
4.9.5 Special Status Wildlife Species Requiring Focused Surveys.....	58
4.9.5.1 Quino Checkerspot Butterfly	58
4.9.5.2 Burrowing Owl	59
4.9.5.3 Least Bell’s Vireo	60
4.9.5.4 Coastal California Gnatcatcher	61
4.10. USFWS CRITICAL HABITAT AREAS.....	62
4.11. PRESERVE AREAS	62
4.12. WILDLIFE CORRIDORS.....	63
SECTION 5.0 – IMPACT DETERMINATIONS	64
5.1. PROJECT SPECIFIC IMPACTS.....	64
5.1.1 Artesian Substation.....	64
5.1.2 Directly-Embedded Steel Poles.....	64
5.1.3 Foundation Steel Poles	65
5.1.4 Access Roads	65
5.1.5 Staging Yards and Temporary Work Areas	65
5.1.6 Existing Wood Poles Removed from Service and Pole Top Work.....	65
5.1.7 Guard Structures.....	66
5.2. VEGETATION COMMUNITIES.....	66
5.2.1 Vegetation Impacts.....	66
5.3. SENSITIVE PLANT SPECIES.....	68
5.4. NATIVE TREE TRIMMING	68
5.5. SPECIAL STATUS WILDLIFE SPECIES	69
5.5.1 Special Status Invertebrate Species	69
5.5.2 Special Status Amphibian Species.....	69
5.5.3 Sensitive Reptile Species.....	69
5.5.4 Special Status Avian Species and Nesting Birds	69
5.5.5 Special Status Mammal Species.....	71
5.6. USFWS CRITICAL HABITAT AREAS.....	71
5.7. WILDLIFE MOVEMENT CORRIDORS.....	71
5.8. JURISDICTIONAL WATERS.....	71

SECTION 6.0 – CONCLUSION AND DISCUSSION.....72
 6.1. SDG&E OPERATIONAL PROTOCOLS..... 73

SECTION 7.0 – REFERENCES75

LIST OF APPENDICES

APPENDIX A – Vegetation Communities Map
APPENDIX B – Soils Map
APPENDIX C – Aquatic Resource Summary Report and Jurisdictional Resources Map
APPENDIX D – Special Status Plant Species Observed Map
APPENDIX E – Special Status Plant Species Potentially Occurring in the Survey Area Table
APPENDIX F – Plant Species Observed List
APPENDIX G – Special Status Wildlife Species Observed Map
APPENDIX H – Special Status Wildlife Species Potentially Occurring in the Survey Area Table
APPENDIX I – Wildlife Species Detected List
APPENDIX J – 2015 Rare Plants Survey Report
APPENDIX K – 2015 Western Burrowing Owl Survey Report
APPENDIX L – 2015 Least Bell’s Vireo Survey Report
APPENDIX M – 2015 Coastal California Gnatcatcher Survey Report

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
Figure 1: Location and Vicinity Map	5
Figure 2: Land Management and Habitat Plan Map	23
Figure 3: CNDDDB and USFWS Documented Species Occurrences Map	29
Figure 4: USFWS Designated Critical Habitat	32

LIST OF TABLES

<u>Table</u>	<u>Page</u>
Table 1: Criteria for Evaluating Special Status Plant and Wildlife Species Potential for Occurrence	28
Table 2: Special Status Plant Species with a Potential to Occur Within the Survey Area	33
Table 3: Weather Conditions of San Diego County	35

Table 4: Vegetation Communities within the Survey Area 41

Table 5: Species and Total Number of Individuals Observed 50

Table 6: Anticipated Impacts by Habitat Type 66

Table 7: Impacts to Sensitive and Non-Sensitive Habitats..... 67

ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
BCC	Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BMPs	Best Management Practices
BUOW	burrowing owl
CAGN	coastal California gnatcatcher
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
Chambers Group	Chambers Group, Inc.
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
COS	Conservation and Open Space
CPUC	California Public Utilities Commission
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ESA	Endangered Species Act
FESA	Federal Endangered Species Act
FP	Fully Protected
GIS	Geographic Information System
GPS	Global Positioning System
HCP	Habitat Conservation Plan
ILAs	Incidental Landing Areas
ITP	incidental take permit
kV	kilovolt
LBVI	least Bell's vireo
MBTA	Migratory Bird Treaty Act
MSCP	Multiple Species Conservation Plan
NCCP	Natural Community Conservation Plan
NI	Not Indicated
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate
OHWM	Ordinary High Water Mark
PFO	Potential for Occurrence
QCB	quino checkerspot butterfly
RECON	Recon Environmental, Inc.
ROW	Right-of-Way
RPW	Relatively Permanent Water
RWQCB	Regional Water Quality Control Board
SCS	South County Segment
SDG&E	San Diego Gas & Electric
SR	State Route

SSC	California Species of Special Concern
SW	steel-wood
SWRCB	State Water Resources Control Board
TL	Tie Line
TNW	Traditional Navigatable Waterway
U.S.	United States
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WDR	Waste Discharge Report

EXECUTIVE SUMMARY

San Diego Gas & Electric (SDG&E) has contracted Chambers Group, Inc. (Chambers Group) to conduct wildlife surveys, plant surveys, vegetation mapping, aquatic resource constraints mapping, and focused surveys for the proposed Artesian Substation Expansion Project (Proposed Project) in an effort to improve system reliability in SDG&E's service territory.

The biological surveys were conducted during the course of several months between spring of 2014 and spring/summer of 2016. Focused special status plant surveys and wildlife surveys for the targeted species were performed in accordance with survey protocols set forth by the California Department of Fish and Wildlife (CDFW), the California Native Plant Society (CNPS), and U.S. Fish and Wildlife Service (USFWS).

Aquatic resource mapping was performed by RECON Environmental, Inc. (RECON) in 2014 to determine potential wetland site and/or areas potentially under state and federal waters jurisdiction. Chambers Group and SDB&E followed up with a field survey to verify and refine the aquatic constraints map on September 9, 2015 and October 7, 2015 and an Aquatic Summary Report was prepared in November 2015.

The areas surveyed consisted of a 150-foot area around each pole centerline. For other Project features, the areas surveyed included a 50-foot area around Project facilities (substations, staging yards, stringing sites, etc.), and a 20-foot area around Project access roads. The additional area was surveyed to include potential additional work space that may be required during normal construction activities.

A total of 33 special status plant species were evaluated for their potential occurrence (PFO) within the Survey Area. Based on the results of a focused plant survey conducted by Chambers Group and focused plant survey efforts conducted by RECON Environmental, Inc. (RECON) and Pangea Biological, eight sensitive plant species were identified to occur within the Survey Area and 29 species were determined to be absent from the Survey Area. Of the 29 species considered absent, 22 were annual herbaceous, perennial herbaceous, and perennial bulbiferous species. These species were not observed within the Survey Area; however, considering the drought conditions in 2014 and 2015 it is possible that some of these species may not have germinated or flowered during these years. As a result, these species are described as "presumed absent" for this report and are not expected to occur.

A total of 38 special status wildlife species were evaluated for their PFO within the Survey Area. Based on the findings of the initial vegetation mapping and habitat assessments by qualified and permitted biologists, focused surveys for Quino checkerspot butterfly, (*Euphydryas editha quino*, QCB), coastal California gnatcatcher (*Polioptila californica californica*; CAGN) and burrowing owl (*Athene cunicularia hypugea*; BUOW) were completed. Focused surveys for least Bell's vireo (*Vireo bellii pusillus*; LBVI) are in progress for the 2016 breeding season, and are scheduled to be completed in July 2016. Based on the results of these focused survey efforts to date, along with an updated literature review and assessments for the Proposed Project Survey Area, 15 special status wildlife species are considered present within the Survey Area for foraging and have a moderate potential to nest within the Survey Area. Two of these 15 wildlife species are listed species: CAGN (federally listed as threatened and a CDFW species of special concern [SSC]) and LBVI (federally and state listed as endangered). Of the remaining 23 species evaluated for their PFO, 4 were determined to have a moderate PFO within the Survey Area, 15 have a low PFO within the Survey Area, and four special status wildlife species are presumed absent from the Survey Area due to negative focused survey results and/or absence of suitable habitat.

Construction of the Proposed Project would result in temporary disturbance and/or permanent loss of vegetation communities and habitats supporting special status plants and wildlife. For construction of the Proposed Project, SDG&E will consult with USFWS and CDFW for compliance with the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA). SDG&E will also implement standard operating procedures during construction, which include specific Operational Protocols identified in SDG&E's Subregional Natural Community Conservation Plan (NCCP). For operation and maintenance of the Proposed Project, SDG&E will use the NCCP to comply with the FESA and CESA. As designed, the project avoids impacts to state and federal jurisdictional aquatic resources.

SECTION 1.0 – BACKGROUND INFORMATION

1.1. PROJECT DESCRIPTION

SDG&E is a regulated public utility that provides electric service to three million customers within a 4,100 square mile service area, covering parts of two counties and 25 cities in the San Diego area. In an effort to address anticipated growth in the Poway area and alleviate congestion at the existing Sycamore Canyon Substation, SDG&E proposes to expand the existing Artesian Substation. Specifically, the existing 69/12 kilovolt (kV) Artesian Substation will be expanded to enable an addition of a 230/69kV yard to alleviate the existing 69kV congestion at the existing Sycamore Canyon Substation. In addition, the Artesian Substation expansion will mitigate Category B contingencies and increase reliability to the Poway Area Load Pocket which is expected to grow by as much as 12 percent in the next 10 years.

The Proposed Project would include the following primary components:

- Expansion of the existing 69/12kV Artesian Substation to add a 230kV component;
- Reconductor of an existing double circuit 69kV power line located between the Artesian and Bernardo Substations, including the replacement of existing wood power line structures with new steel structures, as needed and the removal some existing power line structures from service;
- Construction of new underground 69kV power line getaways outside the existing Artesian and Bernardo Substations; and
- Minor distribution line upgrades, including the removal of existing distribution underbuild¹ and wood pole structures;
- Minor modifications at the existing Bernardo and Rancho Carmel Substations within the existing footprints.

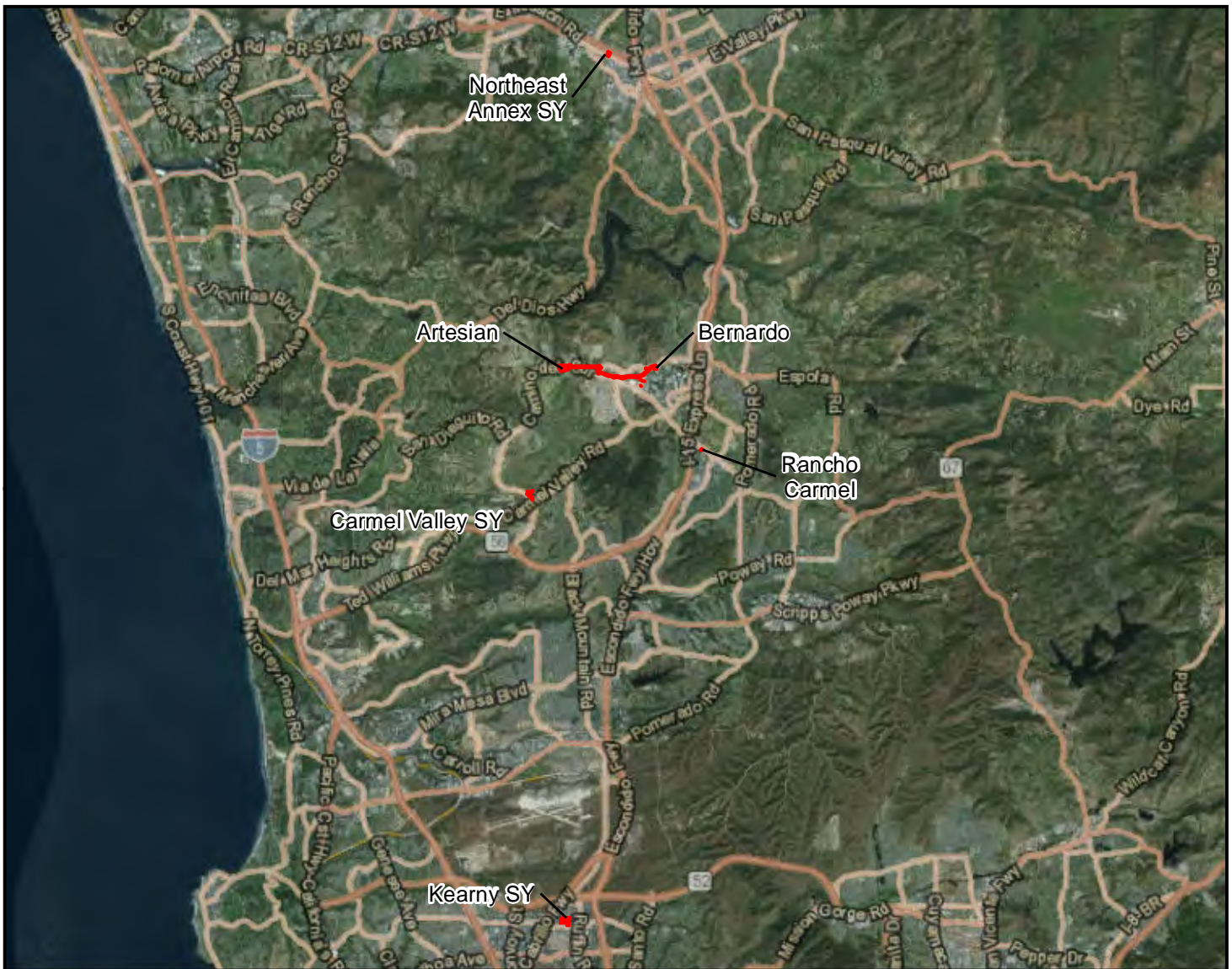
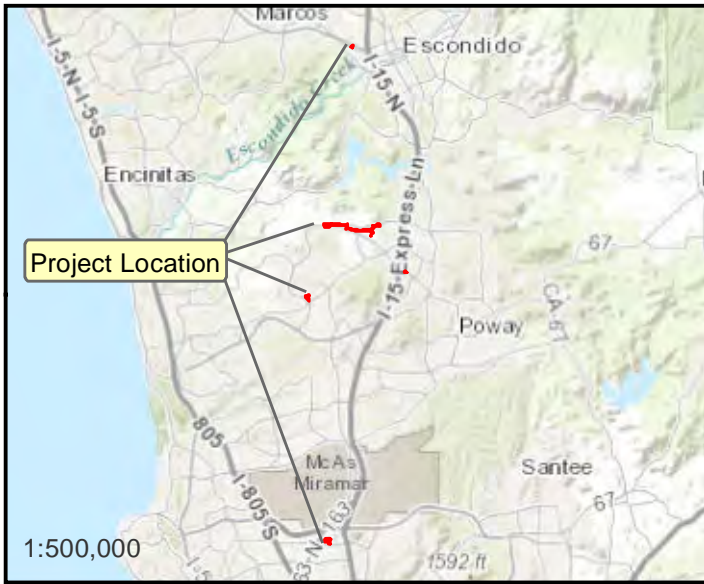
The Proposed Project components are located in the western portion of San Diego County, with elements within both the City and unincorporated County of San Diego, California.

The Proposed Project alignment begins at the Artesian Substation near Babcock Street, continues east along Camino Del Sur, and terminates at the Bernardo Substation located south of the intersection of Rancho Bernardo Road and Via Del Campo. Additional isolated Proposed Project features include work/staging areas along Thornmint Road and Willow Court; the Rancho Carmel Substation between Camino Del Norte and Innovation Drive; the Carmel Valley Road Staging Yard north of the intersection of Camino Del Sur and Carmel Valley Road; the Kearny Staging Yard northwest of the intersection of Clairemont Mesa Boulevard and Overland Avenue; and the Northeast Annex Staging Yard between East

¹ “Underbuild” refers to the practice where lower voltage conductor (typically distribution) is located on higher voltage structures, placed between the ground and the higher voltage lines.

Mission Road and CA-78. The Project site is located within the United States Geological Survey (USGS) *Del Mar, Escondido, La Jolla, Poway, Rancho Santa Fe, and Valley Center* quadrangle maps, Township 13S, Range 02W, Sections 19, 30, and 34; Township 13S, Range 03W, Sections 24 and 25; and Township 14S, Range 03W, Sections 1 and 12; as well as the Los Penasquitos, Los Vallecitos De San Marcos, Mission San Diego, and San Bernardo-Snook land grant areas (Figure 1). The Proposed Project (69kV reconductor) route traverses both developed residential and commercial areas. The Proposed Project would involve work within existing right-of-way (ROW), franchise position (city/county roadways), and SDG&E fee-owned property.

The construction of the Proposed Project at the Artesian Substation site will occur within the existing property boundary and the adjacent parcel to the east owned by SDG&E. The minor work at the existing Bernardo Substation will not require any site development work at the substation site. The proposed work will require rearrangements and trenching inside the existing substation boundary, but will not require additional grading or other site development activities. The minor work at the existing Rancho Carmel Substation will not require any site development work at the substation site. The proposed work will require rearrangements and trenching inside and outside of the existing substation boundary, but will not require additional grading or other site development activities.



Legend

 Project Location

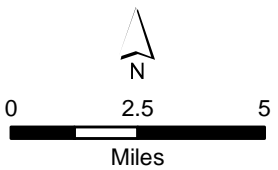


Figure 1
Project Location Map

1.2. SURVEY AREA

The Survey Area consisted of a 150-foot area around the power line centerline, a 50-foot area around Project facilities (substations, staging yards, stringing sites, etc.), and a 20-foot area around Project access roads. The additional area was surveyed to include potential additional work space that may be required during normal construction activities.

1.3. PROJECT COMPONENTS

The existing wooden poles will be replaced with new Corten steel-wood (SW) poles, consisting of directly-embedded, tubular steel poles and engineered corten or dulled galvanized steel foundation poles that are bolted to a reinforced concrete foundation. Construction-related activities associated with the Proposed Project include replacing approximately 14 existing wood poles with new direct bury SW steel poles (5 concrete foundation and 9 direct bury), construction of 5 new concrete foundation cable poles and 2 new concrete foundation drop poles, removing approximately 23 wooden poles from service, conducting overhead work at approximately 24 poles, installing approximately 23 temporary guard structures, reestablishing and/or widening existing SDG&E unpaved access roads, construction of a new substation perimeter road, temporary use of 14 stringing sites and 8 pulling sites, and accessing approximately 3 staging or material storage yards. Once the new poles have been installed, a mechanical pulling machine (powered dolly) will be used to facilitate the installation of new conductors. Wherever possible, activities will occur within existing paved or unpaved access roads or other previously disturbed areas.

1.3.1 Substations

The Proposed Project includes the expansion and rebuilding of the existing Artesian Substation into a new combined 230/69/12kV transmission and distribution substation. The expanded Artesian Substation will be located on the existing SDG&E property. The Proposed Project will include a new 230kV source (new connection to an existing 230kV transmission line) and one new 230/69kV transformer. It will also include the addition of a new 69/12kV transformer. The substation will remain an air insulated substation.

The site development work at the Artesian Substation will include the following:

- Demolition and/or removal of the buildings and miscellaneous structures located on the newly acquired property adjacent to and east of the existing Artesian Substation,
- Grading of the new (east) expanded substation site,
- Demolition of the existing substation east wall,
- Minor grading of the existing (west) substation site,
- Widening of existing unpaved access road;
- Construction of a new substation perimeter road along the southern and western sides of the substation wall; and
- Expansion of an existing detention basin located immediately west of the existing substation.

The construction of the Proposed Project at the Artesian Substation site will occur within the existing property boundary and the adjacent parcel to the east owned by SDG&E. Any contaminated soils

encountered during construction will be excavated and disposed at an appropriately licensed facility, pursuant to all applicable hazardous waste regulations. All building materials (e.g., concrete, steel, and wood) will be recycled or scrapped, also in accordance with all applicable regulations.

The minor work at the existing Bernardo Substation will not require any site development work at the substation site. The proposed work will require rearrangements and trenching inside the existing substation boundary, but will not require additional grading or other site development activities.

The minor work at the existing Rancho Carmel Substation will not require any site development work at the substation site. The proposed work will require rearrangements and trenching inside and outside of the existing substation boundary, but will not require additional grading or other site development activities.

1.3.2 Staging Yards

The Proposed Project includes 3 temporary construction staging and storage yards, resulting in a total area of approximately 27.4 acres (including the 5 acres for the Carmel Valley Staging Yard). The staging yards may be used for various construction support activities, including refueling areas for vehicles and construction equipment by a mobile fueling truck, pole assemblage, open storage of material and equipment, construction trailers, portable restrooms, parking, lighting and may include generator use for temporary power in construction trailers. Construction workers typically meet at the staging yard each morning and park their vehicles at the yard. In-ground fencing would be installed at the staging yards wherever it is not already installed. Gravel, class II base, or other BMP may be used to line the ground at staging yards to avoid the creation of unsafe mud conditions and unnecessary sediment transport off site.

SDG&E has attempted to identify a reasonable number of staging yards commensurate with the size, location, and scope of the Proposed Project. Past staging yards were identified, as well as large undeveloped areas near one or more portions of the Proposed Project that have been previously disturbed and/or graded. While SDG&E has exercised reasonable diligence in identifying potential construction staging yards, there is no guarantee that the identified staging yards would be available by the time the Proposed Project is set to begin construction. Other potential staging yards may be identified as part of the environmental review process. SDG&E will also utilize the Artesian Substation (existing [western] parcel as well as the expanded [eastern] parcel) for temporary staging of materials and equipment during construction. The Proposed Project will include approximately three proposed staging yards: the Carmel Valley Road, Kearny, and Northeast Annex Staging Yards.

It is anticipated the Carmel Valley Road Staging Yard will act as the primary staging yard during construction of the Proposed Project. The Carmel Valley Road Staging Yard is anticipated to be approximately 5 acres in size, and will be located with presently relatively flat and has been previously grubbed and graded. The Carmel Valley Road Staging Yard is located on a larger parcel (approximately 25 acres) owned by the same owner. The Carmel Valley Road Staging Yard is located at the corner of Carmel Valley Road and Camino del Sur, approximately 3 miles southwest of the Artesian Substation Site (refer to PEA Appendix 3-C). SDG&E has contacted the land owner and has received permission to include the property as a potential staging yard for the Proposed Project with the permitting and CEQA review process.

The Kearny Mesa Yard is an existing SDG&E-owned facility where space is available for the temporary

storage of construction materials and equipment. The Kearny Mesa Yard is 18.6 acres in size, is pre-graded and grubbed, and is located approximately 13 miles south of the Proposed Project.

The Northeast Storage Facility is an existing SDG&E-owned facility where space is available for the temporary storage of construction materials and equipment. The Northeast Storage Facility is 3.8 acres in size, is pre-graded and grubbed, and is located approximately 7.5 miles north of the Proposed Project.

In addition to established construction staging and storage yards, SDG&E will also utilize small temporary construction staging areas located at various locations along the Proposed Project alignment. Temporary staging areas for the Proposed Project are typically 0.01 acre in size (12 feet by 50 feet), but may be as large as 0.15 acre. SDG&E anticipates the utilization of approximately 22 temporary construction staging areas. Temporary construction staging areas differ from full staging yards in that they would not have power (either generators or temporary distribution connections), would not be fenced, would not include modular office or meeting spaces, and would not include certain types of activities such as vehicle maintenance, hazardous materials storage, or water storage.

1.3.3 Stringing and Pulling Sites

Approximately 14 stringing sites² may be required during construction of the Proposed Project. Stringing sites for the Proposed Project would be located approximately every 950 feet (average) along the project segments that require overhead stringing (installing new conductor or removing old conductor). The anticipated stringing sites are typically 75 to 150 feet long by 15 to 100 feet wide. The location of stringing sites may be modified or additional stringing sites may be identified during construction in order to safely and efficiently string wire.

Approximately 8 pulling sites may be required during construction of the Proposed Project. Pulling sites for the Proposed Project would be located approximately every 175 feet (average) along the Proposed Project segments that require installation or removal of underground cable. Pulling sites can vary in size, but are typically 15 feet by 100 feet in size. The location of pulling sites may be modified or additional stringing sites may be identified during construction in order to safely and efficiently string wire.

1.3.4 Guard Structures

Bucket trucks are often utilized as guard structures during stringing activities. Where wooden poles are used as guard structures instead, installation requires the temporary use of up to approximately 1,500 square feet of area, depending upon guard structure configuration and location. The temporary work area is located in the immediate vicinity of the guard structure location. No permanent impacts would

² Stringing sites refer to those temporary construction areas used during installation or removal (stringing) of overhead conductor. Pulling sites are those temporary construction areas used for the installation or removal (pulling) of underground cable.

result from the utilization of guard structures. Guard structure installation utilizing wood poles would include excavation of holes approximately 3 feet in diameter and 10 feet in depth. Excavated soils would be temporarily stock piled and then replaced within the excavation following stringing activities.

1.3.5 Underground Power Line Construction

The majority of the underground power line construction included as part of the Proposed Project would utilize the cut and cover construction method, which typically requires approximately 15 feet width of space for construction. At vault locations, approximately 30 feet width of space would be required for installation of the new underground splice vaults.

1.4. SITE ACCESS

Most work areas are accessible by vehicle on unpaved SDG&E-maintained access roads or by overland travel³. To enable crews and equipment to access the associated poles, smoothing or refreshing of the existing access roads and/or vegetation clearing may be necessary to improve some existing access roads and to re-establish unmaintained access roads. Pursuant to *SDG&E's Subregional NCCP*, SDG&E is not required to mitigate for impacts to vegetation resulting from existing road maintenance (i.e., re-establishing) of existing access roads. Based upon preliminary engineering, no new spur roads would be required for access to new structures. Vehicles will remain within existing access roads, previously disturbed areas, and designated temporary work areas, where feasible.

1.5. CONSTRUCTION METHODS

Transmission and power line construction will be conducted utilizing stringing crews to string the conductor, foundation crews that work on the transmission structure construction and preparation for stringing, and grading crews who prepare the structure sites for construction. In addition, construction crews for the installation of underground transmission lines will also be utilized.

Typically, the grading crews prepare each structure site and the foundation crews complete all of the required work on the transmission structures prior to any stringing activities. However, foundation crews and stringing crews could work simultaneously on different sections of the Proposed Project to complete construction over a shorter period of time. In addition, multiple foundation crews and/or grading crews could be working at different structure sites at the same time. Transmission and power line crews are typically composed of four to five workers and three trucks plus any required stringing/pulling equipment. Foundation crews are also typically comprised of four to five people and one to two trucks plus any required foundation construction equipment (such as a concrete truck, drill rig, and backhoe).

³ Overland travel refers to temporary vehicular access across un-improved areas. Overland travel areas are not graded or subjected to other earthwork improvement. Following construction these areas are returned to an approximate pre-construction state.

Three types of poles will be used for the Proposed Project: steel-wood equivalent poles, and foundation poles (cable pole and drilled foundation pole). Work areas for each type of pole will vary but will be confined to the previously disturbed areas around the base of the existing poles to the extent possible in order to provide a safe and adequate workspace and minimize additional vegetation clearing.

1.5.1 Directly-Embedded Steel Poles

Directly-embedded poles will be corten steel poles that are secured in place with concrete backfill. The poles will range in heights from approximately 61 to 80 feet above grade. The diameter of the pole at ground level is approximately 20 to 30 inches. The poles will be directly-embedded at a depth of approximately 9 to 12 feet below ground level as necessary for installation. The direct bury poles impact area is approximately a 10 foot radius (314 square feet).

1.5.2 Foundation Poles

Foundation poles are engineered galvanized steel poles that are bolted to a reinforced concrete foundation. The poles will have a height of approximately 70 to 132 feet above grade. The pole diameter at foundation base is approximately 7 feet on average, with a typical hole depth of approximately 30 to 40 feet. The foundation pole impact area is approximately a 5,625 square feet or 22,500 square feet work pad area (subject to site conditions) for drilled foundation poles or cable foundation poles, respectively.

1.5.3 Steel Replacement Poles

Replacement poles will be located as close as possible to the existing poles, usually within 10 feet; and installation of the new steel poles will require excavating the pole holes using either a truck-mounted auger or drill rig, or by hand with the aid of a hand jack powered by an air compressor. Excavated soil will be placed in a spoils pile adjacent to each hole. Spoil boxes may be used to store spoils at sites that are located on steep or uneven terrain. Plywood boards or visqueen covers will be used to cover the excavated holes until pole installation activities begin. New poles will be installed by line truck or by helicopter. Excess spoils generated from Project activities will be dispersed around the bases of the poles within the allotted temporary work areas and/or evenly distributed on the existing access roads outside of jurisdictional drainage crossings and properly compacted. In the event that the soil cannot be spread and adequately contoured or compacted onto the existing access roads, crews will remove the excess soil from the Project site. Appropriate Best Management Practices (BMPs) will be used before, during, and after Project-related construction activities where necessary to prevent offsite sedimentation. Bucket trucks will be utilized to remove the conductors and cross-arms from old poles. Wood poles will be removed by cutting the poles into sections or removed completely by use of a hydraulic jack and line truck. The existing pole butt will be completely removed; and the hole will be backfilled with spoils, unless it is required to remain in place to reduce impacts to sensitive resources in the immediate vicinity of the pole location.

1.5.4 Wood Pole Removal

Wood pole removal activities will utilize boom and bucket trucks to remove cross arms, conductors, and poles. Helicopters may be used in areas not accessible by boom trucks or in areas where sensitive resources are present. Associated hardware, including anchors and old wood poles, will be recycled and/or disposed of at an approved offsite location. Typically, wood pole removals require a potential

impact area of approximately 20 feet radius from the pole; however, this may be adjusted based on site conditions (e.g., boom truck parked on access road, footpath to pole).

SECTION 2.0 – REGULATORY BACKGROUND

The following federal, state, and local regulations and policies pertain to biological resources and are relevant to the Proposed Project.

2.1. FEDERAL

2.1.1 Clean Water Act

The purpose of the Clean Water Act (CWA) is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of fill material into waters of the United States without a permit from the USACE. The definition of waters of the United States includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as 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” (33 Code of Federal Regulations [CFR] § 328.3(b)). The goals and standards of the CWA are enforced through permit provisions. The U.S. Environmental Protection Agency also has authority over wetlands and may override a USACE permit.

When a project may create impacts for wetlands, the project requires a permit or a waiver. Substantial impacts to wetlands may require an Individual Permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required from the RWQCB for Section 404 permit actions.

Clean Water Rule

The Clean Water Rule: Definition of Waters of the United States—published in the Federal Register on June 29, 2015, and effective August 28, 2015—was enacted to ensure that waters protected under the CWA are more precisely defined and predictably determined⁴.

2.1.2 Federal Endangered Species Act of 1973

When a private project that has no federal funding and for which no federal action is required may affect a listed species, the private applicant may receive authorization for incidental take of species listed under the FESA. In these situations, Section 10 of the FESA provides for issuance of incidental take permits (ITPs) to private entities with the development of a HCP, such as SDG&E’s NCCP and Low-Effect HCP for QCB. An ITP allows take of the species that is incidental to another authorized activity.

⁴ The Sixth Circuit Court of Appeals stayed implementation of this Rule on October 9, 2015. Because the Proposed Project will not affect any potentially jurisdictional features, the conclusions of this PEA are not affected by the nationwide stay of the Rule implementation.

Final Rule for Revised Designation of Critical Habitat for the Coastal California Gnatcatcher

The USFWS designates critical habitat for endangered and threatened species under the FESA (16 USC § 1533 (a)(3)). Critical habitat is designated for the survival and recovery of federally listed endangered and/or threatened species. Critical habitat includes areas used for foraging, breeding, roosting, shelter, and movement or migration. In the USFWS 2003 Proposed Rule to Revise Designation of Critical Habitat for the Coastal California Gnatcatcher, the USFWS considered but did not propose as critical habitat, pursuant to sections 3(5)(A) and 4(b)(2) of the Act, reserve lands covered by three completed and approved regional/subregional habitat conservation plans (HCPs) (68 FR 20228). These lands include SDG&E ROW within SDG&E's NCCP. Although these areas were not included in the proposed critical habitat, the USFWS sought public review and comment on these lands, provided maps to facilitate the public's ability to comment, and alerted the public that the lands could potentially be included in the final designation. Lands considered but not proposed for designation were also analyzed for potential economic impacts in the Draft Economic Analysis.

In 2007, USFWS issued the Revised Final Rule, reaffirming exclusion of lands within approved regional and subregional HCPs under section 4(b)(2) of the FESA. USFWS determined that lands owned by SDG&E and covered under SDG&E's NCCP provided greater benefits to CAGN than other areas designated as critical habitat. As such, the USFWS designation of critical habitat for the CAGN specifically excludes SDG&E ROW within SDG&E's NCCP area.

2.1.3 Migratory Bird Treaty Act, as Amended

The Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 USC 703-711), provides legal protection for almost all bird species occurring in, migrating through, or spending a portion of their life cycle in North America by restricting the killing, taking, collecting, and selling or purchasing of native bird species or their parts, nests, or eggs. USFWS determined it was illegal under the MBTA to directly kill, or destroy an active nest (nest with eggs or nestlings), of nearly any bird species (with the exception of non-native species through the MBTA Reform Act of 2004). Certain game bird species are allowed to be hunted for specific periods determined by federal and state governments. The intent of the MBTA is to eliminate any commercial market for migratory birds, feathers, or bird parts, especially for eagles and other birds of prey. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities:

- Falconry
- Raptor propagation
- Scientific collecting
- Special purposes, such as rehabilitation, education, migratory game bird propagation, and salvage
- Take of depredating birds, taxidermy, and waterfowl sale and disposal

The regulations governing migratory bird permits can be found in Title 50, Part 13 (General Permit Procedures) and Part 21 (Migratory Bird Permits) of the CFR.

2.1.4 Bald and Golden Eagle Protection Act, as Amended

The Bald and Golden Eagle Protection Act (BGEPA) of 1940, as amended (16 USC 668-668c), provides legal protection to bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) in

addition to protection afforded under the MBTA. The BGEPA prohibits the “take” (to pursue, shoot, shoot at, wound, kill, capture, trap, collect, molest, or disturb) of bald and golden eagles including their nests, eggs, or parts. “Disturbance” of bald and golden eagles is also prohibited under the BGEPA; and “disturbance” relates to injuries to bald or golden eagles or a disruption to life cycles, productivity, and/or substantial interference of normal bald and golden eagle behavior. The BGEPA also extends to potential impacts to bald and golden eagles caused by human-induced environmental changes near a previously used nest when the eagles are not present.

2.2. STATE

2.2.1 California Endangered Species Act

The CESA (California Fish and Game Code Sections 2050-2116) parallels the FESA. As a responsible agency, CDFW has regulatory authority over species that are state listed as endangered and threatened. The State Legislature encourages cooperative and simultaneous findings between state and federal agencies. Consultation with CDFW is required for projects with the potential to affect listed or candidate species. CDFW would determine whether a reasonable alternative would be required for the conservation of the species. CESA prohibits the “take” of these species unless an ITP is granted. Under California Fish and Game Code Section 2081 (ITP), CDFW can authorize the “take” of a listed species (with exception to fully protected species) if the “take” of the listed species is incidental to carrying out an otherwise lawful project that has been approved under the California Environmental Quality Act (CEQA). Section 2080.1 allows for “take” once an applicant obtains a federal ITP which can be approved (Consistency Determination letter) within 30 days by the CDFW Director. If the federal Incidental Take Statement is determined not to be consistent with CESA, then application for a State ITP (2081) is required.

The California Fish and Game Code outlines protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are “fully protected” (FP) may not be taken or possessed at any time. CDFW has designated certain species native to California as Species of Special Concern to “focus attention on wildlife at conservation risk by the Department, other State, Local and Federal governmental entities, regulators, land managers, planners, consulting biologists, and others; stimulate research on poorly known species; achieve conservation and recovery of wildlife before they meet CESA criteria for listing as threatened or endangered.”

2.2.2 State Fully Protected Species

The State of California designated species as FP prior to the creation of CESA and FESA. Lists of FP species were initially developed to provide protection to species that were rare or faced possible extinction/extirpation. Most FP species have since been state listed as threatened or endangered species. Under California Fish and Game Code Section 4700, FP species may not be taken or possessed at any time.

In September 2011, the California Legislature sent the Governor legislation authorizing CDFW to permit the incidental take of 36 FP species pursuant to a NCCP approved by CDFW (Senate Bill 618 [Wolk]). The legislation gives FP species the same level of protection as provided under the NCCP Act for endangered and threatened species (California Fish and Game Code § 2835). The NCCP Act, enacted in the 1990s, authorizes the incidental take of species “whose conservation and management” is provided for in a conservation plan approved by CDFW.

2.2.3 Sections 1600-1602 of the California Fish and Game Code

Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake which supports fish or wildlife. CDFW defines a “stream” (including creeks and rivers) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation.” CDFW’s definition of “lake” includes “natural lakes or man-made reservoirs.” CDFW limits of jurisdiction include the maximum extent of the uppermost bank-to-bank distance or riparian vegetation dripline.

2.2.4 California Environmental Quality Act

The California Environmental Quality Act (CEQA) (Public Resources Code, Sections 21000-21177) requires that state and local agencies consider environmental consequences and project alternatives before a decision is made to implement a project requiring state or local government approval, financing, or participation by the State of California. In addition, CEQA requires the identification of ways to avoid or reduce environmental degradation or prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.

2.2.5 California Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was created with the intent to “preserve, protect, and enhance rare and endangered plants in this State.” The NPPA is administered by the CDFW. The California Fish and Game Commission has the authority to designate native plants as “endangered” or “rare” and to protect them from take. Rare plants protected by CDFW generally include species with a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, and 2B of the CNPS Inventory of Rare and Endangered Vascular Plants of California. In addition, sometimes CRPR 3 and 4 plants are considered rare if the population has local significance in the area and is impacted by a project. Section 1913(b) includes a specific provision to allow for the incidental removal of endangered or rare plant species, if not otherwise salvaged by CDFW, within a ROW to allow a public utility to fulfill its obligation to provide service to the public.

When the CESA was passed in 1984, it expanded on the original NPPA, enhanced legal protection for plants, and created the categories of “threatened” and “endangered” species to parallel the FESA. The CESA converted all rare wildlife to threatened species under the NPPA but did not do so for rare plants, which resulted in three listing categories for plants in California: rare, threatened, and endangered. The NPPA remains part of the California Fish and Game Code, and mitigation measures for impacts to rare plants are specified in a formal agreement between the CDFW and a project proponent.

2.2.6 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1966 (California Water Code §§ 13000-13999.10) mandates that activities that may affect waters of the State shall be regulated to attain the highest quality. The State Water Resources Control Board (SWRCB) and the local Regional Water Quality Control Board (RWQCB) are the relevant permitting agencies. RWQCB provides regulations for a “non-degradation policy” that are especially protective of areas with high water quality. Porter-Cologne reserves the right for the State of California to regulate activities that could affect the quantity and/or

quality of surface and/or ground waters, including isolated wetlands, within the state. Waters of the State include isolated waters that are no longer regulated by USACE. If the project is proposed to discharge into waters of the State, a Waste Discharge Report (WDR), or a waiver to WDRs, must be filed before beginning discharge.

2.3. LOCAL

Because the California Public Utilities Commission (CPUC) has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations. The following discussion of local regulations relating to biological resources is provided for informational purposes.

2.3.1 County of San Diego General Plan

The *County of San Diego General Plan* provides direction for future growth in the unincorporated areas of San Diego County and provides policies related to land use, mobility, conservation, housing, safety, and noise. The *County of San Diego General Plan Land Use Element* provides a framework for managing future development in the county so that it is thoughtful of the existing character of the current communities and the sensitive natural resources within the county.

The *County of San Diego General Plan* contains the following relevant policies:

- **Conservation and Open Space (COS) Policy COS-1.2:** Minimize Impacts. Prohibit private development within established preserves. Minimize impacts within established preserves when the construction of public infrastructure is unavoidable.
- **COS Policy COS-1.3:** Management. Monitor, manage, and maintain the regional preserve system facilitating the survival of native species and the preservation of healthy populations of rare, threatened, or endangered species.
- **COS Policy COS-2.1:** Protection, Restoration and Enhancement. Protect and enhance natural wildlife habitat outside reserves as development occurs according to the underlying land use designation. Limit the degradation of regionally important natural habitats within the Semi-Rural and Rural Lands regional categories, as well as within Village lands where appropriate.
- **COS Policy COS-2.2:** Habitat Protection through Site Design. Require development to be sited in the least biologically sensitive areas and minimize the loss of natural habitat through site design.

2.3.2 City of San Diego General Plan

The City of San Diego General Plan comprises of ten elements to provide a citywide line up of policies and visions future public and private land use. Such elements include Land Use and Community Planning, Mobility, Economic Prosperity, Public Facilities, Services and Safety, Urban Design, Recreation, Historic Preservation, Conservation, Noise, and Housing. The Conservation Element focuses on providing long-term conservation of natural resources to contribute to the City's economy including its Open Space and Landform Preservation section to provide long-term management of natural landforms and open space and serves to implement the MSCP.

The *City of San Diego General Plan* contains the following relevant policies:

- **CE-G.1:** Preserve natural habitats pursuant to the MSCP and manage all City-owned native habitats to ensure long term viability
- **CE-G.2:** Prioritize, fund, acquire and manage open spaces that preserve important ecological resources and provide habitat connectivity
- **CE-G.3:** Implement conservation goals/policies of the city's MSCP Subarea Plan
- **CE-B.1:** Protect and conserve landforms, canyon lands, and open spaces
- **CE-B.4:** Limit and control runoff, sedimentation, and erosion both during and after construction activity

2.3.3 City of Escondido General Plan

The *City of Escondido General Plan* provides long range public policy to provide guidance for public and private land use including adequate and accessible utility and service to support the City's needs. Elements of the plan include Land Use and Community, Mobility and Infrastructure, Housing, Community Health and Services, Community Protection, Resource Conservation, Growth Management and Economic Prosperity. Its Resource Conservation and Land Use and Community Element identify policies and objectives to conserve Escondido's natural and scenic resources and ensure a balance of land uses at appropriate locations to enhance sustainability.

The *City of Escondido General Plan* contains the following relevant policies:

- Biological and Open Space Resources Policy 1.4: Coordinate the planning and development of the overall open space system with other public facilities and services within Escondido.
- Biological and Open Space Resources Policy 1.8: Proposed development projects implement appropriate measures to minimize potential adverse impacts on sensitive habitat areas.
- Open Space Land Use Policy 12.3: Encourage the preservation of lands within the Planning Area that are owned by other public agencies for use as undeveloped open space, recreational purposes or mitigation banking.

2.3.4 Black Mountain Ranch Subarea Plan (Subarea I)

The *Black Mountain Ranch Subarea Plan (Subarea I)* is part of the North City Future Urbanizing Area (NCFUA) which describes and provides land use patterns and policies for long term use and development of its subareas. Elements of the Subarea I plan include Land Use, Open Space, Housing, Community Facilities, Circulation, Community Design element and a mitigation, monitoring and reporting program under the jurisdiction of the City of San Diego.

Implementing principles of the Subarea I plan include maintaining natural resources, provide critical corridors for regional multiple species conservation plan (MSCP) open space along with boundary adjustments and linking open space areas.

2.3.5 County of San Diego San Dieguito Community Plan

The *San Dieguito Community Plan* is composed of nine elements which provide an array of policies and guidelines that govern the character and development of community plan area. These elements include Land Use, Circulation, Public Safety; Services; and Facilities, Conservation, Recreation, Scenic Highways, Open Space, Noise, and Energy. The Conservation elements focuses on providing a comfortable living environment while preserving the area's natural resources.

The Conservation Element of the *San Dieguito Community Plan* contains the following relevant guidelines:

- Provide for adequate setbacks from all watercourses to protect property, improve water quality, and enhance the aesthetic beauty of the riparian environment.
- Preserve the integrity, function, and long-term viability of environmental sensitive habitat within the San Dieguito CPA. Emphasis shall be placed on areas exhibiting riparian characteristics; Coastal sage and scrub; and coastal mixed chaparral.
- Grading should retain the natural appearance of the existing land forms and natural slopes in excess of 25% shall be protected from unnecessary grading.
- All grading plans shall include preparation for an installation of landscaping.
- Grading permits shall be issued at the same time as building permits to minimize erosion.
- When the natural terrain is altered, new landscaping shall utilize at least 50% native species.
- Minimize brushing for agricultural uses and retain areas of natural vegetation to facilitate habitat regeneration.

2.3.6 San Diego Multiple Species Conservation Plan

Under the NCCP Act of 1991, a MSCP has been developed for southwestern San Diego County in order to protect 85 species in the area. The MSCP was approved in 1997 and is the result of a joint planning effort between the county and the cities in the southwestern part of the county, including the City of San Diego. The County of San Diego and City of San Diego have both adopted subarea plans that conform to and implement the MSCP requirements.

2.3.7 County of San Diego Multiple Species Conservation Plan Subarea Plan

The County of San Diego MSCP Subarea Plan, adopted on October 22, 1997, covers the west-central portion of the county's unincorporated area and applies to unincorporated lands within the Survey Area. It serves to protect designated special status plant and wildlife species and their habitats depending on location and site characteristics. The San Diego County MSCP Subarea Plan is divided into three segments, one of which is the Lake Hodges Segment (LHS). The LHS contains areas in which landowners have negotiated with the Wildlife Agencies and County for areas that will be set aside as preserve lands in perpetuity. In return, some areas have also been approved for development. The Wildlife Agencies have agreed to the placement of conservation and development areas; accordingly, projects approved by the County consistent with the Subarea Plan LHS will not require additional approvals from the Wildlife Agencies. Wetlands impacts throughout the County Subarea will continue to be subject to the Federal Water Pollution Act and Fish and Game Code Section 1600 processes, as appropriate.

The LHS includes approximately 8,874 acres, which includes approximately 4,588 acres of preserve area. The LHS covers areas west of Interstate 15, north of the City of San Diego, and east of Rancho Santa Fe in the west-central portion of the county. The LHS consists of four land development projects, including Rancho Cielo, 4S Ranch, Santa Fe valley and the Madura subdivision, two areas owned by the City of San Diego.

The native vegetation of the LHS preserve area is dominated by grassland, coastal sage scrub and chaparral species. Other habitats in the preserve area include oak woodlands, freshwater marsh, willow scrub/forest, and disturbed habitats.

2.3.8 4S Ranch Specific Plan

Specific plans act as a more flexible medium to apply community or general plans than zoning. Two areas comprise the 4S Ranch Specific Plan Area – a 634-acre and a 2,891-acre portion. The 634-acre portion includes a mixture of residential, commercial, industrial, and open space and includes ten guidelines to govern development. The 2,891-acre portion maintains a mixture of residential, commercial, civic, park, and open space uses. Development of both portions shall be consistent with all County and Community Plan goals. The Proposed Project traverses both portions of the 4S Ranch Specific Plan Area; thus, relevant policies of both portions are discussed.

The 634-acre portion includes the following relevant guidelines:

- Given the presence of 69kV power lines, the applicant shall consult SDG&E to ensure compliance with their plans and regulations.
- Protection of the natural features of the property shall include granting of Open Space Easements over areas acceptable to the Director for the Department of Planning and Development Services and approval of an acceptable maintenance program.

The 2,891-acre portion includes the following relevant guidelines:

- Sensitive habitat areas within the specific plan area shall be conserved through designation as open space and dedication of open space easements prior to development.

Development of the specific plan area shall be consistent with the Lake Hodges Subarea Plan of the Multiple Species Conservation Plan (MSCP) as adopted by the Board of Supervisors.

2.3.9 Santa Fe Valley Specific Plan

Specific plans act as a more flexible medium to apply community or general plans than zoning. The Santa Fe Valley Specific Plan Area is located directly north of the Artesian Substation and west of the 4S Ranch Specific Plan Area. It contains 5 elements to guide development of the area including Conservation and Open Space, Land Use, Circulation, Public Facilities, and Community Design.

The *Santa Fe Valley Specific Plan* contains the following relevant policies:

- CO-1.1: Open Space I areas shall not be disturbed by any uses except as identified on the Specific Plan Map and in the text such as vehicular river crossing, emergency access road, recreational trails, a trail staging area, and essential public facilities such as wet and dry utilities lines and/or poles.
- CO-2.1: Significant environmental resources that are not designated as Open Space I may be required to undergo additional discretionary review. Special Area Designators shall be applied as appropriate for the environmental resources present on each particular site that may have otherwise developed without discretionary review.
- CO-2.2.c.1: Disturbance to wetland habitat shall be limited to the maximum extent practical.
- CO-2.2.c.2: Site specific studies shall be prepared to document the amount and habitat value of the wetland resources.
- CO-2.2.c.3: There shall be no net loss of wetland habitat. Wetland impacts shall be mitigated as necessary to accomplish this standard.
- CO-4.2: Open Space II areas may be developed with passive and active recreational uses such as golf courses including a Clubhouse, Tennis Center, and other typical accessory structures, irrigation/water storage ponds, trails, and essential public and private facilities such as drainage facilities, utility lines, and/or utility poles except as specified in Policy LU-2.6.
- CO-4.3: In planning and designing permitted development of Open Space II areas, significant environmental resources must be considered and preserved to the extent feasible. Prior to or concurrently with approval of Final or Parcel Maps, and prior to vesting any other discretionary permit on the subject property, significant environmental resources shall be dedicated as open space easements, permitting open space compatible uses as appropriate. The open space easements shall be dedicated to the County or to a habitat management agency acceptable to Department of Planning and Land Use, as appropriate.

2.3.10 City of San Diego Multiple Species Conservation Program Subarea Plan

The City of San Diego adopted its own MSCP Subarea Plan in 1997 to implement the regional MSCP. Divided into priority areas, the MSCP Subarea Plan designates the undeveloped canyons in the Otay Mesa area as protected coastal sage scrub habitat. New development must comply with the boundaries established by the MSCP Subarea Plan, including restoration of coastal sage scrub when disturbed.

Within the Multi-Habitat Planning Area (MHPA), which is the City's planned habitat preserve within the MSCP Subarea, development is limited to ensure the long-term viability and recovery of 85 "covered" species. In addition, the MSCP Subarea Plan includes policies and design guidelines specific to utility projects, such as:

1. Designed to avoid or minimize intrusion into the MHPA.
2. New development within or crossing the MHPA be planned, designed, located and constructed to minimize environmental impacts.
3. Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat. Activities occur on existing agricultural lands or other disturbed areas.
4. Construction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage.
5. Existing roads and utility lines are considered a compatible use within MHPA and therefore be maintained.

2.3.11 County of San Diego Tree Ordinance

The San Diego Regulatory Code of Ordinances, Title 7, Division 1, Chapter 5 regulates the planting, trimming, and removal of trees on County-owned property and county highways. The Proposed Project is anticipated to occur within SDG&E's ROW, and no conflicts should occur with any other conservation plans or County tree ordinances.

2.4. EXISTING SAN DIEGO GAS & ELECTRIC COMPANY PLANS

2.4.1 SDG&E Subregional Natural Community Conservation Plan

In December 1995, the USFWS and CDFW approved the *SDG&E Subregional NCCP*, developed in coordination with such agencies that address potential impacts to species and habitat associated with SDG&E's ongoing installation, use, maintenance, and repair of its gas and electric systems. Also included in the NCCP are guidelines pertaining to the typical expansion to SDG&E's systems throughout much of its existing service territory. As a part of the *SDG&E Subregional NCCP*, SDG&E has been issued incidental take permits (Permit PRT-809637) by the USFWS and CDFW for 110 covered species. The *SDG&E Subregional NCCP* was developed by following the multiple species and habitat conservation planning approach. In addition to implementing the *SDG&E Subregional NCCP*, SDG&E's goal is to avoid "take" of covered species whenever possible and to implement measures to avoid and minimize any take to the maximum extent possible. The *SDG&E Subregional NCCP* includes avoidance and minimization measures and operational protocols that apply to construction as well as to operations and maintenance activities. In approving the NCCP, the USFWS and CDFW determined that the avoidance and minimization measures and operational protocols avoid potential impacts and provide appropriate mitigation where such impacts are unavoidable. The agencies also determined that the NCCP ensured the protection and conservation of federal and state listed species and covered species.

The Proposed Project falls within the area where SDG&E's utility operations are governed by the NCCP. SDG&E may seek incidental take coverage for temporary and permanent impacts to natural habitat resulting from construction of the Proposed Project through the NCCP, and may rely on the mitigation bank associated with the NCCP to fulfill the mitigation requirements for those impacts. SDG&E may consult with USFWS and CDFW for compliance with the FESA and CESA for construction of the Proposed Project. Any Proposed Project-specific ITP will require mitigation consistent with the mitigation

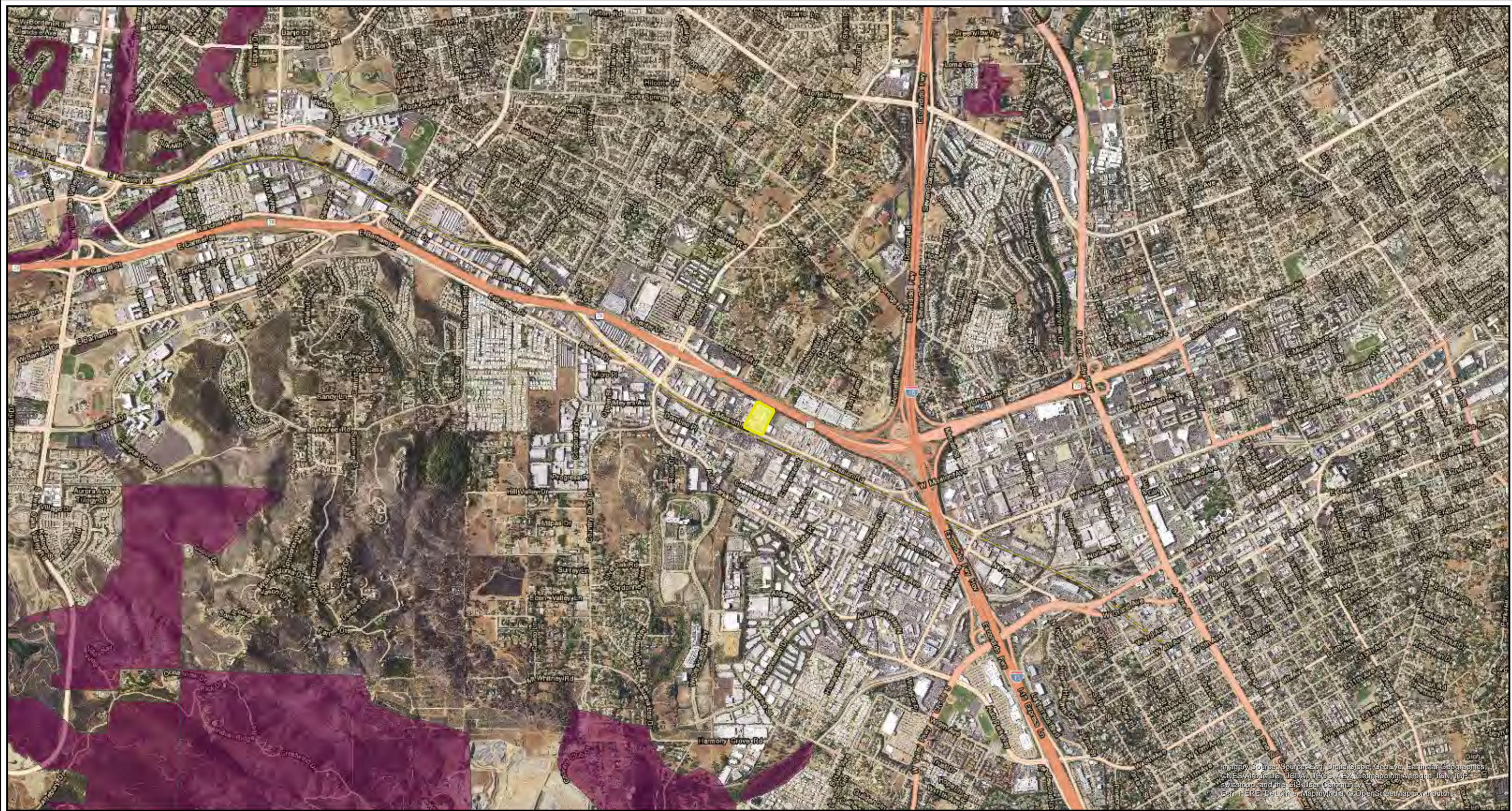
requirements in the NCCP, or as specified through consultation with USFWS and CDFW. For operation and maintenance of the Proposed Project, SDG&E will use the NCCP to comply with the FESA and CESA.

2.4.2 SDG&E Low-Effect Habitat Conservation Plan for Quino Checkerspot Butterfly

The QCB received federal protection under the FESA in 1997 (USFWS 2002). Although not covered under SDG&E's NCCP, an HCP was created by SDG&E and USFWS; and QCB is covered under the SDG&E Low-Effect QCB HCP. Lands outside the HCP mapped area are considered unsuitable for QCB under the HCP, and no additional surveys or mitigation are required for activities covered under the HCP occurring outside the mapped area. The Low-Effect HCP addresses potential impact to the QCB from the use, maintenance, and repair of existing gas and electric facilities and allows for typical expansions to those systems. Other than maintenance of existing access roads, SDG&E activities include, without limitation, all current and future actions arising out of, or in any way connected with, the siting, design, installation, construction, use, maintenance, operation, repair, and removal of facilities within SDG&E's service territory. Pole and tower replacement is one example of these covered activities.

The Low-Effect HCP emphasizes protection of habitat through impact avoidance and use of operational protocols designed to avoid or minimize impacts to the QCB. The plan was prepared in consultation with the USFWS to fulfill the requirements of a FESA Section 10(a)(1)(B) permit application for SDG&E activities.

The Low-Effect HCP for QCB established mitigation ratios for both temporary and permanent impacts to QCB suitable occupied and unoccupied habitat as a result of SDG&E activities occurring within the HCP mapped area. Figure 2 displays the location of QCB HCP mapped areas in relation to the Survey Area, from pole location 18 east to the Bernardo substation.



Imagery Source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGP, Swire, and the GIS User Community
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Legend

- Survey Area
- SDG&E Designated Preserve
- QCB Mapped Areas
- San Diego's Multiple Species Conservation Program
- City of San Diego Multi-Habitat Planning Area

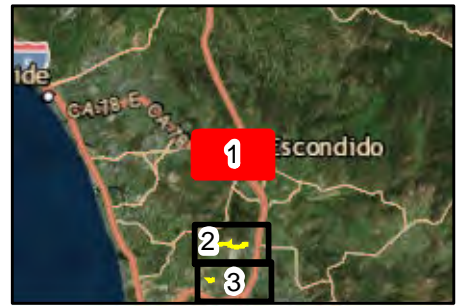
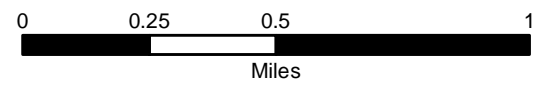
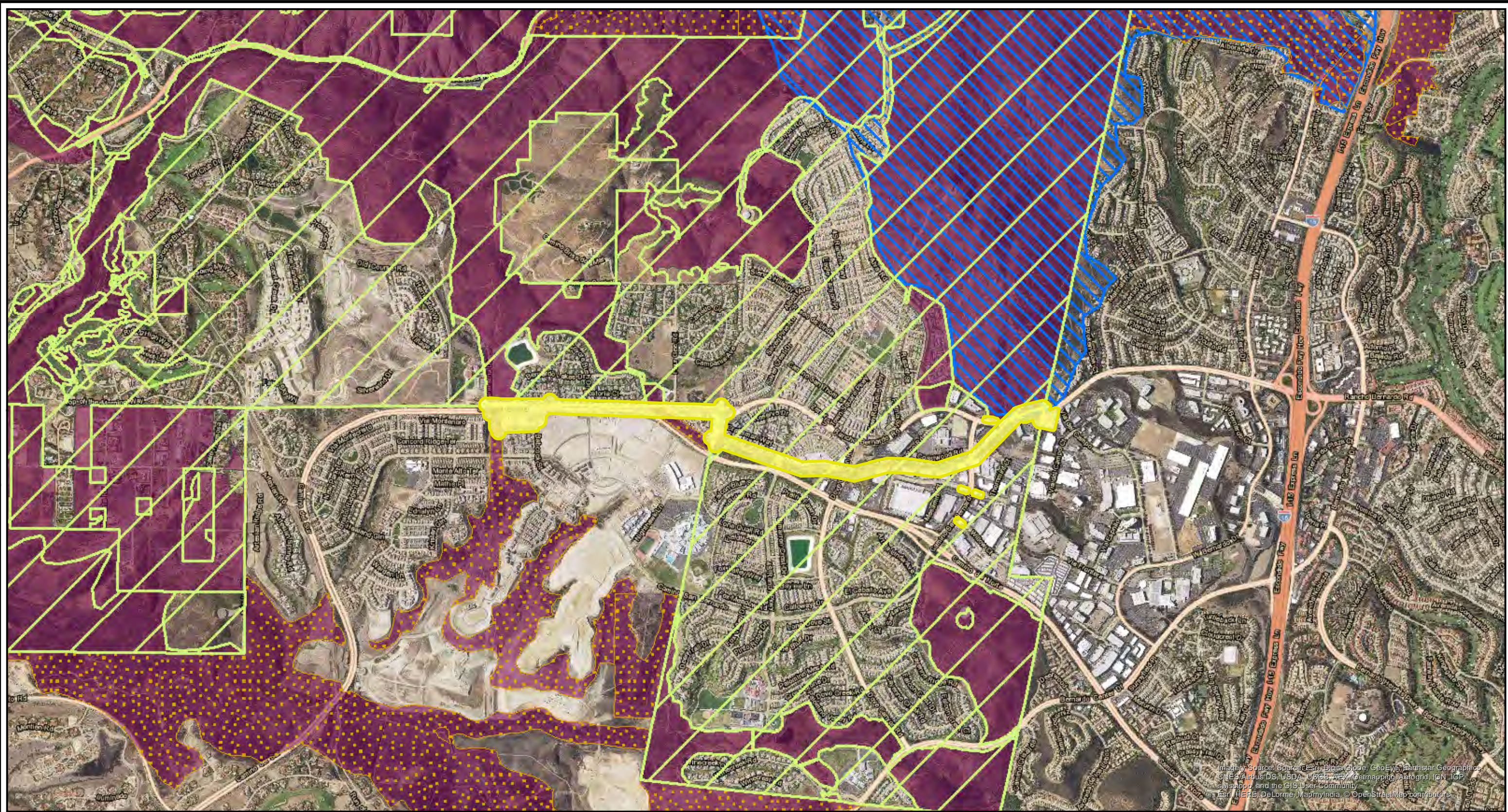


Figure 2
 Land Management and
 Habitat Plan Map



Map Source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community
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Legend

- Survey Area
- SDG&E Designated Preserve
- QCB Mapped Areas
- San Diego's Multiple Species Conservation Program
- City of San Diego Multi-Habitat Planning Area

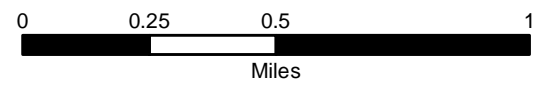
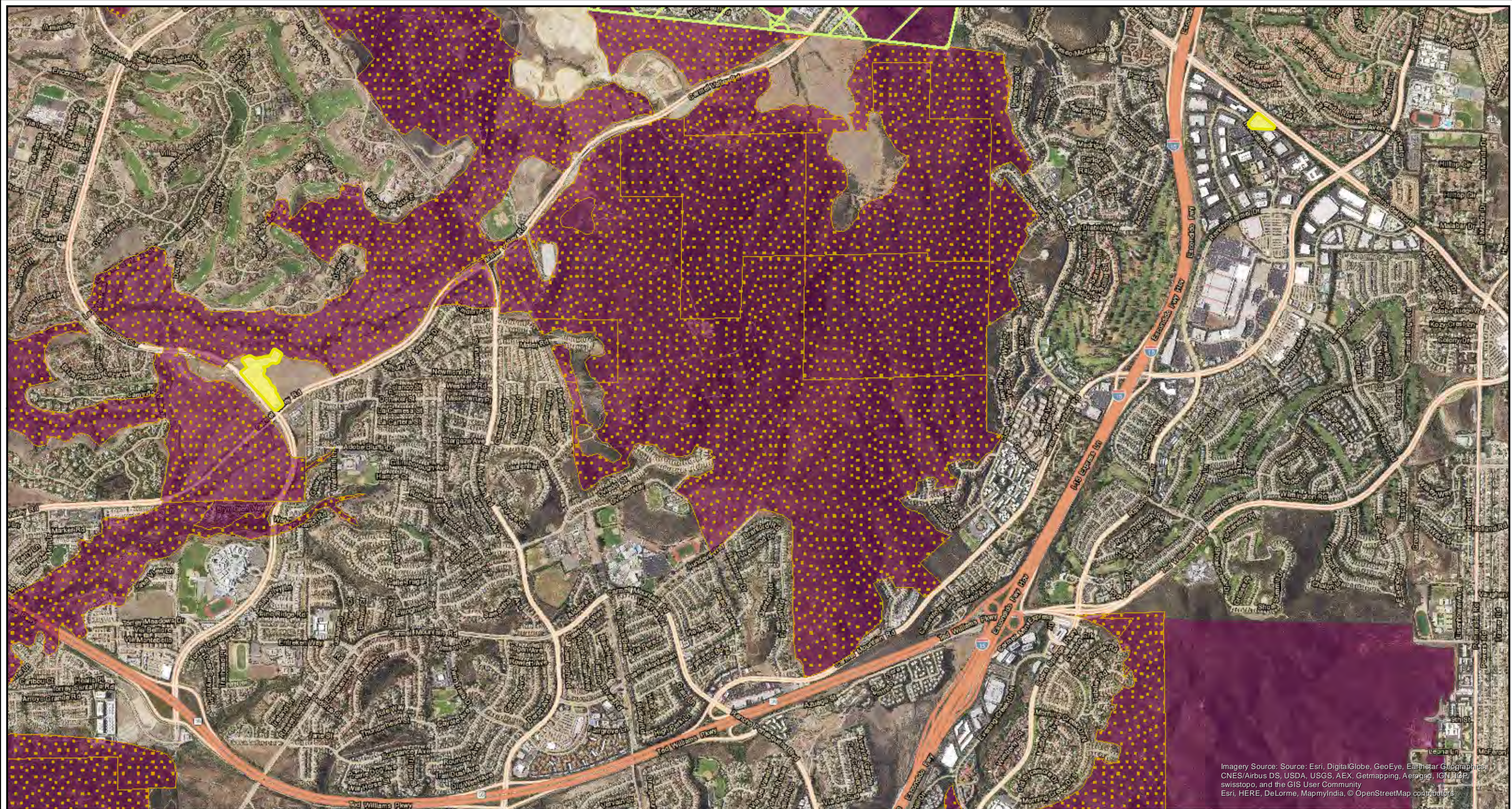


Figure 2
 Land Management and
 Habitat Plan Map





Imagery Source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
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Legend

- Survey Area
- SDG&E Designated Preserve
- QCB Mapped Areas
- San Diego's Multiple Species Conservation Program
- City of San Diego Multi-Habitat Planning Area

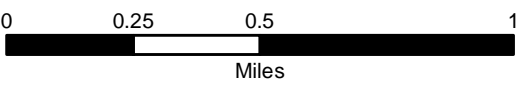
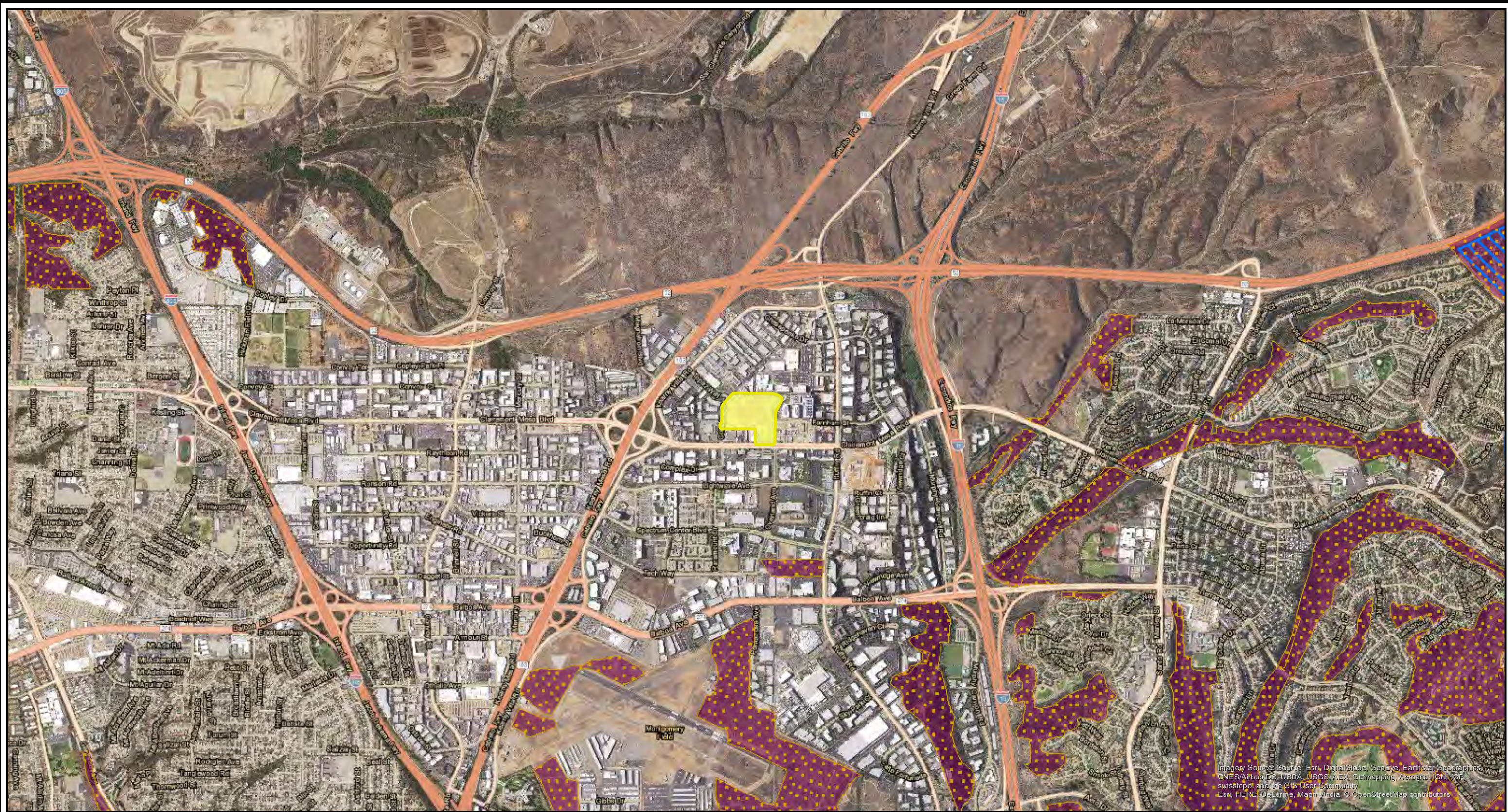


Figure 2
 Land Management and
 Habitat Plan Map



Imagery Source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
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- Legend**
- Survey Area
 - SDG&E Designated Preserve
 - QCB Mapped Areas
 - San Diego's Multiple Species Conservation Program
 - City of San Diego Multi-Habitat Planning Area

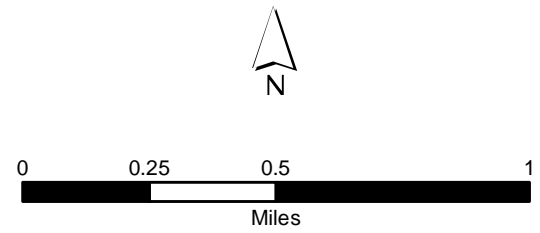


Figure 2
 Land Management and
 Habitat Plan Map

SECTION 3.0 – METHODS

3.1. DEFINITIONS

Species were considered special status and evaluated in this report if the species met one or more of the following criteria: (1) plants or wildlife are listed as threatened, endangered, or candidates under the FESA; (2) plants or wildlife are listed as threatened, endangered, or candidates under the CESA; (3) plant species are considered rare or with a CRPR rank of 1 or 2; or, (4) wildlife is designated as fully protected or species of special concern by the CDFW.

Species that fall under the following categories that are not considered special status are also discussed: Birds of Conservation Concern (BCC), California Watch List (WL), and Western Bat Working Group (WBWG) species. The following information is a list of abbreviations used to help determine the significance of biologically sensitive (protected) resources potentially occurring within the Survey Area.

Federal

FE	=	Federally Listed; Endangered
FT	=	Federally Listed; Threatened
FC	=	Federal Candidate Species
BCC	=	Birds of Conservation Concern

State

ST	=	State listed; Threatened
SE	=	State listed; Endangered
RARE	=	State-listed; Rare (Listed “Rare” wildlife has been redesignated as Threatened, but Rare plants have retained the Rare designation)
SSC	=	State Species of Special Concern
FP	=	State Fully Protected
WL	=	California Watch List Species
WBWG	=	Western Bat Working Group

California Rare Plant Rank (CRPR)

1A	=	Plants presumed extinct in California
1B	=	Plants Rare and Endangered in California and throughout their range
2	=	Plants Rare, Threatened, or Endangered in California but more common elsewhere in their range
3	=	Plants about which we need more information; a review list
4*	=	Plants of limited distribution; a watch list

*CRPR 4 species are not generally identified in the literature and database review. However, if a List 4 species was observed during the focused plant surveys, this species was documented.

CRPR Extensions

0.1	=	Seriously endangered in California (greater than 80 percent of occurrences threatened/high degree and immediacy of threat)
0.2	=	Fairly endangered in California (20 to 80 percent occurrences threatened)
0.3	=	Not very endangered in California (less than 20 percent of occurrences threatened)

3.2. LITERATURE REVIEW

Prior to conducting the field surveys, existing literature relevant to the Survey Area was reviewed. This review included existing reports from biological studies conducted in the vicinity of the Survey Area, as well as the most recent records of the CDFW California Natural Diversity Database (CNDDDB; CDFW 2015), the California Native Plant Society’s Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2015; CDFW 2015), the USFWS Species Occurrence Database (USFWS 2015a), and the USFWS critical habitat Inventory within a 5-mile radius surrounding the Proposed Project ROW. The CNDDDB, CNPS, and USFWS databases contain records of reported occurrences of federal or state listed species, proposed endangered or threatened species, Federal Birds of Conservation Concern, California SSC, or otherwise special status species or habitats that may occur within or in the vicinity of the Survey Area. This literature review was used to provide details on species that have a potential to occur within the Survey Area prior to conducting focused survey efforts. Specific criteria for evaluating special status plant and wildlife species are described below. Figure 3 displays the locations of documented historical occurrences of sensitive species relative to the Survey Area. Figure 4 provides the location of critical habitat relative to the Survey Area.

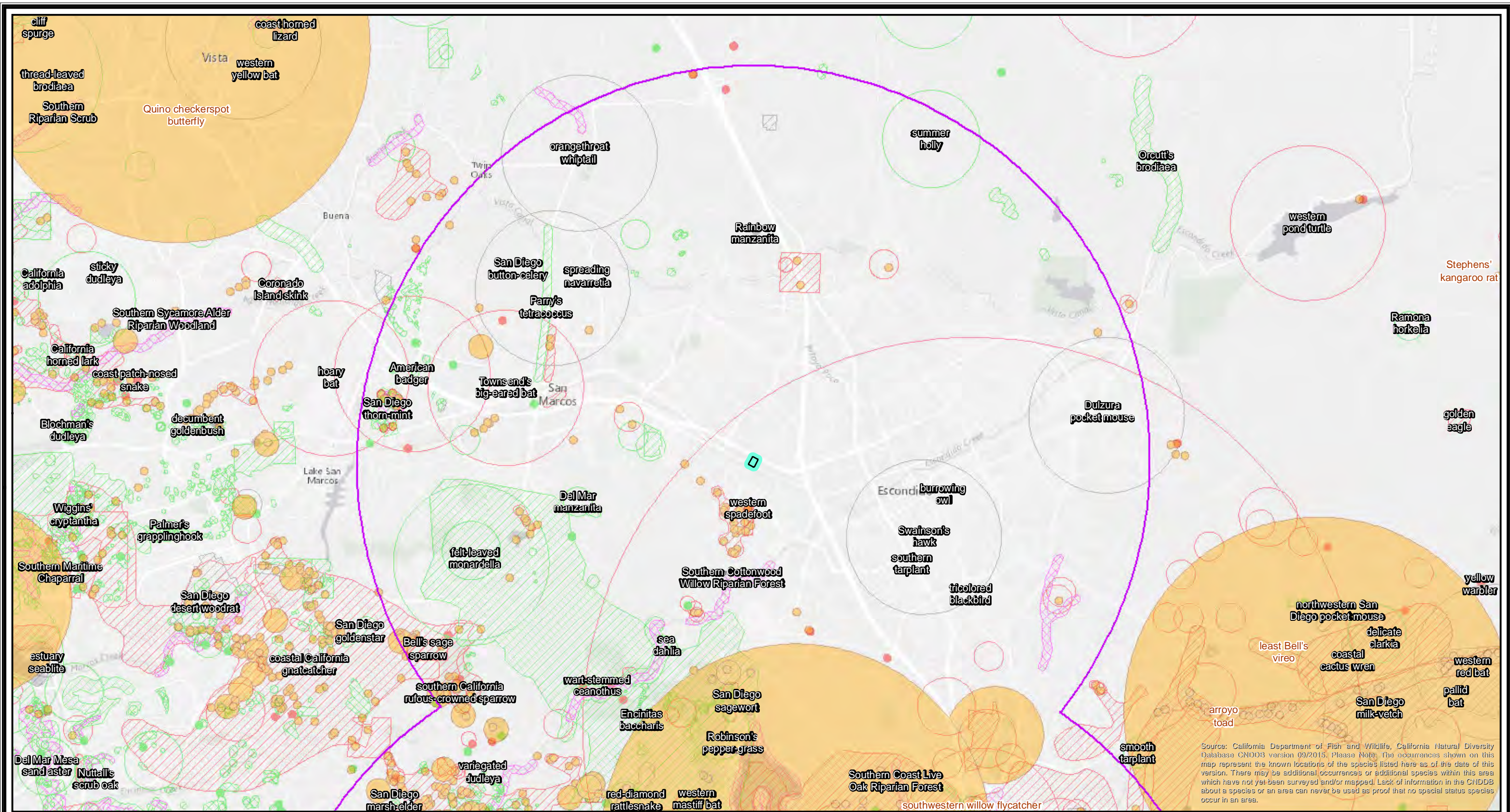
3.3. PRELIMINARY EVALUATION OF POTENTIAL FOR OCCURRENCE

Following the literature and database review, Chambers Group biologists conducted site visits on February 26, September 16, and September 17, 2015, to assess potential impacts of the Proposed Project. Information gathered during the site visit, literature review, and database review was used to determine the potential for sensitive species to occur on site. Specific criteria for species’ PFO (Table 1) were applied to evaluate special status plant and wildlife species identified in the literature review. Species identified during the literature review were designated a preliminary PFO ranging from low to high.

Table 1: Criteria for Evaluating Special Status Plant and Wildlife Species Potential for Occurrence

PFO	CRITERIA
Absent/ Presumed Absent*:	Species is restricted to habitats or environmental conditions that do not occur within the Survey Area, or a species was not observed within Survey Area during focused surveys.
Low:	Historical records for this species do not exist within the immediate vicinity (approximately 5 miles) of the Proposed Project site, and/or habitats or environmental conditions needed to support the species are of poor quality.
Moderate:	Either a historical record exists of the species within the immediate vicinity of the Project site (approximately 5 miles) and marginal habitat exists within the Survey Area; or the habitat requirements or environmental conditions associated with the species occur within the Survey Area, but no historical records exist within 5 miles of the Proposed Project site.
High:	Both a historical record exists for the species within the Proposed Project site or its immediate vicinity (approximately 5 miles), and the habitat requirements and environmental conditions associated with the species occur within the Survey Area.
Present:	Species was detected within the Survey Area at the time of the survey.

*Perennial evergreen shrub species that were not observed were considered absent from the Survey Area, while herbaceous or perennial bulb species that were not observed, may not have germinated or flowered during 2014 and 2015 and are “presumed absent.”



Source: California Department of Fish and Wildlife, California Natural Diversity Database CNDDDB version 09/2015. Please Note: The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDDB about a species or an area can never be used as proof that no special status species occur in an area.

Legend

Survey Area	CNDDDB Species Occurrence	Animal (80m)	Terrestrial Comm. (specific)	Multiple (circular)
5-mile Project Buffer	Plant (80m)	Animal (specific)	Multiple (80m)	
USFWS Species Occurrence	Plant (specific)	Animal (non-specific)	Multiple (specific)	
	Plant (non-specific)	Animal (circular)	Multiple (non-specific)	
	Plant (circular)			

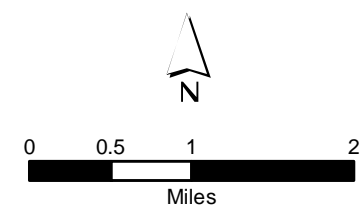
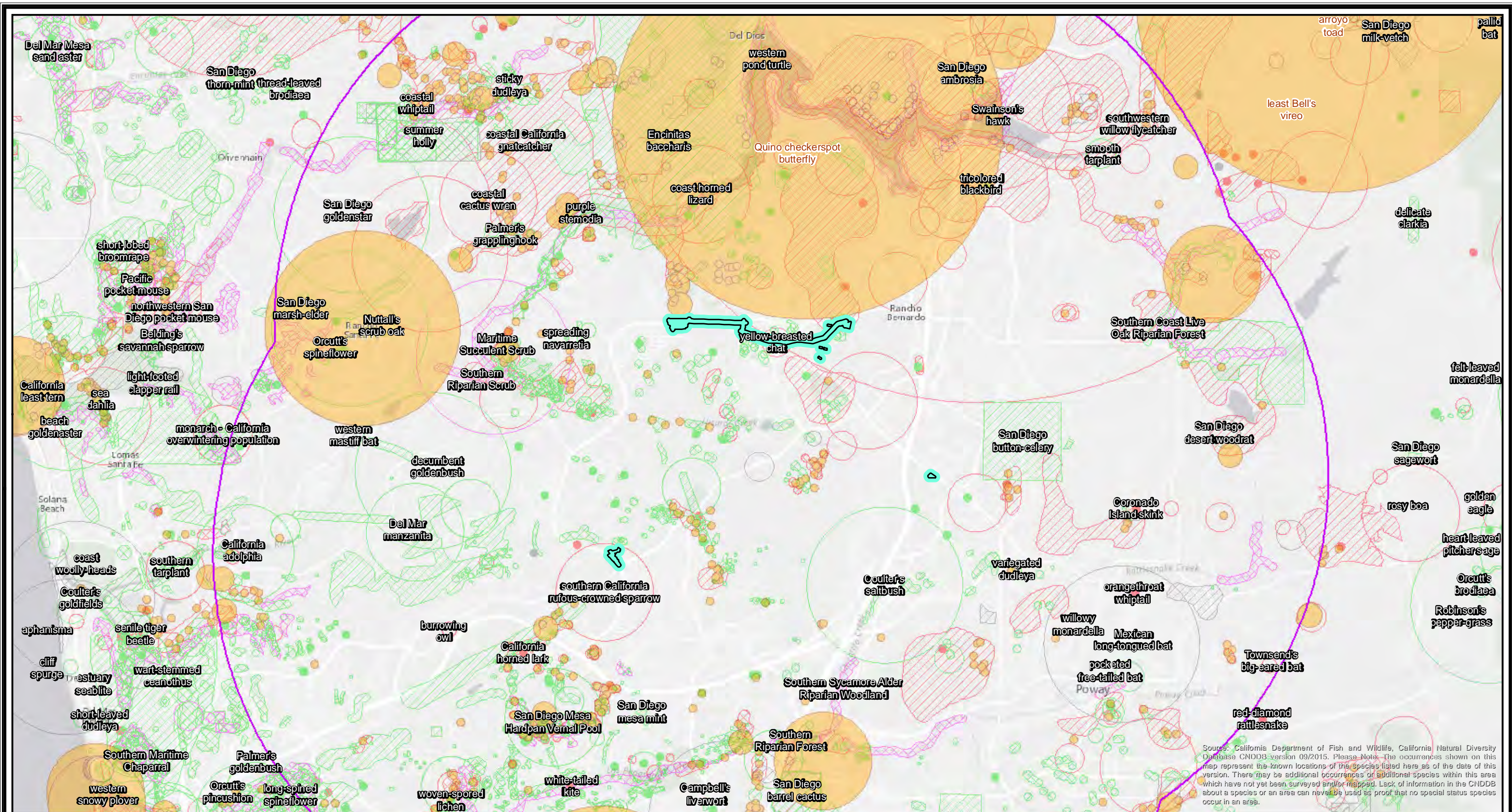


Figure 3
CNDDDB & USFWS Documented Species Occurrences Map



Source: California Department of Fish and Wildlife, California Natural Diversity Database CNDDDB version 09/2015. Please Note: The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDDB about a species or an area can never be used as proof that no special status species occur in an area.

Legend

- | | | | | |
|--------------------------|----------------------------------|-----------------------|------------------------------|-------------------------|
| Survey Area | CNDDDB Species Occurrence | Animal (80m) | Terrestrial Comm. (specific) | Multiple (non-specific) |
| 5-mile Project Buffer | Plant (80m) | Animal (specific) | Terrestrial Comm. (circular) | Multiple (circular) |
| USFWS Species Occurrence | Plant (specific) | Animal (non-specific) | Multiple (80m) | Multiple (specific) |
| | Plant (non-specific) | Animal (circular) | | |
| | Plant (circular) | | | |

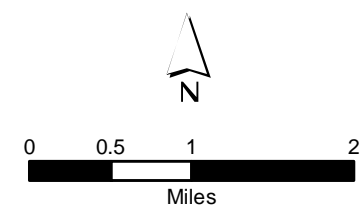
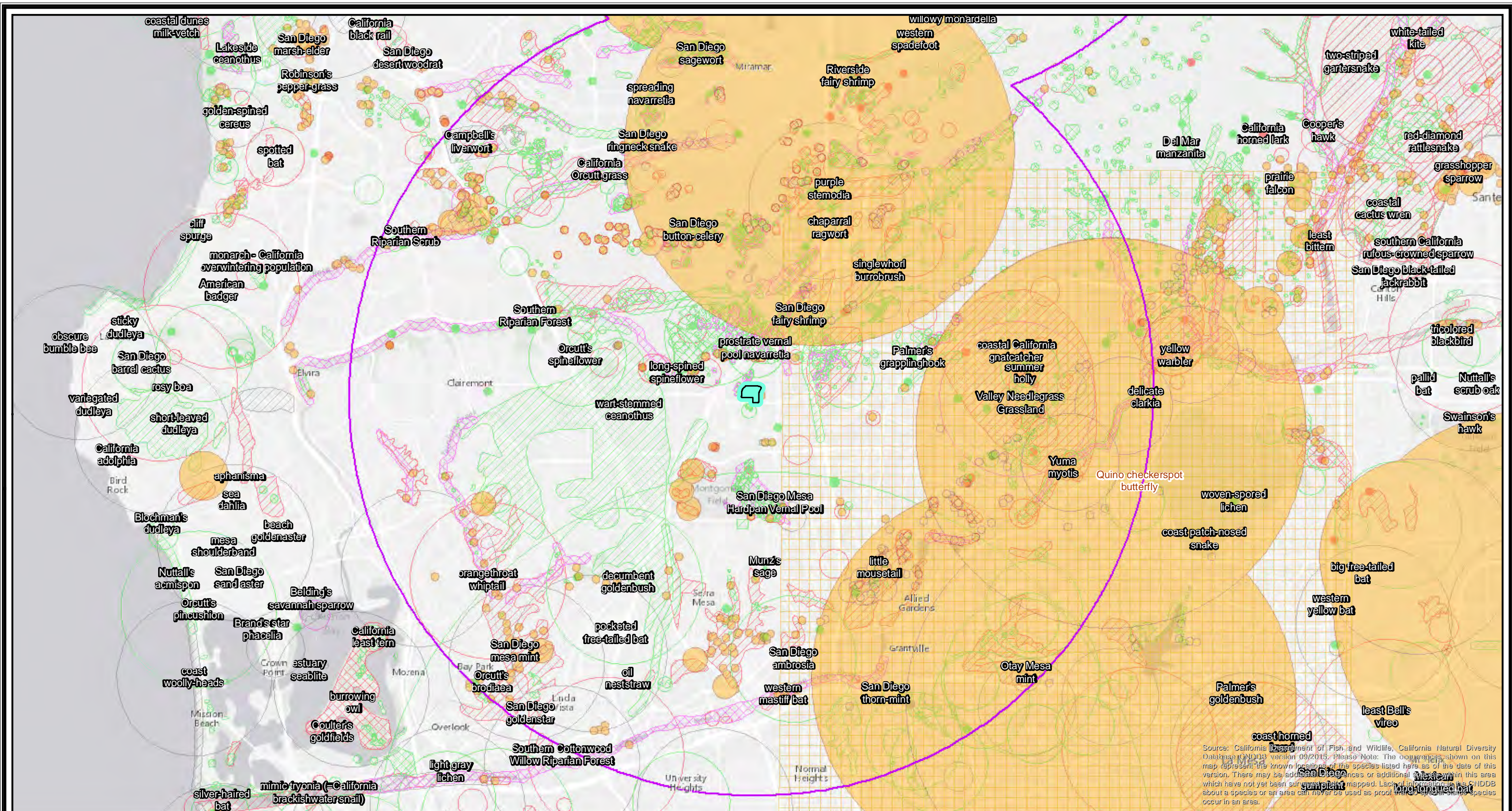


Figure 3
CNDDDB & USFWS Documented Species Occurrences Map



Source: California Department of Fish and Wildlife, California Natural Diversity Database (CNDDDB) version 09/2015. Please Note: The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species in this area which have not yet been surveyed or mapped. Lack of information in the CNDDDB about a species or an area can never be used as proof that a species does not occur in an area.

Legend

- | | | | | |
|--------------------------|----------------------------------|-----------------------|----------------------------------|----------------------------------|
| Survey Area | CNDDDB Species Occurrence | Animal (80m) | Terrestrial Comm. (specific) | Multiple (specific) |
| 5-mile Project Buffer | Plant (80m) | Animal (specific) | Terrestrial Comm. (non-specific) | Multiple (non-specific) |
| USFWS Species Occurrence | Plant (specific) | Animal (non-specific) | Terrestrial Comm. (circular) | Multiple (circular) |
| | Plant (non-specific) | Animal (circular) | Multiple (80m) | Sensitive EO's (Commercial only) |
| | Plant (circular) | | | |

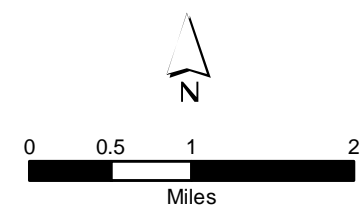
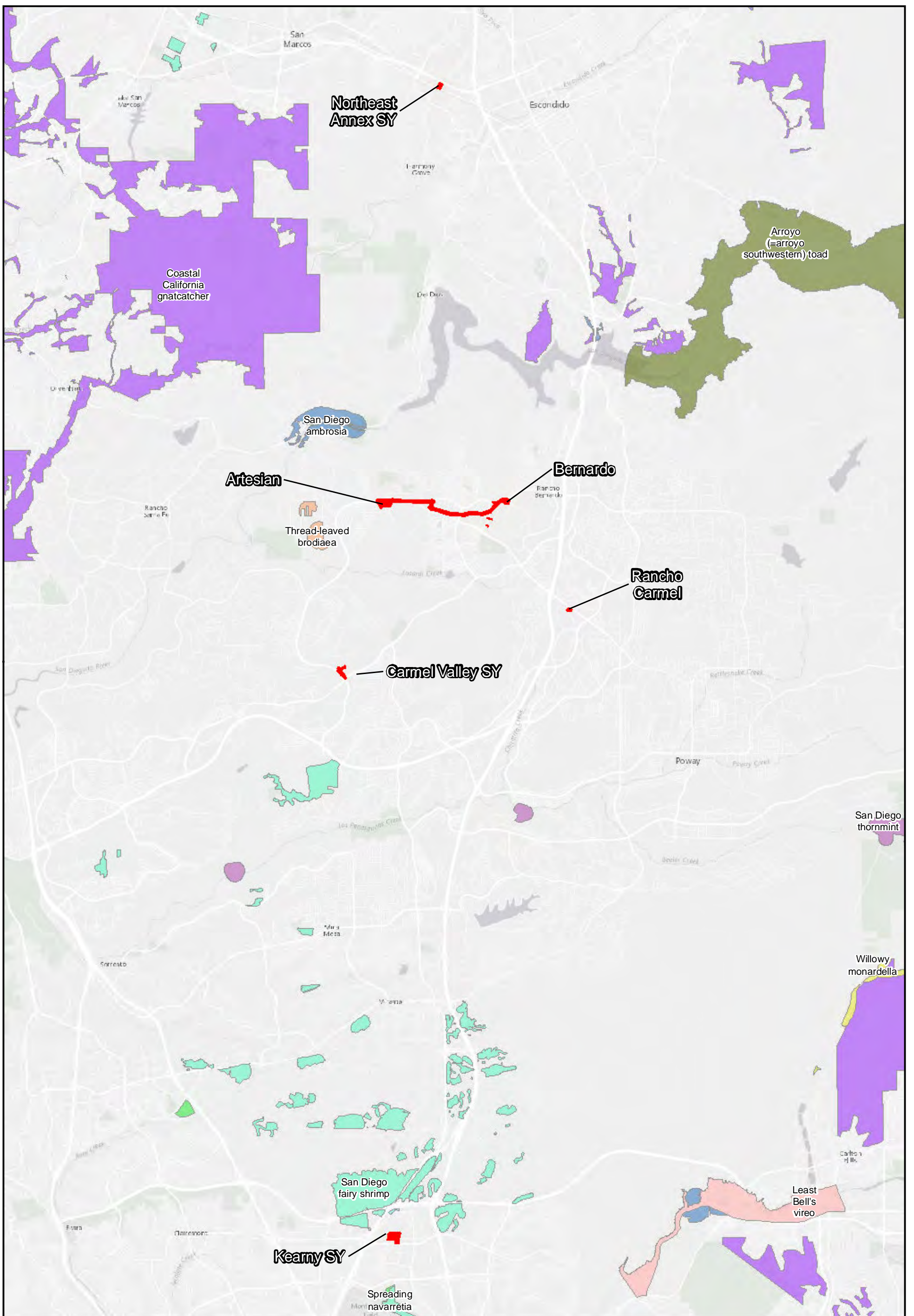


Figure 3
CNDDDB & USFWS Documented Species Occurrences Map



Legend

- Project Location
- Least Bell's vireo
- Spreading navarretia
- USFWS Critical Habitat**
- San Diego ambrosia
- Thread-leaved brodiaea
- Arroyo (=arroyo southwestern) toad
- San Diego fairy shrimp
- Willowy monardella
- Coastal California gnatcatcher
- San Diego thornmint

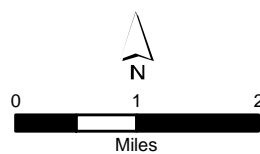


Figure 4
USFWS Designated
Critical Habitat

3.4. VEGETATION SURVEYS

3.4.1 Habitat Communities

Plant communities within the Survey Area were identified, qualitatively described, and mapped onto aerial photographs (Appendix A). The mapped plant communities were digitized using Geographic Information System (GIS) software, and acreages were calculated within the survey area. The plant communities were identified following criteria presented by Sawyer et al. (2009).

3.4.2 Special Status Plant Surveys

Due to the presence of environmental conditions suitable for multiple special status plant species to occur within the Survey Area, Chambers Group completed a series of focused plant surveys for specific target species in summer of 2015 and spring of 2016. Two focused plant surveys were previously conducted in 2014 by RECON and Pangea Biological; their observations are included in the results below as supporting data.

One focused plant survey was conducted by Chambers Group in summer 2015 within the current alignment and staging yards. The focused surveys were conducted at appropriate times of the year to capture the blooming periods for the majority of the 22 targeted species with a low, moderate, or high PFO. With the additional proposed work spaces for the current alignment, there are now 33 targeted plant species with a PFO in the Proposed Project Survey Area. The focused plant survey conducted in the spring of 2016 was focused within the Survey Area to capture the blooming period of species not in bloom during the 2015 summer survey.

Three categories of special status plant species were targeted. Category 1 species targeted all federally listed threatened or endangered plant species; Category 2 targeted all state listed threatened or endangered plant species; and Category 3 targeted plants with a CRPR of 1 or 2 not federally and/or state listed as threatened or endangered. Special status plant species targeted during the surveys are included in Table 2. Special status plant species with a CRPR of 3 or 4 were not targeted or mapped.

Table 2: Special Status Plant Species with a Potential to Occur Within the Survey Area

Common Name (<i>Scientific Name</i>)	Status Federal/State/CNPS
San Diego thorn-mint (<i>Acanthomintha ilicifolia</i>)	FT/CE/CRPR 1B.1
California adolphia (<i>Adolphia californica</i>)	--/--/CRPR 2B.1
San Diego ambrosia (<i>Ambrosia pumila</i>)	FE/--/ CRPR 1B.1
Del Mar manzanita (<i>Arctostaphylos glandulosa</i> subsp. <i>crassifolia</i>)	FE/--/CRPR 1B.1
Coulter's saltbush (<i>Atriplex coulteri</i>)	--/--/CRPR 1B.2
south coast saltscale (<i>Atriplex pacifica</i>)	--/--/CRPR 1B.2
Encinitas baccharis (<i>Baccharis vanessae</i>)	FT/CE/CRPR 1B.2
San Diego goldenstar (<i>Bloomeria clevelandii</i>)	--/--/CRPR 1B.1
thread-leaved brodiaea (<i>Brodiaea filifolia</i>)	FT/CE/CRPR 1B.1
Orcutt's brodiaea (<i>Brodiaea orcuttii</i>)	--/--/CRPR 1B.1
wart-stemmed ceanothus (<i>Ceanothus verrucosus</i>)	--/--/CRPR 2B.2
southern tarplant (<i>Centromadia parryi</i> subsp. <i>australis</i>)	--/--/CRPR 1B.1
smooth tarplant (<i>Centromadia pungens</i>)	--/--/CRPR 1B.1

Table 2: Special Status Plant Species with a Potential to Occur Within the Survey Area

Common Name (<i>Scientific Name</i>)	Status Federal/State/CNPS
Orcutt's spineflower (<i>Chorizanthe orcuttiana</i>)	FE/CE/CRPR 1B.1
long-spined spineflower (<i>Chorizanthe polygonoides</i> var. <i>longispina</i>)	--/--/CRPR 1B.2
delicate clarkia (<i>Clarkia delicata</i>)	--/--/CRPR 1B.2
summer holly (<i>Comarostaphylis diversifolia</i> subsp. <i>diversifolia</i>)	--/--/CRPR 1B.2
Del Mar Mesa san aster (<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i>)	--/--/CRPR 1B.1
variegated dudleya (<i>Dudleya variegata</i>)	--/--/CRPR 1B.2
sticky dudleya (<i>Dudleya viscida</i>)	--/--/CRPR 1B.2
Palmer's goldenbush (<i>Ericameria palmeri</i> var. <i>palmeri</i>)	--/--/CRPR 1B.1
San Diego button-celery (<i>Eryngium aristulatum</i> var. <i>parishii</i>)	FE/CE/CRPR 1B.1
San Diego barrel cactus (<i>Ferocactus viridescens</i>)	--/--/CRPR 2B.1
Campbell's liverwort (<i>Geothallus tuberosus</i>)	--/--/CRPR 1B.1
decumbent goldenbush (<i>Isocoma menziesii</i> var. <i>decumbens</i>)	--/--/CRPR 1B.2
San Diego marsh-elder (<i>Iva hayesiana</i>)	--/--/CRPR 2B.2
sea dahlia (<i>Leptosyne maritima</i>)	--/--/CRPR 2B.2
felt leaved monardella (<i>Monardella hypoleuca</i> subsp. <i>lanata</i>)	--/--/CRPR 1B.2
spreading navarretia (<i>Navarretia fossalis</i>)	FT/--/CRPR 1B.1
willowy monardella (<i>Monardella viminea</i>)	FE/CE/CRPR 1B.1
San Diego mesa mint (<i>Pogogyne abramsii</i>)	FE/CE/CRPR 1B.1
Nuttall's scrub oak (<i>Quercus dumosa</i>)	--/--/CRPR 1B.1
purple stemodia (<i>Stemodia durantifolia</i>)	--/--/CRPR 2B.1

Focused plant surveys for these targeted species were performed in accordance with survey protocols set forth by CDFW, CNPS, and the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (CDFW 2009; CNPS 2001; USFWS 2000). Species identified as being sensitive and having the potential to occur within the Survey Area were reviewed by Chambers Group botanists prior to the beginning of surveys each day. Botanists walked transects within the Survey Area spaced approximately 30 feet apart and visually surveyed for any signs of the targeted plant species. A complete inventory of all plant species observed within the Survey Area was prepared. Sensitive plant species observed during the survey were documented by counting individuals or estimating numbers for larger populations, characterizing the approximate population size, and recording a Global Positioning System (GPS) location.

3.4.3 Weather Conditions (2014, 2015, and 2016)

Southern California experienced the worst drought in recorded history in 2014 (Lindsey 2015). Precipitation in 2014 was well below the average for San Diego County (Table 3), which is typically 10 inches per year. The below average precipitation and above average temperatures may have reduced the occurrences of sensitive plants during the surveys of 2014 (e.g., the density of annual species such as San Diego marsh-elder may have been lower than historically recorded during times of above-average rainfall). Many plants will go into early dormancy without sufficient water; during dormancy, the plants often forego producing flowers and may not be evident. Precipitation in 2015 was low in the

spring/summer as well, contributing to dry conditions for the focused surveys in summer of 2015. However, the winter of 2015/2016 resulted in a normal amount of total precipitation for 2015 and the start to a normal amount for 2016 as well, as shown in Table 3 below.

Table 3: Weather Conditions of San Diego County

Year	Total Precipitation (inches)	Weather Conditions
2014	5.09	above average temperatures
2015	11.91	above average temperatures
2016	5.01	above average temperatures

Abiotic Factors

Additional abiotic factors may have played a role in the change in population sizes and detection of sensitive plant species as well as in the distribution of sensitive wildlife species. For example, species may have been impacted by above-average seasonal temperatures, human disturbance, an increase in soil salinity due to recent road reestablishment, and soil erosion.

3.5. AQUATIC RESOURCE CONSTRAINTS MAPPING

An aquatic constraints mapping effort was performed by RECON Environmental, Inc. (RECON) in 2014 to gather field data at potential wetland and non-wetland water resource areas under state or federal jurisdiction. Chambers Group and SDG&E conducted surveys to field verify and refine (as needed) the aquatic constraints map on September 9, 2015. An additional survey to determine if work area spaces could be located in areas outside of aquatic resources was conducted on Oct 7, 2015 and an Aquatic Resource Summary Report was prepared in November 2015 (Appendix C).

3.5.1 USACE Wetland

According to the USACE *Wetland Delineation Manual* (1987), wetlands are defined as “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 are delineated using three parameters: hydrophytic vegetation, wetland hydrology, and hydric soils. According to USACE, all three parameters must be present to qualify as a wetland.

Hydrophytic Vegetation

Hydrophytic vegetation is defined as “the sum total of macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content” (USACE 1987). The potential wetland areas within the Survey Area were surveyed on foot for those areas exhibiting characteristics of jurisdictional waters or wetlands. Vegetation units with potential wetland areas were examined, and data for each vegetation stratum (i.e., tree, shrub, herb, and vine) were recorded on standardized datasheets from the Arid Supplement (USACE 2008). The absolute cover of each plant species present was visually estimated and recorded.

Hydric Soils

A hydric soil is a soil type that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation (USACE 1987). Hydric soil indicators are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds (USACE 2008). The hydric soil criterion is considered fulfilled at a location if soils in the area can be inferred to have a high groundwater table, evidence of prolonged soil saturation exists, or any indicators suggesting a long-term reducing environment in the upper 18 inches of the soil profile are present. No soil investigations were performed by RECON or Chambers Group; however, wetland areas were identified by USFWS NWI mapped areas (USFWS 2015b).

Wetland Hydrology

The presence of wetland hydrology indicators confirms that inundation or saturation has occurred on a site but may not provide information about the timing, duration, or frequency of the event. Hydrology features are generally the most ephemeral of the three wetland parameters (USACE 2008).

Hydrologic information for the site was obtained by reviewing USGS topographic maps and by directly observing hydrology indicators in the field. The wetland hydrology criterion is considered fulfilled at a location if, based upon the conclusions inferred from the field observations, an area has a high probability of being periodically inundated or has soils saturated to the surface at some time during the growing season allowing anaerobic conditions to develop in the surface soil environment, especially the root zone (USACE 1987). If at least one primary indicator or at least two secondary indicators are found at a sample point, the wetland hydrology criterion is considered fulfilled.

3.5.2 USACE Non-Wetland Waters of the United States

The USACE also requires the delineation of non-wetland jurisdictional waters of the United States. These waters must have strong hydrology indicators such as the presence of seasonal flows and an Ordinary High Water Mark (OHWM). An OHWM is defined 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 (33 CFR Part 328.3).

Areas delineated as non-wetland jurisdictional waters may lack wetland vegetation or hydric-soil characteristics. Hydric-soil indicators may be missing because topographic position precludes ponding and subsequent development of hydric soils. Absence of wetland vegetation can result from frequent scouring due to rapid water flow. These types of jurisdictional waters are delineated by the lateral and upstream/downstream extent of the ordinary high watermark of the particular drainage or depression.

3.5.3 CDFW Jurisdictional Waters

Under Sections 1600–1607 of the Fish and Game Code, CDFW regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFW has jurisdiction over riparian habitats (e.g., riparian woodland)

associated with streambeds. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider.

3.5.4 RWQCB Jurisdictional Waters

The RWQCB is the regional agency responsible for protecting water quality in California. The jurisdiction of this agency includes waters of the State as mandated by both the federal CWA Section 401 and the California Porter-Cologne Water Quality Control Act.

3.6. FOCUSED WILDLIFE SURVEYS

Due to the presence of environmental conditions suitable for multiple special status wildlife species to occur within the Survey Area, a series of focused wildlife surveys for specific target species was completed or is scheduled to be completed in the spring/early summer of 2016. Surveys for special status wildlife species with a potential for occurrence on site are described below.

3.6.1 Quino Checkerspot Butterfly

Twelve focused QCB surveys were conducted within suitable habitat by Chambers Group in 2016. The current Proposed Project contains suitable QCB habitat at the eastern end of the Survey Area, within the SDG&E HCP Mapped Areas.

A report of results of the 2016 focused QCB surveys is being prepared. The following is a brief description of the methodology that was used for focused QCBI surveys conducted within suitable habitat within the Survey Area.

Habitat Assessment

Chambers Group conducted a habitat assessment in accordance with the SDG&E's Low-Effect QCB HCP and the current USFWS Guidelines, titled USFWS *Quino Checkerspot Butterfly Survey Guidelines* (USFWS Guidelines) and dated December 15, 2014. Chambers Group mapped general site conditions, any host plant patches observed, and mapped suitable QCB habitat within portions of the Survey Area that occur within SDG&E's Low-Effect QCB HCP. "Suitable QCB Habitat" is defined in SDG&E's Low-Effect QCB HCP as:

"shrub communities, such as coastal sage scrub, chaparral, and desert scrub, with 50 percent shrub cover or less, and the potential to support dot-seed plantain [Plantago erecta] and other larval host plants. Areas that meet the shrub cover standard are excluded if the ground cover vegetation is disturbed and/or covered by understory vegetation to the extent that larval host plants do not grow. Areas of solid rock substrate and the surfaces of solidly compacted access roads which are not likely to support vegetation are also excluded. All areas of vernal pool complexes are included as Suitable QCB Habitat regardless of upland vegetation surrounding the vernal pools. Areas meeting the 50 percent shrub cover with QCB Host Plants, native herbaceous species, cryptobiotic crusts, or the potential to support any of these elements are included as Suitable QCB Habitat. Also included in Suitable QCB Habitat for this Plan are all native grasslands and non-native grasslands that show evidence of potential to support larval

host plants. Evidence for a potential to support larval host plants included presence of native grasses, native wildflowers, and cryptobiotic crusts.”

Survey Methods

The focused QCB surveys were conducted in accordance with the USFWS Guidelines. Focused QCB surveys were conducted weekly, beginning February 24, 2016 and spaced at least 4 days apart. Surveys were conducted for 12 continuous weeks. According to USFWS Guidelines, if no QCB are detected during the first 5 weeks of surveys, surveys shall continue until QCB are detected or until the end of the season, defined as the second Saturday in May. If QCB are detected during the first 5 weeks, surveys shall cease for that area. The last survey was conducted on May 12, 2016.

3.6.2 Burrowing Owl

Four focused wintering (non-breeding) BUOW surveys were conducted within suitable habitat by Pangea Biological in 2014/2015. The Carmel Valley Road Staging Yard was not surveyed during the 2014/2015 wintering surveys. Chambers Group conducted four focused wintering BUOW surveys at the Carmel Valley Road Staging Yard in 2015/2016 and four focused breeding season BUOW surveys in 2016 at the Carmel Valley Road Staging Yard.

Detailed methodology, including survey dates, weather conditions, and surveyors for the 2014/2015 wintering BUOW surveys are contained in a letter report by Pangea Biological, titled *2015 Western Burrowing Owl (Athene cunicularia hypugaea) Survey Report for San Diego Gas & Electric Company's (SDG&E) ETS 27584 Artesian Sub Expansion and Reconductor Project – 4S Ranch* and dated March 31, 2015. A report of results for the wintering 2015/2016 and breeding season 2016 BUOW surveys is in progress. The following is a brief description of the methodology that was used for focused BUOW surveys conducted within suitable habitat within the Survey Area.

Habitat Assessment

The initial BUOW habitat assessment was conducted during the vegetation mapping effort in the winter of 2014. An updated BUOW habitat assessment following revisions to the Proposed Project alignment was conducted during vegetation mapping in the summer of 2015. Burrowing owl surveys were conducted in all areas that contained suitable burrowing and foraging habitat for the targeted species. Patches of suitable habitat identified during the habitat assessment were further refined and updated during the initial survey efforts.

Survey Methods

The focused BUOW surveys were conducted in accordance with the California BUOW Consortium's BUOW Survey Protocol and Mitigation Guidelines (CBOC 1997) and the California Department of Fish and Game Staff Report on BUOW Mitigation, Breeding and Non-breeding Season Surveys and Reports (CDFG 2012). Surveys were conducted in two phases during the BUOW non-breeding season. Phase 1 included a survey for burrows potentially suitable for BUOW. Phase 2 included focused surveys for BUOWs within the areas that potentially suitable burrows had been identified during Phase 1.

3.6.1 Least Bell's Vireo

Five focused LBVI surveys were conducted in 2015 for the Proposed Project. These surveys were discontinued after the Proposed Project alignment was revised. A full round of eight focused LBVI surveys are in progress for the current Proposed Project in the breeding season of 2016. Six out of the eight surveys have been completed; the final two surveys are planned for July 2016.

Detailed methodology, including survey dates, weather conditions, and surveyors for the surveys conducted in 2015 is included in the letter report by Chambers Group, titled *Request to Conclude Focused Surveys for Least Bell's Vireo Following Completion of Five Survey Passes for the San Diego Gas & Electric Artesian Substation Expansion Project* and dated June 2015. A report of results of the 2016 focused LBVI surveys will be prepared following the conclusion of the final survey in July 2016. The following is a brief description of the methodology that was used for focused LBVI surveys conducted within suitable habitat within the Survey Area.

Habitat Assessment

The initial LBVI habitat assessment was conducted during the vegetation mapping effort in the winter of 2014. Subsequent surveys were conducted in all areas that contained riparian habitat suitable for nesting of the target species. An updated LBVI habitat assessment following revisions to the Proposed Project alignment was conducted during vegetation mapping in the summer of 2015. Least Bell's vireo surveys were conducted in all areas that contained suitable habitat for the targeted species. Patches of suitable habitat were further refined and updated during the initial survey effort.

Survey Methods

The focused LBVI surveys were conducted in accordance with USFWS approved guidelines (USFWS 2001) to determine the presence/absence of LBVI within suitable habitat. Surveys were spaced at least 10 days apart. Surveys were conducted during periods of suitable weather conditions between dawn and 11:00 a.m. and were not performed during periods of excessive heat, wind, cold, rain, or other inclement weather. Data was also collected for incidental observation of brown-headed cowbirds (*Molothrus ater*).

3.6.2 Coastal California Gnatcatcher

Six focused CAGN surveys were conducted within suitable habitat in 2015; however, the current Proposed Project Survey Area contains suitable CAGN habitat that was not part of the 2015 survey effort. Subsequently, Chambers Group conducted a full round of six protocol-level focused CAGN surveys in suitable habitat within the Proposed Project Survey Area that was not previously surveyed in order to determine presence or absence of CAGN and whether CAGN is utilizing the Survey Area for nesting.

Detailed methodology, including survey dates, weather conditions, and surveyors is included in the reports by Chambers Group titled *2015 Artesian Expansion Project California Gnatcatcher Survey Report*. A report of results for the 2016 focused CAGN surveys is in progress. The following is a brief description of the methodology that was used for focused CAGN surveys conducted within suitable habitat within the Survey Area.

Habitat Assessment

The initial CAGN habitat assessment was conducted during the vegetation mapping effort. Subsequent surveys were conducted in all areas that contained coastal sage scrub habitat suitable for nesting of the target species. Patches of suitable habitat were further refined and updated during the initial survey effort.

In order to track and identify potentially occupied habitat, each habitat patch was assigned a unique identifying number. Furthermore, habitat patches were assigned a designation of anticipated quality of low, medium, or high, based on site-specific factors including dominant vegetation composition, vegetation height, vegetation density, slope and orientation, observed anthropogenic disturbances, and patch size.

Survey Methods

The focused CAGN surveys were conducted pursuant to USFWS presence or absence guidelines (USFWS 1997) to determine the presence or absence of CAGN within suitable habitat. All CAGN focused surveys were conducted by a biologist holding the necessary federal Endangered Species Act (ESA) section 10(a)(1)(A) survey permit.

Periods of excessive or abnormal heat, wind, fog, and other inclement weather were avoided, and no more than 80 acres (32 hectares) were surveyed per biologist per day. Habitat adjacent to the Survey Area was opportunistically surveyed where feasible in order to increase the chance of detecting CAGN near the Proposed Project that may disperse within the Survey Area.

Surveys were conducted by the biologist slowly walking transects within suitable habitat within the survey areas and using binoculars to achieve 100 percent visual coverage. Taped vocalizations were used only to initially locate individual CAGN, and tapes were not used frequently or to further elicit behaviors from any previously detected individuals. Information was recorded on the survey methods performed, including surveyor per day, start and stop times of survey, weather conditions, and survey routes delineated on aerial imagery.

Data was collected on the number, approximate age, sex, and color band information (if any was observed). All CAGN detections (e.g., vocalization, foraging behavior, nesting behavior, etc.) were recorded using hand-held GPS units and photo documented when possible. Data was also collected for incidental observation of brown-headed cowbirds.

3.6.3 General Wildlife and Other Special Status Species

During focused survey efforts, all wildlife observed and wildlife sign detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, were recorded. Additional survey time was spent in those habitats most likely to be utilized by wildlife (e.g., undisturbed native habitat, wildlife trails) or in habitats with the potential to support state and/or federally listed or proposed listed species. Notes were made on the general habitat types, species observed, and the conditions of the site. The special status wildlife species with a potential to occur within the Survey Area are described in Section 4.7.

SECTION 4.0 – RESULTS AND DISCUSSION

4.1. ECOSYSTEMS

The Survey Area includes 183.54 acres and supports a variety of vegetation communities (Table 4). A total of 16 distinct vegetation communities was mapped within the Survey Area based on descriptions in Sawyer et al. (2009).

Table 4: Vegetation Communities within the Survey Area

Vegetation Community ¹	Approximate Area (acres)
Upland Communities	
<i>Disturbed Habitats</i>	
Bare Ground	3.74
Disturbed Areas	16.17
Landscape/Ornamental	21.79
Urban/Developed	85.26
<i>Scrub and Chaparral</i>	
California Sagebrush-California Buckwheat Scrub*	7.99
Disturbed California Sagebrush-California Buckwheat Scrub*	5.09
Restored California Sagebrush-California Buckwheat Scrub*	6.37
Restored/Disturbed California Sagebrush-California Buckwheat Scrub*	0.48
<i>Grassland</i>	
Annual Brome Grassland	22.96
Upland Vegetation Totals	169.84
Wetland Communities	
<i>Bog and Marsh</i>	
Cattail Marshes*	1.74
Pale Spike Rush Marshes*	0.09
Spiny Rush Marsh*	1.82
Disturbed Tall Cyperus Patch*	0.16
<i>Riparian and Bottomland Habitat</i>	
Arroyo Willow - Mulefat Woodland*	9.48
Sandbar Willow Thickets*	0.27
Salt Grass Flats*	0.14
Wetland Vegetation Totals	13.70
Total for all Vegetation	183.54

¹An asterisk designates a sensitive natural community, defined as follows:

- Vegetation communities listed in the California Natural Diversity Database (CNDDDB);
- Communities listed in the Natural Communities List with a rarity rank of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable); or
- Tier I or Tier II vegetation communities, as defined by the City of San Diego Biology Guidelines (City of San Diego 2001)

4.1.1 California sagebrush-California buckwheat scrub (*Artemisia californica*-*Eriogonum fasciculatum* Shrubland Alliance)

In the Survey Area, California sagebrush-California buckwheat scrub is dominated equally by California sagebrush and California buckwheat (*Eriogonum fasciculatum*) in the shrub canopy. Within a few areas in the Survey Area, the shrub canopy is dominated by California buckwheat and Menzies' goldenbush (*Isocoma menziesii* var. *menziesii*). Most shrubs are less than 2 meters (6.56 feet) in height. The canopy is two-tiered and intermittent to continuous with some shrubs such as laurel sumac (*Malosma laurina*) and lemonade berry (*Rhus integrifolia*), which can reach up to 5 meters (49.2 feet) in height. The herbaceous layer is seasonally present. This community can be found on steep slopes that are typically south-facing and soils that are colluvial derived (Sawyer et al. 2009). Dominant plant species observed within the Survey Area included California sagebrush, California buckwheat, Menzies' goldenbush, toyon (*Heteromeles arbutifolia*), laurel sumac, and black sage (*Salvia mellifera*).

4.1.2 Restored California sagebrush-California buckwheat scrub (*Artemisia californica*-*Eriogonum fasciculatum* Shrubland Alliance)

Restored California sagebrush-California buckwheat scrub is similar to California sagebrush-California buckwheat scrub; however, it consists of native plant species planted for restoration. Within this plant community, California sagebrush and California buckwheat are codominant in the shrub canopy. Most shrubs are less than 2 meters (6.56 feet) in height. The canopy is two-tiered and intermittent to continuous with some shrubs such as laurel sumac and lemonade berry, which can reach up to 5 meters (49.2 feet) in height. The herbaceous layer is seasonally present. This community can be found on steep slopes that are typically south-facing and soils that are colluvial derived. Dominant plant species observed within the Survey Area included California sagebrush, California buckwheat, laurel sumac, and black sage.

4.1.3 Disturbed California sagebrush-California buckwheat scrub (*Artemisia californica*-*Eriogonum fasciculatum* Shrubland Alliance)

Disturbed California sagebrush-California buckwheat scrub is similar to California sagebrush-California buckwheat scrub; however, it is more fragmented by a non-native annual grassland herbaceous layer which composes 25 percent or more of the total vegetative cover. Dominant plant species observed within this habitat in the Survey Area included California sagebrush, California buckwheat, toyon, laurel sumac, black sage, ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), wild oat (*Avena* sp.), and red brome (*Bromus madritensis* subsp. *rubens*). This community is found in natural areas within the Survey Area.

4.1.4 Restored/Disturbed California sagebrush-California buckwheat scrub (*Artemisia californica*-*Eriogonum fasciculatum* Shrubland Alliance)

Restored/Disturbed California sagebrush-California buckwheat scrub is similar to Restored California sagebrush-California buckwheat scrub; however, it is more fragmented by a non-native annual grassland herbaceous layer which composes 25 percent or more of the total vegetative cover. Dominant plant species observed within this habitat in the Survey Area included California sagebrush, coastal California

buckwheat, toyon, laurel sumac, black sage, riggut brome, soft chess, wild oat, and red brome. This community is found in natural areas within the Survey Area.

4.1.5 Annual brome grassland (*Bromus [diandrus, hordeaceus]* – *Brachypodium distachyon* Semi-Natural Herbaceous Stands)

Annual brome grassland is dominated by various brome grasses such as riggut brome, soft chess, red brome, and false brome (*Brachypodium sylvaticum*). Emergent trees and shrubs may be present at low cover. Herbs are less than 75 centimeters (2.46 feet) tall within an intermittent to continuous herb layer. This community can be found in all topographic settings in foothills, waste places, rangelands, and openings in woodlands. Dominant plant species observed within this community in the Survey Area included several different non-native brome grass species, false brome, wild oat, black mustard (*Brassica nigra*), fennel (*Foeniculum vulgare*), doveweed (*Croton setigerus*), and shortpod mustard (*Hirschfeldia incana*).

4.1.6 Bare Ground

Areas characterized as bare ground habitats include areas with exposed soils, rocky substrate, access roads, and disturbed areas devoid of plant cover. Areas within the Survey Area considered bare ground are existing access roads or previously graded areas.

4.1.7 Urban/Developed

Developed areas typically include paved roads, structures, and associated infrastructure areas.

4.1.8 Arroyo Willow - Mulefat Woodland (*Salix lasiolepis*-*Baccharis salicifolia* Woodland Alliance)

Arroyo willow-mulefat woodland is dominated by a primary canopy of tall arroyo willow (*Salix lasiolepis*) species that creates an intermittent to open canopy with a shrub layer dominated by mulefat (*Baccharis salicifolia* subsp. *salicifolia*) and sandbar willow (*S. exigua*). The vegetation community may be seasonally flooded or saturated with fresh water along flood-plain, low-gradient depositions along rivers or streams. Within the Survey Area, black willow (*S. gooddingii*), red willow (*S. laevigata*), and western sycamore (*Platanus racemosa*) were also present periodically throughout the area along with tamarisk (*Tamarix* spp.).

4.1.9 Cattail marshes (*Typha [angustifolia, domingensis, latifolia]* Herbaceous Alliance)

Cattail marshes are dominated by narrowleaf cattail (*Typha angustifolia*), southern cattail (*T. domingensis*), and broadleaf cattail (*T. latifolia*) or codominant with other marsh species, such as rushes (*Juncus* sp.) and sedges (*Schoenoplectus* sp.). Sparse cover of emergent tree species such as willows (*Salix* sp.) may be present. The herb layer is typically under 2 meters (6.7 feet) in height, and the canopy varies between intermittent to continuous. This vegetation community is found in semipermanent flooded freshwater or brackish marshes at elevations between 0 and 350 meters (1,148 feet). Dominant plant species observed within this community in the Survey Area included broad-leaf cattail, American tulle (*Schoenoplectus americanus*), and saltmarsh fleabane (*Pluchea odorata*).

4.1.10 Spiny rush marshes (*Juncus acutus* Herbaceous Alliance)

Within the Proposed Project Area, spiny rush marshes are dominated by southwestern spiny rush (*Juncus acutus* subsp. *leopoldii*) or codominant with other herbaceous marsh species such as San Diego marsh elder (*Iva hayesiana*) and shrub species such as arrowweed (*Pluchea sericea*). This vegetation community is found along stream banks and freshwater marshes. Tamarisk occasionally occurs throughout this vegetation community in low quantities.

4.1.11 Pale spike rush marshes (*Eleocharis macrostachya* Herbaceous Alliance)

Pale spike rush marshes are dominant in an open to continuous herbaceous layer less than 1 meter (3.28 feet) high. This community can be found within lakeshores, streambeds, swales, vernal pools, pastures, ditches, and natural and artificial ponds. Soils are alluvial and often highly organic; they are flooded part of the growing season with alkaline, brackish, or fresh water. Within the Survey Area the dominant spike rush species is slender creeping spike-rush (*Eleocharis montevidensis*).

4.1.12 Sandbar willow thickets (*Salix exigua* Shrubland Alliance)

On the Proposed Project, sandbar willow thickets are dominated by sandbar willows in the shrub canopy with baccharis (*Baccharis* spp.) and marsh evening primrose (*Oenothera elata* subsp. *hirsutissima*) interspersed. Emergent trees of many different species may be present at low cover, including arroyo willow and black willow.

4.1.13 Landscape/Ornamental

This vegetation community consists of areas dominated by non-native species planted for landscaping and generally occurring in residential neighborhoods, commercial properties, or along roadsides. This habitat can be found within throughout the Survey Area along commercial/residential development and within natural habitats, particularly near water features. Landscape/ornamental associated species observed during the survey include eucalyptus (*Eucalyptus* sp.), oaks (*Quercus* sp.), western sycamore, and rosemary (*Rosmarinus officinalis*).

4.1.14 Disturbed Areas

Disturbed Areas may be nearly devoid of vegetation because of clearing or grading and are dominated by pioneering herbaceous species that readily colonize disturbed soils, such as tocalote (*Centaurea melitensis*), wild oat, black mustard, prickly sow-thistle (*Sonchus asper*), and wild lettuce (*Lactuca serriola*) (Gray and Bramlet 1992). Areas characterized by disturbed habitat have no or negligible ecological value and, within the Survey Area, are primarily dominated by various combinations of ripgut brome, red brome, prickly Russian thistle (*Salsola australis*), Australian saltbush (*Atriplex semibaccata*), slender wild oat (*Avena fatua*), tocalote, redstem stork's bill (*Erodium cicutarium*), lamb's quarters (*Chenopodium album*), and hairy crabgrass (*Digitaria sanguinalis*). Scattered individuals or remnants of native coastal sage scrub species may also occur including California buckwheat, California sagebrush, and deerweed (*Acmispon glaber*).

4.1.15 Salt grass flats (*Distichlis spicata* Herbaceous Alliance)

Salt grass is dominant or codominant in a continuous herbaceous layer less than 1 meter (3.28 feet) high. This community can be found in coastal salt marshes and inland habitats including playas, swales, and terraces that are intermittently flooded. On the Proposed Project, salt grass flats comprise a monotypic herbaceous layer of salt grass.

4.1.16 Disturbed tall cyperus patch (*Cyperus eragrostis* Herbaceous Alliance)

On the Proposed Project, tall cyperus are dominant in an open herbaceous layer less than 1 meter (3.28 feet) high. Vegetation is sparse due to ongoing manipulation of the system. This community can be found within lakeshores, streambeds, swales, pastures, ditches, and natural and artificial ponds. Soils are flooded part of the growing season. Other species observed in this community included Mexican strangletop (*Leptochloa fusca* subsp. *uninervia*) and ragweed (*Ambrosia* sp.).

4.2. TOPOGRAPHY

Topography throughout the Proposed Project is relatively flat as it runs through developed and urban/residential areas, increasing slightly towards the eastern end just before the Proposed Project ROW terminates at the Bernardo Substation.

4.3. SOILS

A total of 17 soil series mapped by USDA NRCS (1973) occurs in the Survey Area:

- Cieneba rocky coarse sandy loam, 9 to 30 percent slopes, eroded
- Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes
- Diablo-Olivenhain complex, 9 to 30 percent slopes
- Diablo clay, 15 to 30 percent slopes
- Diablo clay, 2 to 9 percent slopes
- Diablo clay, 9 to 15 percent slopes
- Huerhuero loam, 15 to 30 percent slopes, eroded
- Huerhuero loam, 5 to 9 percent slopes, eroded
- Las Flores loamy fine sand, 9 to 15 percent slopes
- Linne clay loam, 9 to 30 percent slopes
- Olivenhain cobbly loam, 2 to 9 percent slopes
- Placentia sandy loam, thick surface, 0 to 2 percent slopes
- Placentia sandy loam, thick surface, 2 to 9 percent slopes
- Redding gravelly loam, 2 to 9 percent slopes
- Salinas clay loam, 2 to 9 percent slopes
- San Miguel rocky silt loam, 9 to 30 percent slopes
- Vista coarse sandy loam, 5 to 9 percent slopes

The locations of these soils types within the Survey Area are provided in Appendix B: Soils Map. The following paragraphs describe distinguishing characteristics of the soils listed above, including composition, texture, permeability, slope, and elevation:

4.3.1 Cieneba Series

The Cieneba series consists of very shallow and shallow, somewhat excessively drained soils that formed in material weathered from granitic rock. Cieneba soils are on hills and mountains and have slopes of 9 to 85 percent. This soil series is somewhat excessively drained with low to high runoff and moderately rapid permeability in the soil and much slower in the weathered bedrock. Cieneba soils formed from material weathered from granite and other rocks of similar texture and composition. Gradients are 9 to 85 percent. The soils are at elevations of 500 to 4,000 feet. Soils in the Survey Area are not hydric.

4.3.2 Diablo Series

The Diablo series consists of well-drained moderately deep to deep clays derived from soft calcareous sandstone and shale. These soils are found on uplands (USDA NRCS 1973). This soil is in Hydrologic Soil Group D, which is made up of soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. Group D consists of soils that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission. This soil series is scattered throughout the Survey Area at elevations of 8 to 1,000 feet. Soils in the Survey Area are not hydric.

4.3.3 Huerhuero Series

The Huerhuero series consists of moderately well-drained loams with clay subsoil. This series developed in sandy marine sediments (USDA NRCS 1973). Huerhuero soils are considered to be the most common soil type supporting vernal pools in San Diego County at slopes of less than 10 percent (Bauder and McMillan 1998). The soils are moderately well to somewhat poorly drained; slow to medium runoff; very slow permeability. The soils become moist in some or all parts between depths of 4 to 12 inches about late November and usually remain moist all the time until late May or early June. The soils remain dry all rest of the time. Few pebbles are present throughout some pedons. Coarse and very coarse sand is less than 5 percent. Huerhuero soils occur at slopes of 5 to 30 percent in the Survey Area, with an elevation of 335 feet. Soils in the Survey Area are not hydric.

4.3.4 Las Flores Series

The Las Flores series is a member of the fine, montmorillonitic, thermic family of Natric Palexeralfs. Typically, Las Flores soils have light brownish gray, slightly and medium acid, loamy sand A horizons, grayish brown and light brownish gray, slightly acid and neutral, sandy clay B2t horizons (a layer within the B horizon containing clay translocated from the A horizon) grading to weakly consolidated siliceous marine sandstone. The soil between depths of 10 and 18 inches is usually moist in some part from about December 1 until late in May and is continuously dry the rest of the year. It is loamy sand or loamy fine sand. This soil series is moderately well-drained with medium to rapid runoff and very slow permeability. Las Flores soils are gently to strongly sloping and are on marine terraces at elevations of less than 700 feet. Soils in the Survey Area are not hydric.

4.3.5 Linne Series

The Linne series consists of well-drained, moderately deep lay loams derived from soft calcareous sandstone and shale. At 9 to 30 percent slopes, this soil type is characterized as rolling to hilly soil on

uplands (USDA NRCS 1973). This soil type meets the permeability criteria for vernal pools at slopes of less than 10 percent (Bauder and McMillan 1998). Linne soils are on mountainous uplands and foothills and elevations of 100 to 2,200 feet. Soils are well drained and have medium to very rapid runoff and moderately slow permeability. Soils found within the Survey Area are not hydric.

4.3.6 Olivenhain Series

The Olivenhain series consists of well-drained, moderately deep to deep cobbly loams with very cobbly clay subsoil. This series developed in old gravelly and cobbly alluvium and are located on dissected marine terraces. Mima mounds associated with vernal pool complexes are known to occur in many areas where the two to nine percent slopes subcategory occurs (USDA NRCS 1973). This soil series is also known to support vernal pools in San Diego County coastal mesas and meets the permeability criteria for vernal pools at slopes of less than 10 percent (Bauder and McMillan 1998). This series occurs throughout the Survey Area soils at elevations from 160 to 540 feet. Soils in the survey area are partially hydric.

4.3.7 Placentia Series

The Placentia series is a member of the fine, montmorillonitic, thermic family of Typic Natrixeralfs. Typically, Placentia soils have brown, medium acid, sandy loam A horizons, dark reddish brown, clay and heavy sandy clay loam B2t horizons with prismatic structure in the upper part and strong brown, gravelly sandy loam C horizons. The soil between depths of about 5 and 15 inches usually is moist in some or all parts all of the time from November or mid-December until sometime late in April or May and usually is dry all the rest of the year. The soils found within the survey area are sandy loam or loam with about 24 to 28 percent coarse and very coarse sand. Average organic matter is less than 1 percent or additionally the surface horizon is hard or very hard and massive when dry. The soils are well or moderately well drained with slow to rapid runoff and very slow permeability. Placentia soils are nearly level to moderately sloping and are on fans and terraces at elevations of 50 to 2,500 feet. Soils in the survey area are partially hydric.

4.3.8 Redding Series

The Redding series consists of moderately deep to duripan, well or moderately well drained soils that formed in alluvium derived from mixed sources. They are on nearly level or dissected and undulating to hilly high terraces. Slopes are 0 to 30 percent. Depth to the duripan is 20 to 40 inches. The soil between depths of 4 and 18 inches is usually dry all of the time from June until September or early October, and is moist in some or all parts all the rest of the year. Soils are well or moderately well drained, have very low to high runoff, except for local ponding in intermound areas, and very slow to slow permeability. Vernal pools with relief that is greater than the intermound are common in areas with slopes of 0 to 3 percent. This soil series is found at elevations between 40 to 2,000 feet. Soils in the survey area are partially hydric.

4.3.9 Salinas Series

The Salinas series consists of well-drained soils that formed in alluvium weathered from sandstone and shale. The soils are found on alluvial plains, fans, and terraces, and have slopes of 0 to 9 percent. The soil between depths of about 5 to 15 inches usually is dry all of the time from about May until late November or early December and usually is moist all the rest of the year. They exhibit slow to medium

runoff and moderately slow permeability. The Salinas soils are found at elevations of 50 to 2,000 feet. Soils in the survey area are not hydric.

4.3.10 San Miguel Series

The San Miguel series soils have light yellowish brown, medium acid, silt loam A1 horizons, very pale brown, strongly acid, silt loam A2 horizons, strong brown and yellowish brown, strongly and very strongly acid, clay and gravelly clay B2t horizons over hard metavolcanic bedrock at a depth of 23 inches. The San Miguel soils are strongly sloping to very steep and are in mountainous areas at elevations of 700 to 3,300 feet. The soils formed in residuum weathered from metavolcanic rocks. They are well drained and exhibit medium to very rapid runoff and very slow permeability. Soils in the Survey Area are not hydric.

4.3.11 Vista Series

The Vista series consists of moderately deep, well-drained soils that formed in material weathered from decomposed granitic rocks. Vista soils are on hills and mountainous uplands and have slopes of 2 to 85 percent. They are coarse-loamy, mixed, superactive, thermic Typic Haploxerepts soils. Vista soils are on hilly slopes at elevations of 400 to 3,900 feet in southern California. Soils are well drained, have slow to rapid runoff, and exhibit moderately rapid permeability. Soils in the survey area are not hydric.

4.4. HYDROLOGY

The Proposed Project occurs within the San Dieguito watershed, hydrological unit (HU) 905 and is located entirely within San Diego County. The San Dieguito watershed includes the following tributaries: Santa Maria Creek, Santa Ysabel Creek, Cloverdale Creek, Temescal Creek, Boden Canyon Creek, Black Mountain Creek, and Kit Carson Creek. The watershed includes the following reservoirs: San Dieguito, Hodges, Poway, and Sutherland reservoirs. The San Dieguito River drains approximately 346 square miles and ranges from the Volcan Mountains and flows west into the San Dieguito Lagoon and ultimately into the Pacific Ocean.

The Proposed Project runs along an unnamed tributary to the San Dieguito River near pole locations E9 to E23. The unnamed tributary flows west and north for approximately 3.6 river miles to the confluence with the San Dieguito River, immediately downstream of the Lake Hodges Reservoir. The San Dieguito River continues westward approximately 11 miles to the San Dieguito Lagoon and the Pacific Ocean near Del Mar, San Diego County.

4.5. JURISDICTIONAL WATERS

Based on the surveys conducted by RECON in 2014 and the field visits by Chambers Group and SDG&E in 2015, three aquatic features under the jurisdiction of USACE, RWQCB, and CDFW are located within the Proposed Project Survey Area (see Appendix C). Specific access to pole locations and the location of work areas were identified to avoid potential impacts to aquatic resources within the Survey Area. Based on the new design changes, no permanent and/or temporary impacts to wetland waters or non-wetland waters of the U.S. and/or waters of the State are anticipated.

Non-jurisdictional features are also located within the Proposed Project Survey Area and include brow ditches to the south of the substation and a water detention basin to the west of the substation. Based

on an analysis of historical aerial images and topographic maps, no historical aquatic resource existed in the brow ditch or water detention basin areas. These man-made features were constructed within uplands as BMPs to address storm water surface flows and are therefore exempt from USACE, RWQCB, and CDFW jurisdiction.

4.6. SPECIAL STATUS PLANTS

The CNDDDB and USFWS literature reviews resulted in a list of 33 special status plant species with a PFO within the Survey Area (Figure 3 and Appendix E). In addition, the USFWS Critical Habitat Inventory review resulted in critical habitat within approximately 2 miles of the Survey Area for San Diego ambrosia (*Ambrosia pumila*) and thread-leaved brodiaea (*Brodiaea filifolia*) (Figure 4).

The PFO for each of the 33 targeted species surveyed have been categorized with a low, moderate, or high PFO within the vicinity of the Survey Area. These PFO were updated to include the results of the focused survey efforts. The CRPR 4 species are not generally identified in the literature and database review results; however, three CRPR 4 species were incidentally observed during the focused plant surveys and are included in Table 5, for a total of 36 species. Perennial shrub, tree, or stem succulent species that were not observed were considered absent from the Survey Area. These sensitive plant species, their current status, habitat requirements, the PFO designation, and the results of the focused plant surveys for the Proposed Project are summarized in Appendices D, E, and F.

The focused plant surveys for the Proposed Project sought to determine the presence or absence of 33 special status plant species within the Survey Area. Special status and sensitive plant species observed were overlaid onto aerial photographs in GIS (Appendix D). Further information detailing the specific distance from pole locations and work areas, including point and polygon data, can be found in tables in Appendix E. A floristic list of all species encountered within the Survey Area was compiled (Appendix F). The results from the 2014 focused plant surveys are contained in a letter report by RECON titled *Rare Plants Survey for the Artesian Substation Expansion and Tie Line 6939 Project* and dated August 5, 2014 (Appendix J). A report of the results for the 2015 and 2016 Chambers Group focused plant surveys is in progress.

Of the 33 special status plant species evaluated for their potential occurrence within the Survey Area, four species are present and 29 are absent or presumed absent from the Survey Area based on the results of the focused surveys. The 33 species having a potential to occur within the Survey Area are described in Appendix E. The total number of special status individual plants observed by species during the survey efforts is found in Table 5.

The four targeted species observed are CRPR plants (Rank 1B or 2). CRPR 1B species are considered endangered throughout their range, and CRPR 2B species are considered endangered in California but are more common elsewhere.

During the surveys, four additional non-targeted, special status CRPR 1 and CRPR 4 species were also observed: Tecate cypress (*Hesperocyparis forbesii*; CRPR 1.B1, NCCP-covered), southwestern spiny rush (CRPR 4), Engelmann oak (*Quercus engelmannii*; CRPR 4), and ashy spike-moss (*Selaginella cinerascens*; CRPR 4). CRPR 4 species are on a watch list of species with a limited distribution throughout California.

In the targeted non-threatened and/or non-endangered species (Category 2), only perennial species were observed. This could be attributed to the low rainfall in 2014 and the beginning of 2015. The

Survey Area passes through a riparian corridor, where San Diego marsh-elder was observed, and restoration areas where Nuttall’s scrub oak and San Diego barrel cactus were observed. Among the non-targeted sensitive species (Category 3), Engelmann oak, ashy spike moss, and southwestern spiny rush were observed throughout the Survey Area. Engelmann oaks and a Tecate cypress tree were found in landscape/ornamental habitat that bordered the Proposed Project. Southwestern spiny rushes and ashy spike moss were found along the riparian corridor in large numbers. The numbers of individual sensitive plants observed and mapped by species within the Survey Area are found in Table 5. A detailed location map is provided in Appendix D.

Of the remaining 29 special status plant species that were not observed within the Survey Area, eight were considered absent because required habitats are not present within the Survey Area. The remaining 21 species were anticipated to have a low or moderate PFO due to appropriate habitats and historical records but were not identified during the 2014 and 2015 focused plant surveys. All 21 species are annual herbs (San Diego thornmint, south coast saltscale, Orcutt’s brodiaea, long-spined spineflower, San Diego button-celery, spreading navarretia, southern tarplant, smooth tarplant, Orcutt’s spineflower, delicate clarkia, and San Diego mesa mint), perennial bulbs (San Diego goldenstar and threadleaf brodiaea), or perennial herb (San Diego ambrosia, Coulter’s saltbush, Del Mar san aster variegated dudleya, sticky dudleya, felt leaved monardella, willowy monardella, and purple stemodia) species (Appendix E). Therefore, considering the drought conditions in 2014 and 2015, it is possible that some of these species may not have germinated or flowered during 2014 and 2015. As a result, these species are described as “presumed absent” for this report and are not expected to occur.

Table 5: Species and Total Number of Individuals Observed

Species Name	Category [†]	Total Number of Individuals Observed
San Diego barrel cactus	2	1
decumbent goldenbush	2	20
Nuttall’s scrub oak	2	12
San Diego marsh-elder	2	>500 (Species too common to count)
southwestern spiny rush*	3	>500 (Species too common to count)
Tecate cypress*	3	1
ashy spike-moss*	3	>500 (Species too common to count)
Engelmann oak*	3	30

[†] Category 1 corresponds to targeted threatened or endangered species; Category 2 corresponds to targeted non-listed special status species; and Category 3 corresponds to non-targeted sensitive species. Category 3 CRPR 4 species numbers are not exact.

* This species was not identified in the literature and database search, but was observed during the focused plant surveys.

4.7. SPECIAL STATUS PLANT SPECIES CONSIDERED PRESENT WITHIN THE SURVEY AREA

This section describes special status plant species that were identified within the Survey Area during focused plant surveys conducted in 2014, 2015, and 2016.

4.7.1 San Diego Barrel Cactus (CRPR List 2B.1, NCCP-covered)

San Diego barrel cactus is a stem succulent in the Cactaceae family. This barrel cactus species grows in sandy and rocky areas within chaparral, coastal sage scrub, vernal pools, and valley grassland habitats at

elevations between 10 and 1,476 feet above mean sea level (amsl). According to the literature search, historical occurrences of San Diego barrel cactus are located within the Proposed Project area near structures E10, E21, and P18 – P20. A San Diego barrel cactus was observed in the Survey Area within coastal sage scrub habitat approximately 130 feet north of structure P20.

4.7.2 Decumbent Goldenbush (CRPR List 2B.2)

Decumbent goldenbush is a perennial shrub in the Asteraceae family. This variety of goldenbush favors hillsides and arroyos in sandy soils in coastal scrub, grassland, and disturbed habitat at elevations below 656 feet amsl. According to the literature search, the closest historical occurrence of decumbent goldenbush is approximately 2.58 miles from the Proposed Project area. This species was observed in the Survey Area just south of the Proposed Project alignment between E08 and E09, and approximately 20 – 80 feet north of a Proposed Project access road to structures E10 – E12.

4.7.3 Nuttall's Scrub Oak (CRPR List 1B.1)

Nuttall's scrub oak is a perennial evergreen shrub in the Fagaceae family. This species is found growing in sandy, clay loam, closed-cone coniferous forest, chaparral, and coastal scrub habitats at elevations between 49 and 1,300 feet amsl. According to the literature search, the closest historical occurrence of Nuttall's scrub oak is approximately 1.52 miles from the Proposed Project area. Twelve individual shrubs were observed on the southern boundary of the survey area approximately 185 feet south of structure E14.

4.7.4 San Diego Marsh-Elder (CRPR List 2B.2)

San Diego marsh elder is a perennial herb in the Asteraceae family. This rhizomatous subshrub is associated with streambeds, depressions, and alkaline sinks. San Diego marsh-elder can be found at elevations from 33 – 1,640 feet amsl. According to the literature search, the closest historical occurrence of San Diego marsh elder is approximately 1.21 miles from the Proposed Project area. This species was observed in continuous stands within the culvert and along irrigation lines around the Artesian Substation and lining AF-2 and E14 from structures P10 – P16. The San Diego marsh elder is generally associated with natural water features such as streams or creeks. Although the San Diego marsh elder is native and adapted to local generally dry climatic conditions, it is not found on dry hillsides away from natural water features in its native habitat. The entire area around the existing substation where the San Diego marsh elder was identified has been subject to grading activities altering the natural contours around the substation. The presence of irrigation lines indicates the San Diego marsh elder would have difficulty establishing without supplemental water. The San Diego marsh elder is marketed as a slope stabilizing species by native plant nurseries. Planted this way, this species should be considered an ornamental species and should not be considered to be naturally occurring around the existing substation and within the restoration areas within AF-2.

4.7.5 Southwestern Spiny Rush (CRPR List 4.2)

Southwestern spiny rush is a grass-like perennial herb in the Juncaceae family. This rhizomatous herb is associated with moist saline systems, such as salt marshes, meadows, dunes, and alkaline seeps at elevations generally below 984 feet amsl. According to the literature search, there are no historical occurrences of southwestern spiny rush within 5 miles of the Proposed Project area. This species was found in patches and continuous stands in the wet areas from structures R17 – E19.

4.7.6 Ashy Spike-Moss (CRPR List 4.1)

Ashy spike moss is a rhizomatous fern (pteridophyte) in the Selaginellaceae family. This species is typically found in chaparral and coastal sage scrub habitats at elevations below 1,804 feet amsl. According to the literature search, there is no historical occurrence of ashy spike moss within 5 miles of the Proposed Project area. Patches of ashy spike-moss were observed in coastal sage scrub habitat approximately 120 feet north of structures P18 and P19.

4.7.7 Engelmann Oak (CRPR List 4.2)

Engelmann oak is an evergreen perennial tree in the Fagaceae family. This species is typically found growing on slopes and foothills in valley grasslands, chaparral, and woodlands. According to the literature search, there are no historical records of Engelmann oak within 5 miles of the Proposed Project area. A total of thirty trees were observed north of structures R10 – R12, P6, E5, E6, E7 and adjacent to structure R13. The trees appear to be planted as part of landscaping or restoration efforts.

4.7.8 Tecate cypress (CRPR List 1.B1, NCCP-covered)

Tecate cypress is an evergreen perennial tree in the Cupressaceae family. This species is typically found growing on slopes and canyons in mountain chaparral habitat. According to the literature search, there are no historical records of Tecate cypress within 5 miles of the Proposed Project area. One individual was observed east of structure R18. The tree appeared to be planted as part of landscaping or restoration efforts. Planted this way, this species should be considered an ornamental species and should not be considered to be naturally occurring near structure R18.

4.8. FEDERAL AND/OR STATE-LISTED PLANT SPECIES WITH A MODERATE POTENTIAL TO OCCUR WITHIN THE SURVEY AREA

Four federal or state-listed plant species have a moderate potential to occur within the Survey Area. However, these species are presumed absent based on the results of the focused plant surveys conducted in 2015. The four federal or state-listed plant species are described below.

4.8.1 Encinitas Baccharis (FT, CE, CRPR List 1B.1, NCCP-covered)

Encinitas baccharis is a perennial deciduous shrub in the Asteraceae family. This species is known to occur in chaparral (maritime) and cismontane woodland habitats and can be found at elevations between 200 and 2,360 feet amsl. According to the literature search, the closest historical occurrence of Encinitas baccharis is approximately 0.64 mile from the Proposed Project area. Encinitas baccharis was surveyed for during its blooming period (August – November) and was not observed during the focus plant surveys conducted in 2014 and 2015; therefore, this species is presumed absent from the Survey Area.

4.8.2 San Diego Ambrosia (FE, CRPR List 1B.1, NCCP-covered)

San Diego ambrosia is a perennial rhizomatous herb in the Asteraceae family. This species occurs in disturbed areas, chaparral, coastal scrub, valley and foothill grassland, and vernal pool habitats at elevations less than 1,360 feet amsl. Under normal weather conditions, there is moderate potential for San Diego ambrosia to be present within the Survey Area due to suitable coastal scrub and grassland

habitats. USFWS critical habitat has been mapped within 2 miles of the Survey Area, and according to the literature search, the closest historical occurrence of San Diego ambrosia is approximately 1.61 miles from the Proposed Project area. This species was not observed within the Survey Area during 2014 and 2015 and is presumed absent for the purpose of this Proposed Project.

4.8.3 Spreading Navarretia (FT, CRPR List 1B.1, NCCP-covered)

Spreading navarretia is an annual herb in the Polemoniaceae family. This species is found growing in chenopod scrub, marsh/swamp, playa, and vernal pool habitats at elevations between 98 and 2,040 feet amsl. Under normal weather conditions, there is moderate potential for San Diego ambrosia to be present within the Survey Area due to marsh habitat. According to the literature search, the closest historical occurrence of spreading navarretia is approximately 1.52 miles from the Proposed Project area. This species was not observed within the Survey Area during 2014 and 2015 and is presumed absent for the purpose of this Proposed Project.

4.8.4 Willow Monardella (FE, CE, CRPR List 1B.1, NCCP-covered)

Willow monardella is a perennial herb in the Lamiaceae family. This species usually occurs on rocky washes with cobbles and 2 degrees alluvial bench at elevations below 1,312 feet. Under normal weather conditions, there is moderate potential for willow monardella to be present within the Survey Area due to the presence of rocky washes. According to the literature search, the closest historical occurrence of willow monardella is approximately 3,300 feet from the Project area. This species was not observed within the Survey Area during 2014 and 2015 and is presumed absent for the purpose of this Project.

4.9. SPECIAL STATUS WILDLIFE

The CNDDDB, USFWS database, and literature search resulted in a list of 36 special status wildlife species that have been known to occur in the vicinity of the Survey Area. Two additional species, white-tailed kite (*Elanus leucurus*) and grasshopper sparrow (*Ammodramus savannarum*), were detected in the Survey Area which were not identified by the database and literature search. This section provides the PFO of these 38 special status wildlife species within the Survey Area. Subsections 4.7.1 through 4.7.4 classify special status wildlife species by their PFO and provide background on how their PFO was determined. Section 4.7.5 provides detail on special status wildlife species with a moderate or higher potential that are considered by CDFW and USFWS to be particularly sensitive; focused surveys are required to determine the presence or absence of these species within the Survey Area. The 38 species having a potential to occur within the Survey Area are described in Appendix H. The locations of special status wildlife species observed within the Survey Area are provided on aerial imagery in Appendix G. A complete list of wildlife species detected is provided in Appendix I.

4.9.1 Special Status Wildlife Species Presumed Absent

The following four wildlife species are presumed absent from the Survey Area due to lack of suitable habitat or because they were not detected during focused, protocol-level surveys:

- QCB (*Euphydryas editha quino*; FE, SDG&E HCP-covered)
- San Diego fairy shrimp (*Branchinecta sandiegonensis*; FE)
- western pond turtle (*Emys marmorata*; SSC)
- tricolored blackbird (*Agelaius tricolor*; FC, SSC)

Focused surveys for Quino checkerspot butterfly were conducted due to the presence of suitable habitat within the SDG&E Low-Effect QCB HCP Mapped Area. No QCB were found during the focused surveys; therefore, QCB is presumed absent from the Survey Area. This species is discussed in greater detail in Section 4.9.5.1.

Although critical habitat for San Diego fairy shrimp is located 5 miles to the southwest, south of Deer Canyon, the Survey Area does not contain suitable vernal pool habitat to support San Diego fairy shrimp. The western pond turtle requires permanent water with ponded areas and basking sites, which are not present within the Survey Area. The Survey Area lacks sufficient wetland vegetation and foraging habitat to support tricolored blackbird nesting colonies.

4.9.2 Special Status Wildlife Species with a Low PFO

The following 15 special status wildlife species have a low PFO within the Survey Area due to a limited amount of suitable habitat and/or lack of recent historical occurrences in the Survey Area vicinity:

- arroyo toad (*Anaxyrus californicus*; FE, SSC)
- Coronado Island skink (*Plestiodon skiltonianus interparietalis*; SSC)
- coast patch-nosed snake (*Salvadora hexalepis virgultea*; SSC)
- Swainson's hawk (*Buteo swainsoni*; BCC, ST)
- southwestern willow flycatcher (*Empidonax traillii extimus*; FE, SE)
- coastal cactus wren (*Campylorhynchus brunneicapillus*; BCC, SSC)
- western mastiff bat (*Eumops perotis*; SSC, WBWG high priority species)
- Townsend's big-eared bat (*Corynorhinus townsendii*; SSC, WBWG high priority species)
- pocketed free-tailed bat (*Nyctinomops femorosaccus*; SSC, WBWG medium-high priority species)
- big free-tailed bat (*Nyctinomops macrotis*; SSC, WBWG medium-high priority species)
- western yellow bat (*Lasiurus xanthinus*; SSC, WBWG high priority species)
- Mexican long-tongued bat (*Choeronycteris mexicana*; SSC, WBWG high priority species)
- northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*; SSC)
- Dulzura pocket mouse (*Chaetodipus californicus femoralis*; SSC)
- San Diego desert woodrat (*Neotoma lepida intermedia*; SSC)

The arroyo toad has a low PFO within the Survey Area due to poor quality habitat within the Survey Area. USFWS critical habitat is located within 4 miles of the Proposed Project Survey Area. However, the closest known USFWS sensitive species occurrence is located to the east of Lake Hodges within the San Pasqual Valley, approximately 6 miles from the Proposed Project Survey Area.

Coronado Island skink and coast patch-nosed snake have a low PFO within the Survey Area due to a low number of historical occurrences documented within 5 miles of the Survey Area and a limited amount of suitable habitat within the Survey Area.

The Survey Area is outside the known nesting range of the Swainson's hawk; however, this species can be sighted on rare occasion during spring migration. Therefore, Swainson's hawk is presumed absent for nesting and has a low PFO within the Survey Area during migration.

The Survey Area lacks suitable nesting habitat to support the southwestern willow flycatcher. Two USFWS and one CNDDDB occurrences of southwestern willow flycatcher are documented within 5 miles

of the Survey Area from 2002-2003; however, it is unknown whether these were breeding or foraging individuals. Therefore, the southwestern willow flycatcher is presumed absent for nesting and has a low PFO within the Survey Area while dispersing or foraging.

The Survey Area lacks suitable nesting habitat for the coastal cactus wren. CNDDDB lists 14 documented historical occurrences of coastal cactus wren within 5 miles of the Survey Area; however, this species has been extirpated from over half of these documented occurrence locations, and no records of occurrence within 5 miles of the Survey Area are documented after 2001; therefore, the coastal cactus wren is presumed absent for nesting and has a low PFO within the Survey Area while dispersing or foraging.

The western mastiff bat, Townsend's big-eared bat, pocketed free-tailed bat, big free-tailed bat, western yellow bat, and Mexican long-tongued bat have a low PFO due to a low number of historical occurrences documented within 5 miles of the Survey Area and a limited amount of suitable roosting habitat within the Survey Area.

The northwestern San Diego pocket mouse, Dulzura pocket mouse, and San Diego desert woodrat have a low PFO within the Survey Area due to lack of recent historical occurrences documented within 5 miles of the Survey Area and a limited amount of suitable habitat.

4.9.3 Special Status Wildlife Species with a Moderate PFO

The following four special status wildlife species have a moderate PFO within the Survey Area due to moderate quality suitable habitat, recent historical occurrences of the species within the Survey Area vicinity, and/or a SDG&E species-specific Habitat Conservation Plan (HCP) area mapped within the Survey Area.

- western spadefoot (*Spea hammondi*; SSC)
- coast horned lizard (*Phrynosoma coronatum*; SSC)
- orange-throated whiptail (*Aspisdoscelis hyperythra beldingi*; SSC)
- red diamond rattlesnake (*Crotalus ruber*; SSC)

Western spadefoot has a moderate PFO due to documented historical occurrences within 5 miles of the Survey Area and the presence of moderately suitable habitat within drainages north of Camino Del Norte, particularly between Proposed Project locations R17 and E23.

Coast horned lizard and red diamond rattlesnake have a moderate PFO due to documented historical occurrences within 5 miles of the Survey Area and moderately suitable habitat present within upland scrub habitat communities in several locations throughout the Survey Area.

Orange-throated whiptail has a moderate PFO due to documented historical occurrences within 5 miles of the Survey Area and moderately suitable habitat present within scrub habitat adjacent to washes north of Camino Del Norte, particularly between Proposed Project locations R17 and E23.

4.9.4 Special Status Wildlife Species Considered Present

The following 15 special status wildlife species were detected within or directly adjacent to the Survey Area during focused surveys conducted in 2014, 2015, and/or 2016 and are therefore considered Present:

- BUOW (*Athene cunicularia*; BCC, SSC)
- LBVI (*Vireo bellii pusillus*; FE, SE)
- CAGN (*Polioptila californica californica*; FT, SSC)
- northern harrier (*Circus cyaneus*; SSC)
- white-tailed kite (FP)
- Allen's hummingbird (*Selasphorus sasin*; BCC)
- Nuttall's woodpecker (*Picoides nuttallii*; BCC)
- Cooper's hawk (*Accipiter cooperii*; WL)
- California horned lark (*Eremophila alpestris actia*; WL)
- loggerhead shrike (*Lanius ludovicianus*; BCC, SSC)
- yellow warbler (*Setophaga petechia*; BCC, SSC)
- yellow-breasted chat (*Icteria virens*; SSC)
- southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*; WL)
- grasshopper sparrow (SSC)
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*; SSC)

One BUOW was found within the Carmel Valley Road Staging Yard boundary during the first wintering survey on December 10, 2015. This BUOW was determined to be using the area for foraging purposes. No active BUOW burrows or fresh sign was found in the Survey Area. No BUOW were detected in the subsequent three wintering BUOW surveys or the four breeding season BUOW surveys conducted at the Carmel Valley Staging Yard and no BUOW burrows or additional BUOW sign was found. This species is discussed in greater detail in Section 4.9.5.2.

Least Bell's vireo was detected during focused special status plant surveys conducted by RECON in 2014 and focused LBVI surveys conducted by Chambers Group in 2016. Focused surveys were conducted in 2015 and are in progress in 2016 to determine presence or absence for nesting of this species within the Survey Area. This species is discussed in greater detail in Section 4.9.5.3.

Coastal California gnatcatcher was detected during 2014-2016 focused surveys. Focused CAGN surveys were conducted in 2015 and 2016 to determine presence or absence for nesting of this species within the Survey Area. No nesting CAGN were found in the Survey Area; therefore, this species uses the Survey Area for foraging but is presumed absent for nesting. This species is discussed in greater detail in Section 4.9.5.4.

Northern harrier was detected approximately 0.2 mile north of the Survey Area, north of Proposed Project locations R03, R05, and P03; and 0.3 mile north of the Survey Area, north of Proposed Project locations E08 and E09 during CAGN focused surveys conducted by Chambers Group in 2015. This species was observed foraging within the Carmel Valley Staging Yard during wintering BUOW surveys in 2015/2016. In addition, this species was detected within and adjacent to the Survey Area during BUOW surveys conducted by Pangea Biological in winter 2014/2015. No historical occurrences of northern harrier are documented within 5 miles of the Survey Area. Northern harrier is considered present for

foraging and has a moderate potential to nest within the Survey Area in large areas of open grassland or disturbed vegetation with ample foraging habitat.

White-tailed kite was detected within the Carmel Valley Road Staging Yard during wintering BUOW surveys of 2015/2016. No historical occurrences are documented by CNDDDB or USFWS within 5 miles of the Survey Area. The Survey Area contains a moderate amount of suitable nesting habitat. Therefore, white-tailed kite is considered present for foraging and has a moderate potential to nest within the Survey Area.

Allen's hummingbird was detected within the Survey Area, east of Proposed Project location E13, during CAGN and LBVI focused surveys conducted by Chambers Group in 2015. No historical occurrences are documented by CNDDDB or USFWS within 5 miles of the Survey Area. The Survey Area contains a moderate amount of suitable nesting habitat. Therefore, Allen's hummingbird is considered present for foraging and has a moderate potential to nest within the Survey Area.

Nuttall's woodpecker was detected within the Survey Area southwest of Proposed Project location P11 during focused CAGN and LBVI surveys conducted by Chambers Group in 2015. In addition, two historical occurrences are documented by CNDDDB within 5 miles of the Proposed Project. Nuttall's woodpecker is considered present for foraging and has a moderate potential to nest within the Survey Area.

Cooper's hawk was detected within the Survey Area south of Proposed Project location P14 during focused CAGN and LBVI surveys conducted by Chambers Group in 2015. This species was also detected approximately 0.18 mile outside the Survey Area during focused plant surveys conducted for the Proposed Project by RECON in 2014. No historical occurrences of Cooper's hawk are documented by CNDDDB or USFWS within 5 miles of the Survey Area. Cooper's hawk is considered present for foraging and has a moderate potential to nest within the Survey Area.

California horned lark was detected within the Survey Area during focused plant surveys conducted for the Proposed Project by RECON in 2014. No historical occurrences are documented by CNDDDB or USFWS within 5 miles of the Survey Area. Suitable nesting habitat is located within disturbed areas and annual grassland. This species can be considered present for foraging and has a moderate potential to nest within the Survey Area.

Loggerhead shrike was detected within or adjacent to the Survey Area during focused wintering BUOW surveys conducted in 2015. No historical occurrences of loggerhead shrike are documented by CNDDDB or USFWS within 5 miles of the Survey Area. Loggerhead shrike is considered present for foraging and has a low potential to nest within the Survey Area due to a limited amount of suitable nesting substrate.

Yellow warbler was detected within the Survey Area, between Proposed Project locations P14 and E13, during focused LBVI surveys conducted by Chambers Group in 2015. Yellow warbler was also detected in several locations between Proposed Project locations R17 and E23 during focused CAGN and LBVI surveys in 2016. No historical occurrences are documented by CNDDDB or USFWS within 5 miles of the Survey Area for this species. Patches of suitable riparian nesting habitat are present at the southwestern corner of the Survey Area and within drainages north of Camino Del Norte, particularly between Proposed Project locations R17 and E23. Therefore, yellow warbler is considered present for foraging and has a high potential to nest within the Survey Area.

Yellow-breasted chat was detected approximately 0.03 mile from the Survey Area during focused plant surveys conducted for the Proposed Project by RECON in 2014. In addition, one CNDDDB historical occurrence is documented within 5 miles of the Survey Area; and potential nesting habitat is present in same riparian areas, as mentioned above for yellow warbler. Therefore, yellow-breasted chat is considered present for foraging and has a moderate potential to nest within the Survey Area.

Southern California rufous-crowned sparrow was detected within the Survey Area, north of Proposed Project Location P20, during focused CAGN surveys conducted in 2015. CNDDDB has documented 17 historical occurrences within 5 miles of the Survey Area; and good quality habitat is present in scrub habitats throughout the Survey Area, particularly on a rocky slope at the northeastern end of the Survey Area. Therefore, rufous-crowned sparrow has a high potential to nest within the Survey Area.

Grasshopper sparrow was detected within the Survey Area within the Carmel Valley Road Staging Area during the wintering BUOW surveys of 2015/2016 and the breeding season BUOW surveys of 2016. No historical occurrences are documented by CNDDDB or USFWS within 5 miles of the Survey Area. The Survey Area contains a moderate amount of suitable nesting habitat, particularly within and adjacent to the Carmel Valley Road Staging Yard. Therefore, grasshopper sparrow is considered present for foraging and has a moderate potential to nest within the Survey Area.

San Diego black-tailed jackrabbit was detected during focused plant surveys conducted for the Proposed Project by RECON in 2014. In addition, this species was observed within the Survey Area at the Carmel Valley Road Staging Yard during the 2015/2016 focused wintering BUOW surveys. CNDDDB has documented four historical occurrences within 5 miles of the Proposed Project, and the Survey Area contains a moderate amount of suitable habitat to support this species. San Diego black-tailed jackrabbit is considered present within the Survey Area.

4.9.5 Special Status Wildlife Species Requiring Focused Surveys

This section provides the natural history and PFO for QCB, BUOW, LBVI, and CAGN. This section also provides the results of focused surveys that were performed for BUOW, LBVI, and CAGN within suitable habitat.

4.9.5.1 Quino Checkerspot Butterfly

Quino checkerspot butterfly is a federally listed endangered subspecies of *Euphydryas editha* and is covered under the SDG&E Low-Effect QCB HCP. The historic range of this species was from the Santa Monica Mountains south to Baja California. Currently, only six known populations occur in southwestern Riverside and San Diego counties and one population near Tecate, Mexico. Quino checkerspot butterfly is a medium-sized butterfly with an average wingspan of 3 centimeters. Its dorsal wing surface is a checkerboard pattern of brown, red, and yellow spots; compared to other subspecies it will appear darker and redder (Black and Vaughn 2005; USFWS 2003). Generally, one adult generation is produced per year, but larvae may stay in diapause for multiple years depending on conditions. Adults fly from late February to mid April, during which time they mate and lay eggs. Habitat loss and modification due to development, grazing, invasive plant species, and changes of fire regimes are contributing factors in the continuing decline of this species.

A total of 3.6 acres of the Survey Area occur within the SDG&E Low-Effect QCB HCP Mapped Area at the eastern end of the Proposed Project. Habitats and land-cover types present within this HCP area of the

Survey Area include California sagebrush-California buckwheat scrub (*Artemisia californica*-*Eriogonum fasciculatum*, Shrubland Alliance), Landscape/Ornamental, Bare Ground, and Urban/Developed. The Landscape Ornamental, Bare Ground, and Urban/Developed communities are present due to the QCB HCP mapped area that exists over Rancho Bernardo Road. Pursuant to the HCP's definition of "Suitable QCB Habitat" (see Section 3.6.1), Landscape/Ornamental and Urban/Developed areas can be excluded as suitable habitat, as well as where ground cover vegetation is disturbed and/or covered by understory vegetation to the extent that larval host plants do not grow. Areas of solid rock substrate and the surfaces of solidly compacted access roads which are not likely to support vegetation can also be excluded. Therefore, 1.4 acres out of the 3.6 acres of SDG&E Low-Effect QCB HCP mapped area within the Survey Area are considered suitable habitat for QCB. Of these 1.4 acres of suitable habitat, 0.5 acre (21,105 square feet) is within the Proposed Project impact area: 0.001 acre (53 square feet) occurs within the permanent impact area, and 0.5 acre (21,052 square feet) occurs within the temporary impact area. There are 12 USFWS records of occurrence documented within 5 miles of the Proposed Project; 11 of these occurrences were from 1927 to 1933, and one was from 1982 near Lake Hodges. The accuracy of the QCB record of occurrence near Lake Hodges has been questioned, and the USFWS is considering removing the areas surrounding Lake Hodges and the Proposed Project from the SDG&E Low-Effect QCB Mapped Area. However, since this revision has not occurred, and there are documented occurrences of QCB within 5 miles of the Proposed Project, protocol-level focused surveys for QCB were required in order to determine presence or absence of this species.

Chambers Group conducted focused QCB surveys during the 2016 flight season within suitable habitat in the SDG&E Low-Effect QCB HCP Mapped Area. No QCB were detected during the focused surveys.

4.9.5.2 Burrowing Owl

Burrowing owl is a California Species of Special Concern. It is broadly distributed across the western United States, with populations in Florida and Central and South America. The BUOW breeds in open plains from western Canada and the western United States, Mexico through Central America and into South America to Argentina (Klute 2003). This species inhabits dry, open, native or non-native grasslands, deserts, and other arid environments with low-growing and low-density vegetation (Ehrlich 1988). It may occupy golf courses, cemeteries, road rights-of way, airstrips, abandoned buildings, irrigation ditches, and vacant lots with holes or cracks suitable for use as burrows (TLMA 2006). Burrowing owl typically uses burrows made by mammals such as California ground squirrels (*Spermophilus beecheyi*), foxes, or badgers (Trulio 1997). When burrows are scarce, BUOW may use man-made structures such as openings beneath cement or asphalt pavement, pipes, culverts, and nest boxes (TLMA 2006). Burrowing owl often is found within, under, or in close proximity to man-made structures. Prey sources for this species include small rodents; arthropods such as spiders, crickets, centipedes, and grasshoppers; smaller birds; amphibians; reptiles; and carrion. Threats to BUOW include loss of nesting burrows, habitat loss, and mortality from motor vehicles.

Focused wintering BUOW surveys were performed between December 2014 and January 2015 by Pangea Biological. Potential burrows were documented in the western portion of the Survey Area, five of which were located in the current Proposed Project Survey Area. No BUOWs or sign were found during the focused surveys. Detailed results of the focused wintering BUOW surveys are contained in the letter report by Pangea Biological titled *2015 Western BUOW (Athene cunicularia hypugaea) Survey Report for San Diego Gas & Electric Company's (SDG&E) ETS 27584 Artesian Sub Expansion and Reconductor Project – 4S Ranch* and dated March 31, 2015 (Appendix K).

The proposed Carmel Valley Road Staging Yard, which was added as part of the project redesign, contains additional potentially suitable habitat for BUOW that were not surveyed during the wintering BUOW surveys of 2014/2015. Chambers Group conducted focused wintering BUOW surveys for the Carmel Valley Road Staging Yard in accordance with the CDFW Staff Report on Burrowing Owl Mitigation (2012). One BUOW was found within the Carmel Valley Road Staging Yard boundary during the first survey on December 10, 2015. This individual was first observed resting on the east side of Camino Del Sur at GPS location 32.978935 degrees North, -117.147469 degrees West. No active BUOW burrows or fresh sign was found in the survey area. No BUOW were detected in the subsequent three BUOW surveys conducted at the Carmel Valley Staging Yard and no BUOW burrows or additional BUOW sign was found.

Chambers Group conducted breeding season BUOW surveys within the Carmel Valley Road Staging Yard in the spring of 2016 to investigate the potential use of BUOW for breeding. However, no BUOW were observed during these surveys, and no fresh sign was found. Therefore, BUOW are presumed absent from the Survey Area for breeding. The BUOW observed during the wintering BUOW surveys of 2015/2016 was determined to be using the area for foraging purposes only.

4.9.5.3 Least Bell's Vireo

Least Bell's vireo (LBVI) is a federally and state listed endangered subspecies of the Bell's vireo. Endemic to California, this highly migratory species arrives in California in mid-March and departs by late September when it flies southward to wintering grounds near the tip of Baja California. In San Diego County, LBVI nesting season typically extends from late April through early July, with egg-laying typically peaking in late April (Unitt 2004). This species is dependent upon riparian habitat during the breeding season and prefers willow-dominated woodland or scrub that exists along streams and rivers (Kus 2002). Habitat characteristics that appear to be essential for LBVI occupation include dense cover from 3 to 6 feet in height for nesting and foraging and a stratified canopy providing both foraging habitat and song perches for territorial advertisement (Unitt 2004; USFWS 1998). The two major threats and subsequent factors in the decline of LBVI populations are loss of riparian habitat from urban and agricultural development, overgrazing, flood control projects and logging operations, and nest parasitism by the brown headed-cowbird (Franzreb 1989; CBD 2011). Despite historic LBVI population losses (followed by federal protection in the 1980s), recent trends indicate that populations are increasing, with populations returning to parts of their former range and colonizing some new areas (USFWS 1998).

One LBVI was detected singing within the Proposed Project alignment, just northeast of Proposed Project location P14, during focused plant surveys conducted by RECON on June 20, 2014. In addition, 7 CNDDDB and 41 USFWS records of occurrence are documented within 5 miles of the Survey Area. Focused LBVI surveys were subsequently conducted by Chambers Group in the spring of 2015 and spring of 2016.

The surveys conducted in 2015 were discontinued as the Proposed Project underwent a project redesign. No LBVI were identified; however, only a total of five out of eight of the required surveys under the 2001 USFWS protocol were completed. Detailed results of the focused LBVI surveys are contained in a letter report by Chambers Group, titled *Request to Conclude Focused Surveys for Least Bell's Vireo Following Completion of Five Survey Passes for the San Diego Gas & Electric Artesian Substation Expansion Project* and dated June 2015 (Appendix L).

A full round of 8 protocol-level surveys are in progress within suitable LBVI habitat along the current Proposed Project Survey Area. This suitable habitat is present in two main patches at the west end near the Artesian Substation, and along an unnamed tributary of the San Dieguito River north of Camino Del Norte and Thornmint Road, extending from San Bernardo Road to just east of Camino San Bernardo. One lone male LBVI was detected within the Survey Area on June 12, 2016 during the fourth focused survey. This individual was observed singing and foraging between Proposed Project locations E18 and P18, moving in a westerly direction, and did not display nesting behavior. No other LBVI have been observed during the surveys. The final two focused surveys for the current Proposed Project are planned for July 2016. A report of results for the 2016 focused LBVI surveys will be prepared following the conclusion of the surveys.

4.9.5.4 Coastal California Gnatcatcher

Coastal California gnatcatcher is a federally listed threatened species and a California Species of Special Concern. The range of this species extends from southern California west of the Peninsular and Transverse ranges south into northwestern Baja California, Mexico. The gnatcatcher has a short and slender bill and a white eye ring; the tail is mostly black with white edges, grayish overall; back and wings are grey with brown tinge. Breeding males have a black cap. It is a permanent resident of Diegan, Riversidean, and Venturan sage scrub subassociations found from sea level to 2,500 feet in elevation. This species lives and breeds within California sagebrush-dominant habitats and also occurs in mixed scrub habitats with lesser percentages of this favored shrub (Atwood and Bontrager 2001). Coastal California gnatcatcher primarily feeds upon insects including spiders, leaf hoppers, and beetles. The largest threat to the species is loss of habitat; other threats include wildfires and nest parasitism.

Focused CAGN surveys were conducted in the spring of 2015 and the spring of 2016 (the current Proposed Project Survey Area contains suitable CAGN habitat that was not part of the 2015 survey effort). Two polygons of suitable habitat were surveyed during the 2016 focused surveys: one at the western end and one at the eastern end of the Proposed Project; both of these polygons are located within the current Proposed Project Survey Area. In addition to the polygons of suitable habitat surveyed during focused CAGN surveys in 2015, the current Proposed Project Survey Area contains these polygons and additional suitable habitat north of Camino Del Norte, just east of Dove Canyon Road, and between Camino San Bernardo and Rancho Bernardo Road. Detailed results of the focused CAGN surveys are contained in reports by Chambers Group titled *2015 Artesian Expansion Project California Gnatcatcher Survey Report* (Appendix M). A report of results for the 2016 focused CAGN surveys is in progress. Suitable habitat for CAGN for the Proposed Project that was not included in the 2015 CAGN surveys include the restored sage scrub habitat located near the eastern part of the alignment, from P18 south to E23.

A total of 11 CAGNs were detected foraging within or adjacent to the Survey Area during plant and wildlife focused surveys conducted of the Proposed Project in 2014 and 2015, and no CAGN were detected during the focused surveys conducted in 2016 (in the areas that were not surveyed in 2015). Four of the 11 CAGN detections occurred in the vicinity of the Survey Area during focused BUOW surveys conducted by Pangea Biological in winter of 2014/2015. These four individuals were detected near the western end of the current Proposed Project Survey Area: two were approximately 0.15 mile south of the Survey Area, south of Paseo Del Sur; and two were detected approximately 0.3 to 0.4 mile north of the Survey Area, north of a large man-made detention basin. Three out of the 11 CAGN detections occurred during focused plant surveys conducted by RECON in 2014: two occurred within the Survey Area north of the Proposed Project alignment, between Proposed Project locations P18 and P21;

and one occurred within 0.18 mile of the Survey Area during focused plant surveys conducted for the Proposed Project by RECON in 2014. Two of the 11 CAGN detections occurred within eastern end of the Survey Area, north of the Proposed Project alignment, between Proposed Project locations R19 and R20, during focused CAGN surveys conducted by Chambers Group in 2015. Finally, a pair of CAGN was detected south of the Carmel Valley Road Staging Yard during the 2015/2016 wintering BUOW surveys. This pair was foraging over 300 feet from the Carmel Valley Road Staging Yard boundary, across the busy intersection of Camino Del Sur and Carmel Valley Road. Critical habitat for CAGN is mapped in several areas ranging from 2.6 miles to 5 miles from the Survey Area. No coastal California gnatcatchers have been detected nesting within the Survey Area; therefore, CAGN can be considered present for foraging and is presumed absent for nesting within the Survey Area.

4.10. USFWS CRITICAL HABITAT AREAS

USFWS designates critical habitat for listed endangered and threatened species under the FESA (16 USC § 1533)(a)(3). Critical habitat is designated for the survival and recovery of federally listed endangered and/or threatened species. Critical habitat includes areas used for foraging, breeding, roosting, shelter, and movement or migration. The locations of USFWS critical habitat areas for listed species were evaluated using GIS relative to the Survey Area.

No USFWS critical habitat is mapped within the Survey Area. San Diego ambrosia and thread-leaved brodiaea are the only species with designated critical habitat for plant species within 5 miles of the Survey Area. San Diego ambrosia was not observed within the Survey Area during 2014 and 2015 and is presumed absent for the purpose of this Project. USFWS critical habitat has been mapped within 2 miles of the Survey Area, and according to the CNDDDB, the closest historical occurrence of San Diego ambrosia is approximately 1.61 miles from the Proposed Project area. Thread-leaved brodiaea was not observed within the Survey Area during 2014 and 2015 and is presumed absent for the purpose of this Project. Although USFWS critical habitat has been mapped within 2 miles of the Survey Area, according to the CNDDDB, the closest historical occurrence of thread-leaved brodiaea is approximately 1.63 miles from the Project area.

Critical habitat for CAGN is mapped in several areas ranging from 2.6 miles to 5 miles from the Survey Area. Critical habitat for the arroyo toad is mapped within approximately 4 miles of the Survey Area. However, the closest known USFWS sensitive species occurrence is located to the east of Lake Hodges within the San Pasqual Valley, approximately 6 miles from the Proposed Project Survey Area. Critical habitat for San Diego fairy shrimp is located 5 miles to the southwest, south of Deer Canyon. However, the Survey Area does not contain suitable vernal pool habitat to support San Diego fairy shrimp.

4.11. PRESERVE AREAS

A total of 16.9 acres of the Survey Area occurs within SDG&E mapped Preserve Areas. The following 17 pole locations on the Project occur within designated Preserve Areas: pole top work on existing poles E01, E02, E03 and E09; proposed new poles P01, P02, P03, P20, and P21; proposed replacement pole P19; and proposed to remove from service poles R01, R02, R03, R04, R19, R20, and R21. The SDG&E mapped Preserve Areas include San Diego Association of Governments (SANDAG) Conserved Lands and the San Diego County Department of Parks and Recreation "Parks CN." Conserved Lands within the Survey Area include the Black Mountain Open Space Park (City of San Diego-owned land), the Santa Fe Valley Open Space Preserve (San Diego County-owned land), the Westwood Valley Home Owners Association (HOA), and the Black Mountain Ranch LLC (Private). Parks CN within the Survey Area

includes the Santa Fe Valley Open Space Preserve. Planning areas occurring along the Proposed Project Survey Area are detailed in Figure 2.

4.12. WILDLIFE CORRIDORS

Wildlife corridors are areas that connect fragmented habitats. They serve as wildlife linkages (wildlife travel corridors) between otherwise fragmented patches of habitat caused by changes in vegetation communities, rugged terrain, and human disturbances. These linkages may be drainages, canyons, or ridgelines that provide access to foraging areas, water, breeding sites, and dispersal areas. These corridors provide cover and shelter during travel. Disturbance to wildlife corridors such as human disturbance and development can cause harm to migrating species, cause species to exceed their population thresholds, and/or prevent healthy gene flow between populations.

The Proposed Project runs along a local wildlife movement corridor, the unnamed tributary to the San Dieguito River. Riparian habitat present provides foraging habitat, protection, and water resources for wildlife and connects open space. Riparian systems harbor a high abundance of diversity in southern California. The unnamed tributary serves as a wildlife corridor for insect, amphibian, reptile, amphibian, mammal, and avian species.

SECTION 5.0 – IMPACT DETERMINATIONS

5.1. PROJECT SPECIFIC IMPACTS

The following discussion describes the Proposed Project’s potential to impact sensitive resources during construction of the Project. SDG&E would operate in compliance with all state and federal laws, regulations, and permit conditions. This includes compliance with the CWA, Porter-Cologne Water Quality Control Act, FESA, MBTA, BGEPA, CESA, and CEQA.

Construction of the Proposed Project would result in temporary disturbance and/or permanent loss of sensitive vegetation communities. Temporary disturbance and/or permanent loss could occur to special status plant and wildlife species. Permanent loss includes long-term impacts associated with permanent features such as new poles. Temporary disturbance includes short-term impacts during removal of existing wood poles, installation for new poles, work at staging yards, stringing sites, staging areas, and improvements to existing access roads. The anticipated temporary and permanent impacts provided below account for each of the work area locations. Approximately 1,459,861 square feet (33.51 acres) of temporary impacts and 200,630 square feet (4.61 acres) of permanent impacts are anticipated for the Proposed Project and are provided by habitat type in Table 6.

5.1.1 Artesian Substation

Permanent impacts are anticipated for the Artesian Substation expansion areas that includes the expansion of the detention basin to the west of the existing substation, widening of an existing paved access road and construction of one new perimeter unpaved access road along the outside of the west and south walls of the existing substation and substation expansion area. The anticipated area of permanent impacts for the expansion area of the Artesian Substation is approximately 153,710 square feet. The detention basin to the west of the substation will require widening, calculated at approximately 29,675 square feet of additional permanent impacts. In addition, construction of an access road around the existing substation and substation expansion area (along the west and south walls) is approximately 15,563 square feet of additional permanent impacts. Permanent impacts associated with the substation expansion include the construction of two maintenance pads. The anticipated area of permanent impacts associated with the substation expansion maintenance pads include approximately 6,741 square feet of permanent impacts.

5.1.2 Directly-Embedded Steel Poles

The anticipated area of temporary impacts for installation of directly-embedded steel poles was calculated with an assumption that each location would require a 10-foot radius around the pole for a designated temporary work area, resulting in a temporary impact area of 314 square feet and a permanent impact area of 5 square feet, resulting in the calculated 309 square feet of temporary impacts for light-duty steel poles. However, to account for minor shifts in construction approaches, temporary impact areas were evaluated based on a 20-foot radius surrounding each existing wooden pole for approximately 1,256 square feet (0.03 acre) of work area per pole. The Proposed Project includes approximately 9 directly-embedded steel poles may result in 14,608 square feet of temporary impacts and 191 square feet of permanent impacts.

5.1.3 Foundation Steel Poles

The anticipated area of temporary impacts for foundation steel poles was calculated with an assumption that each location would require a 75 feet by 75 feet area around the pole for drilled foundation poles, or a 150 feet by 150 feet work area around a cable foundation pole designated temporary work area, resulting in a temporary impact area of 5,625 square feet or 22,500 square feet respectively, and a permanent impact area of 39 square feet for the new foundation steel pole locations. The Proposed Project includes approximately 7 foundation steel poles and 5 foundation cable poles that cumulatively may result in 116,202 square feet of temporary impacts and 418 square feet of permanent impacts.

5.1.4 Access Roads

SDG&E will utilize existing access roads during construction. Widening of an existing paved access road and construction of one new perimeter unpaved access road along the west and south walls of the Artesian substation is proposed (see Section 5.1.1). Widening of an existing paved access road and construction of one new perimeter unpaved access road along the outside of the west and south walls of the existing Artesian substation and the substation expansion area is proposed (see Project Specific Impacts, Artesian Substation above). Where existing access roads are damaged, repairs may be made by blading and smoothing the access road as applicable, avoiding drainage crossings. Importing and compacting more stable materials on existing facilities in unstable areas may also be required. Generally, access roads would be smoothed level to allow construction equipment and vehicles to access each site safely. SDG&E would continue to utilize BMPs to minimize dust and erosion.

5.1.5 Staging Yards and Temporary Work Areas

Vehicles, equipment, and personnel will remain within existing paved or unpaved access roads, and previously disturbed areas to the greatest extent possible.

The use of three proposed staging yards – Kearny, Northeast Annex, and Carmel Valley – may result in temporary impacts to approximately 1,193,487 square feet.

Temporary work areas, including staging areas and turnarounds, stringing sites, and pull sites would be sized according to local site conditions and as required by construction equipment and vehicles. The use of approximately nine temporary work areas may result in approximately 75,937 square feet of temporary impacts.

5.1.6 Existing Wood Poles Removed from Service and Pole Top Work

Approximately 17 poles and 6 stub poles will be completely removed from service and not replaced. Approximately 24 poles are proposed for pole top work only. The temporary impact area for the removal of the wood pole locations is expected to be a maximum of 314 square feet per site; however, potential modifications during the construction phase of the Proposed Project may be required in order to facilitate worker safety and to avoid impacts to natural resources, including sensitive habitats. To account for minor shifts in construction approaches, temporary impact areas were evaluated based on a 20-foot radius surrounding each existing wooden pole for approximately 1,256 square feet (0.03 acre) of work area per pole. The removal of 23 poles from service may result in approximately 23,844 square feet of temporary impacts and pole top only work at approximately 24 locations may result in approximately 25,998 square feet of temporary impacts.

5.1.7 Guard Structures

Approximately 23 wooden guard structures will be utilized during construction at various locations where the Proposed Project crosses public roads. The guard structures are necessary to provide safety while conductor is pulled through the line. Two wooden poles will be erected at the junction where public roads intersect the existing Project. Approximately 72 square feet will be temporarily impacted to install each of the guard structures. The use of these temporary guard structures may result in up to approximately 1,288 square feet of temporary impacts.

5.2. VEGETATION COMMUNITIES

5.2.1 Vegetation Impacts

Anticipated Project impacts were calculated based on vegetation mapping, site-specific conditions, and proposed impact areas described above for features included in the Proposed Project design. Construction work spaces are dynamic in nature and may require minor modifications during the construction phase of the Proposed Project in order to facilitate worker safety and avoid impacts to natural resources, including sensitive habitats. Therefore, the proposed temporary impact areas discussed below are estimated and may shift or be modified within the existing Proposed Project scope of work and previously evaluated 10-foot-radius potential impact area surrounding each pole.

The Proposed Project is anticipated to result in temporary impacts to the following habitat types: annual brome grassland, bare ground, California sagebrush-California buckwheat scrub, disturbed areas, disturbed California sagebrush-California buckwheat scrub, landscape/ornamental vegetation, restored California sagebrush-California buckwheat scrub, restored/disturbed California sagebrush-California buckwheat scrub, and urban/developed. The Proposed Project is also anticipated to result in permanent impacts to the following habitat types: annual brome grassland, California sagebrush-California buckwheat scrub, disturbed areas, disturbed California sagebrush-California buckwheat scrub habitat, landscape/ornamental vegetation, restored California sagebrush-California buckwheat scrub, restored/disturbed California sagebrush-California buckwheat scrub, and urban/developed.

Anticipated permanent and temporary impacts to specific habitat communities associated with the Proposed Project were calculated using anticipated permanent and temporary impact work areas described above. These anticipated impact areas per habitat type are shown in detail in Table 6 below.

Table 6: Anticipated Impacts by Habitat Type

Habitat Type	Impacts (square feet)*	
	Permanent	Temporary
Upland Vegetation Communities		
Annual brome grassland	54	16,638
Bare Ground	8,439	14,017
California sagebrush-California buckwheat scrub	161	33,541
Disturbed Areas	12,286	206,882
Disturbed California sagebrush-California buckwheat scrub	7,384	21,971
Landscape/Ornamental	186	28,868

Table 6: Anticipated Impacts by Habitat Type

Habitat Type	Impacts (square feet)*	
	Permanent	Temporary
Restored California sagebrush-California buckwheat scrub	49,533	15,816
Restored/Disturbed California sagebrush-California buckwheat scrub	16	1,485
Urban/Developed	122,571	1,120,644
Upland Vegetation Totals	200,630	1,459,861
Wetland Vegetation Communities		
Arroyo Willow - Mulefat Woodland	0	0
Cattail marshes	0	0
Sandbar willow thickets	0	0
Spiny rush marsh	0	0
Wetland Vegetation Totals	0	0
Total**	200,630	1,459,861

* Impacts are based on predetermined geometric work areas that will be modified to minimize impacts to resources for final design.

**Totals reflect anticipated impacts without rounding.

The Proposed Project has been designed to avoid sensitive habitat areas wherever possible, including not placing poles in drainage areas; using existing access roads; and placing any new facilities, staging areas, or access roads outside sensitive habitats when feasible. In some locations, work areas have been modified to avoid known sensitive resources and are therefore irregularly shaped. These modified work spaces still present the total impact areas of 1,256 square feet per site but are expected to be smaller. Sensitive habitats are considered naturally occurring or restored habitats that are reasonably expected to support natural diversity and carrying capacities of sensitive species in the region. Non-sensitive habitat types include bare ground, heavily disturbed areas, developed and urban areas, and landscaping, which are not reasonably expected to contribute to the function of natural habitats and open space areas in the region to support sensitive plant and wildlife species addressed in this report. A complete summary of impacts of both sensitive and non-sensitive habitat types is provided in Table 7.

Table 7: Impacts to Sensitive and Non-Sensitive Habitats

Type of Impact		Anticipated Area of Impact (Square Feet)*
Temporary	Total Anticipated Temporary Impacts to Sensitive Habitat Types (not including Disturbed, Urban/Developed, Bare Ground, and Landscape/Ornamental areas)	89,451
	Total Anticipated Temporary Impacts to Non-Sensitive Habitat Types (Disturbed, Urban/Developed, Bare Ground, and Landscape/Ornamental areas)	1,370,411
	Total Anticipated Temporary Impacts	1,459,861
Permanent	Total Anticipated Permanent Impacts to Sensitive Habitat Types (not including Disturbed, Urban/Developed, Bare Ground, and Landscape/Ornamental areas)	57,149
	Total Anticipated Permanent Impacts to Non-Sensitive Habitat Types (Disturbed, Urban/Developed, Bare Ground, and Landscape/Ornamental areas)	143,482
	Total Anticipated Permanent Impacts**	200,630

* Impacts are based on predetermined geometric work areas that will be modified to minimize impacts to resources for final design.

**Totals reflect anticipated impacts without rounding.

5.3. SENSITIVE PLANT SPECIES

Construction activities could potentially impact sensitive plant species. The focused plant survey for the Proposed Project sought to determine the presence or absence of 33 sensitive plant species within the Survey Area. The target list of sensitive plants included species that are federally or state listed as threatened or endangered or listed by the CNPS as a sensitive species with a limited distribution.

Permanent impacts to sensitive plant species include removal of plants during construction. Permanent impacts to sensitive plants may include population fragmentation and introduction of non-native species that may out-compete native and sensitive plants. Temporary impacts may include runoff, sedimentation, and erosion that could adversely impact plant populations by damaging individuals or by altering site conditions sufficiently to favor other species (native and non-native species) that could competitively displace the sensitive plants. Construction-related dust could reduce the rates of photosynthesis and hinder growth.

5.4. NATIVE TREE TRIMMING

The majority of the Proposed Project occurs within scrub and grassland communities lacking a native tree component. As such, no major trimming or removal of native trees is anticipated as a result of the Project; however, minor trimming may be required during construction to facilitate Project completion in the event of minor Project modifications.

5.5. SPECIAL STATUS WILDLIFE SPECIES

5.5.1 Special Status Invertebrate Species

Construction activities could potentially impact suitable habitat for one sensitive invertebrate species: QCB. A Low-Effect HCP was created by SDG&E and USFWS, and QCB is covered under the SDG&E Low-Effect QCB Butterfly HCP. The QCB HCP Mapped Area includes approximately 3.6 acres at the eastern end of the Survey Area. Proposed Project features P20, P21, R19, R20, and R21 and portions of Stringing Sites 15, 18, and 19 are located within the HCP Mapped Area. The Proposed Project will result in a total of 21,105 square feet (0.5 acre) of impacts to QCB suitable habitat: 21,052 square feet of temporary impacts and 53 square feet of permanent impacts. Focused surveys for QCB were conducted during the 2016 flight season and no QCB were detected. Therefore, 21,105 square feet (0.5 acre) of QCB suitable habitat will be mitigated at a 1:1 ratio for impacts to suitable – unoccupied habitat per the HCP.

5.5.2 Special Status Amphibian Species

Proposed Project activities may result in impacts to one sensitive amphibian species that has a moderate potential to occur within the Survey Area: western spadefoot. The Proposed Project has been designed to avoid suitable habitat for this species. Therefore, permanent impacts to western spadefoot are not anticipated. Due to the presence of suitable habitat adjacent to Proposed Project access roads, temporary impacts such as disruption of breeding behavior due to vehicle traffic and temporary work areas may occur.

5.5.3 Sensitive Reptile Species

Proposed Project activities may result in impacts to three reptile species that have a moderate potential to occur: coast horned lizard, orange-throated whiptail, and red diamond rattlesnake. Permanent impacts to these species may include individual mortality due to Proposed Project traffic or entrapment and loss of potential foraging and breeding habitat due to the installation of new poles. Temporary impacts such as disruption of foraging behavior due to temporary work areas for installation of new poles and stringing sites may also occur.

5.5.4 Special Status Avian Species and Nesting Birds

Proposed Project activities may result in impacts to foraging and/or nesting habitat for 14 sensitive avian species that have either been detected or have a moderate or higher potential to occur within the Survey Area. Permanent or temporary impacts due to loss of nesting and foraging habitat may result from the removal of wood poles (which support cavity nesters and raptors, depending on the design of cross-arms) and the removal of vegetation during the use of stringing sites and temporary work areas for installation of new poles. Temporary impacts to avian nesting and foraging may include a temporary increase in noise from construction equipment and vehicles. Permanent impacts to these species is expected to be limited to individual mortalities or loss of potential nests protected under the MBTA during vegetation trimming or removal of existing wooden poles and are not anticipated with Project avoidance measures in place.

Based on the results of the focused CAGN surveys conducted in 2015 and 2016, the California sagebrush-California buckwheat scrub habitat within and adjacent to the Survey Area is well suited for CAGN. Eleven CAGN were detected foraging within and adjacent to the Survey Area. These individuals

were concentrated in three general locations: the western end of the Proposed Project near the Artesian Substation, approximately 0.15 mile north and 0.3 to 0.4 mile south of the Survey Area; at the eastern end of the Proposed Project near the Bernardo Substation, within the Survey Area between Proposed Project locations P18 and R20; and south of the Carmel Valley Road Staging Yard. No nesting CAGN have been detected within or adjacent to the Survey Area; therefore, CAGN are presumed absent for nesting within the Survey Area. Permanent impacts may include the removal of foraging habitat for pole installation. Temporary impacts to this species may include noise and visual disturbance and temporary loss of foraging habitat for staging yards and temporary work areas.

Based on the habitat assessment conducted for the Proposed Project in 2015, the structure of the riparian habitat within the Survey Area is well suited for LBVI; however, this habitat occurs mostly outside the proposed work areas. During focused LBVI surveys conducted by Chambers Group throughout the Survey Area in 2016, one lone male LBVI was detected singing and foraging between Proposed Project locations P18 and E18. In addition, one lone male LBVI was detected singing and foraging just northeast of Proposed Project location P16 during focused plant surveys conducted by RECON in 2014. Neither of the LBVI detected were observed nesting or exhibiting breeding behavior. Two more focused LBVI surveys are planned for July 2016 to complete a full round of eight protocol-level surveys. Permanent impacts may include the removal of potential foraging habitat for pole installation and road modifications. Temporary impacts to this species may include noise and visual disturbance and temporary loss of foraging and habitat for staging yards and temporary work areas. No nesting habitat is expected to be impacted as a result of the Proposed Project.

Based on the results of the focused wintering BUOW surveys conducted in the winter of 2014/2015, it is assumed that BUOW did not use the original Survey Area during the winter of 2014/2015; however, based on the 2015/2016 wintering BUOW surveys, this species was identified foraging within the Survey Area at the Carmel Valley Road Staging Yard. No BUOW or fresh BUOW sign was found during breeding season surveys conducted in 2016. Therefore, BUOW is considered present for foraging but absent for breeding within the Survey Area. Permanent impacts to this species may include the removal of burrowing and foraging habitat for pole installation. Temporary impacts to these species include noise and visual disturbance and temporary loss of foraging habitat for staging yards and temporary work areas.

Loggerhead shrike was detected foraging but is considered to have a low potential to nest within the Survey Area due to very limited suitable nesting habitat. Northern harrier, white-tailed kite, Allen's hummingbird, Nuttall's woodpecker, Cooper's hawk, California horned lark, yellow warbler, yellow-breasted chat, southern California rufous-crowned sparrow, and grasshopper sparrow were detected during the surveys and have a moderate or high potential to nest within the Survey Area based on a moderate amount of suitable nesting habitat. Permanent impacts to these species may include the removal of nesting and foraging habitat for pole installation. Temporary impacts to these species include noise and visual disturbance and temporary loss of foraging and nesting habitat for staging yards and temporary work areas.

Utility lines and other Proposed Project-related structures provide potential perching opportunities for raptor species, which can increase the potential for predation of wildlife, including sensitive mammal species, by raptors. Because the Proposed Project involves the replacement of existing facilities and does not include an extension of the existing TL, the extent of predation on sensitive and common wildlife species is not anticipated to differ from existing levels.

5.5.5 Special Status Mammal Species

Proposed construction activities may result in permanent and temporary impacts to one sensitive mammal species that was detected within the Survey Area during focused surveys in 2014-2016: black-tailed jackrabbit.

Proposed construction activities, including removing and installing utility poles and clearing vegetation during creation of work areas and stringing sites, may cause both permanent and temporary impacts to sensitive mammal species. Permanent impacts from these activities may include a reduction of foraging and burrowing from pole installation. Temporary impacts may result from construction noise and ground vibration, as mammals may be deterred from inhabiting or foraging in areas near such activities.

5.6. USFWS CRITICAL HABITAT AREAS

The Proposed Project is not located within USFWS mapped critical habitat. As such, proposed construction activities would not result in temporary or permanent impacts to critical habitat.

5.7. WILDLIFE MOVEMENT CORRIDORS

It is not anticipated that the Proposed Project will appreciably impact wildlife movement corridors for amphibian, reptile, mammal, or avian species. The new pole installations will be located within an existing ROW and are generally immediately adjacent to existing poles. The unnamed tributary (Aquatic Feature-2) is located adjacent to the Proposed Project area that could potentially be used as a migration corridor for mammal species; therefore, the quality of the site as a wildlife movement corridor for terrestrial species is diminished on a temporary basis during construction. However, the proposed construction activities would not restrict general wildlife movement due to the temporary and intermittent locations of construction activities. In addition, no extension of the existing tie line is proposed; therefore, the quality of the adjacent wildlife movement corridors for terrestrial species is diminished on a temporary basis only during construction. No additional impacts to wildlife corridors are anticipated.

5.8. JURISDICTIONAL WATERS

The Proposed Project has been designed to avoid impacts to aquatic resources under the jurisdiction of the USACE, CDFW, and RWQCB. Avoidance measures include placing poles outside jurisdictional areas, limiting access for overhead work in wetland/riparian areas to foot paths only, locating staging and stringing sites outside of jurisdictional areas, and shifting work spaces to avoid sensitive wetland/riparian areas (See Appendix C). Indirect impacts to aquatic resources will be avoided during construction by implementing measures outlined in the Project's Storm Water Pollution Prevention Plan (SWPPP).

SECTION 6.0 – CONCLUSION AND DISCUSSION

Eight special status plant species were identified during focused plant survey efforts. Considering the drought conditions in 2014, 2015, it is possible that some herbaceous or perennial bulbiferous species may not have germinated or flowered during 2014 and 2015. Prior to construction, work areas will be inspected by a qualified botanist, and special status plant species will be flagged for avoidance. In addition, the application of project design features and avoidance measures is expected to minimize or avoid impacts to these species in the event that they occur within the Proposed Project Survey Area during construction.

San Diego marsh-elder, a CRPR List 2B.2 and non-NCCP Covered Species, was observed in three permanent impact locations and three temporary impact locations around the substation in areas with supplemental irrigation. The presence of irrigation lines indicates the San Diego marsh elder would have difficulty establishing without supplemental water. The San Diego marsh elder is marketed as a slope stabilizing species by native plant nurseries. Planted this way, this species should be considered an ornamental species and should not be considered to be naturally occurring around the existing substation and within the restoration areas within AF-2. The permanent impact locations are within the Artesian Substation expansion area, and likely cannot be avoided. The temporary impact locations are in areas between pole locations R01, R02, and E14 in an area proposed for a maintenance pad or road, and two locations are directly adjacent to pole replacement sites.

Southwestern spiny rush, a CRPR 4.2 and non-NCCP Covered Species, was observed in two temporary impact locations. The first location is within the area mapped for String Site #12, northwest of pole location E13. Since the string site would be situated within the access road, and the plant location is in the adjacent habitat, the plant can be flagged for avoidance. The second southwestern spiny rush location was within the temporary work area of pole location E17. Since only pole-top work is proposed at this location, the plant can be flagged for avoidance, and equipment can be staged on the opposite side of the pole. Two temporary impact locations are directly adjacent to pole removal site R17 and R18 and near pole replacement sites P10 – E10. The majority of southwestern spiny rush plants within the temporary impact areas are avoidable.

Tecate cypress, a CRPR 1B.1, was observed approximately 35 feet east of pole R18. The tree appeared to be planted as part of landscaping or restoration efforts. Planted this way, this species should be considered an ornamental species and should not be considered to be naturally occurring near structure R18. However, since the pole is proposed to be removed from service, no impacts to this tree are anticipated.

Decumbent goldenbush, a CRPR list 1B.2, was observed adjacent to an access road from structures E10 – E12. This species can be flagged for avoidance and no impacts to the decumbent goldenbush are anticipated.

Engelmann oak, a CRPR 4.2 and non-NCCP Covered Species, was observed within the temporary work area of pole location R13. This tree will be avoided to the greatest extent feasible; however, tree trimming may be required to complete the pole replacement.

Fifteen special status wildlife species were detected during focused survey efforts. Two listed and NCCP-Covered species, LBVI and CAGN, were detected inside the Survey Area during focused surveys; however, no nesting of these species was observed. In addition, a wintering BUOW (an SSC) was

observed foraging within the Carmel Valley Road Staging Yard. However, no breeding BUOW were detected during breeding season BUOW surveys.

Suitable QCB habitat is present within a portion of the eastern end of the Survey Area that is contained within SDG&E Low Effect QCB HCP Mapped Area. No QCB were detected during QCB focused surveys. Therefore, 21,105 square feet (0.5 acre) of QCB suitable habitat will be mitigated at a 1:1 ratio for impacts to suitable – unoccupied habitat per the HCP.

The Proposed Project has been designed to avoid aquatic resources. Direct and indirect impacts to jurisdictional features are not expected to occur during construction of the Proposed Project. The study concluded that impacts to wildlife corridors are not anticipated as a result of the Proposed Project.

Construction of the Proposed Project would result in temporary disturbance and/or permanent loss of vegetation communities and habitats supporting special status plants and wildlife. For construction of the Proposed Project, SDG&E will consult with USFWS and CDFW for compliance with the FESA and CESA, respectively. SDG&E will also implement standard operating procedures during construction. SDG&E has a long history of successfully implementing these Operational Protocols. For operation and maintenance of the Proposed Project, SDG&E will use the NCCP to comply with the FESA and CESA.

The Proposed Project will avoid and minimize impacts to biological resources through implementation of the guidelines included in the *SDG&E Subregional NCCP*. The *SDG&E Subregional NCCP* establishes a mechanism for addressing biological resource impacts incidental to the development, maintenance, and repair of SDG&E facilities within the *SDG&E Subregional NCCP* coverage area. The Proposed Project is located within the area where SDG&E's utility operations are currently covered by the NCCP.

The Proposed Project has been designed to avoid sensitive habitat areas that may support special status species and sensitive biological resources when possible, including not placing poles in drainage areas; using existing access roads to the greatest extent possible; and placing staging areas, temporary work areas, and guard structures outside habitats when feasible. Where avoidance of sensitive habitat areas supporting special status species is not possible, or where sensitive habitat areas exist adjacent to Proposed Project work areas, SDG&E would implement all applicable *SDG&E NCCP Operational Protocols* and NCCP guidelines to minimize Project impacts.

6.1. SDG&E OPERATIONAL PROTOCOLS

SDG&E has a long history of implementing the *SDG&E Subregional NCCP* and related operational protocols for projects such as the Proposed Project. The *SDG&E NCCP Operational Protocols* represent an environmentally sensitive approach to traditional utility construction, maintenance, and repair activities, recognizing that slight adjustments in construction techniques can yield major benefits for the environment. The appropriate *SDG&E NCCP Operational Protocols* for each individual project are incorporated into the Proposed Project design and would be determined and documented by the Environmental Surveyor. In the context of a wood to steel replacement project, the Environmental Surveyor is the lead natural resources representative from SDG&E in conjunction with the lead biological resources monitor from the biological consulting firm contracted for the job.

Biological monitors will be present during construction to assure implementation of the avoidance and minimization measures. If the previously delineated work area(s) must be expanded or modified during construction, the monitors will survey the additional impact area(s) to determine if any sensitive

resources will be impacted by the proposed activities, to identify avoidance and minimization measures, and to document any additional impacts. Applicable Operational Protocols have been incorporated into the Proposed Project design and are proposed for implementation during construction in order to minimize and avoid impacts to sensitive biological resources. SDG&E will implement NCCP Operational Protocols 1, 2, 3, 4, 5, 7, 8, 10, 11, 14, 16, 17, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 44, 54, 55, and 57.

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1988-1990 *California's Wildlife*. Vol. I-III. California Department of Fish and Game, Sacramento, CA. Updates are noted in accounts that have been added or edited since original publication.

APPENDIX A – VEGETATION COMMUNITIES MAP

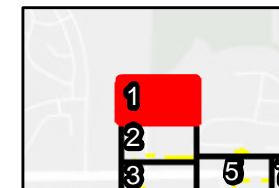
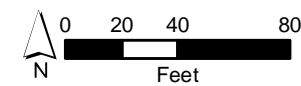


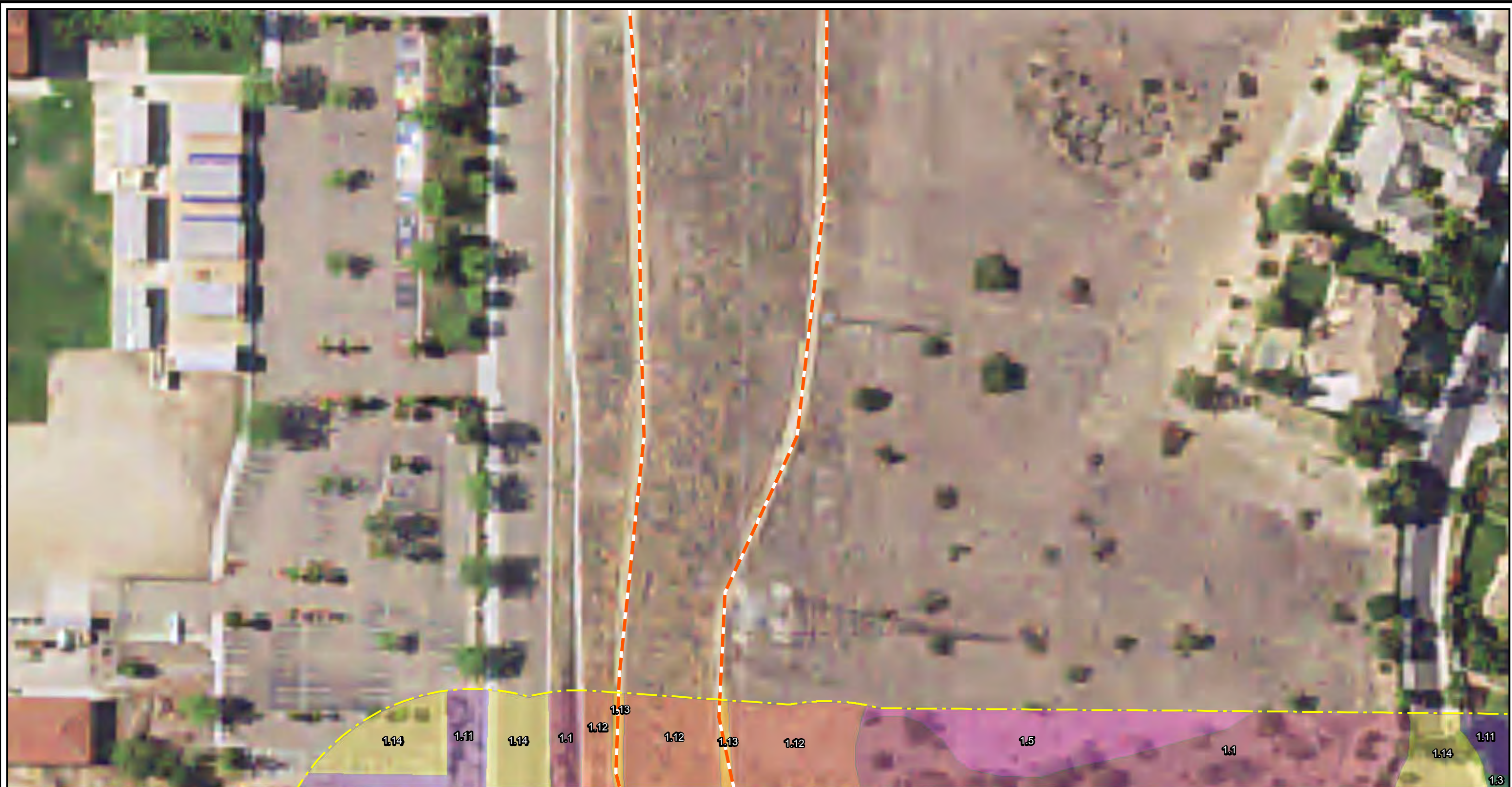


Legend

— Access Road

Appendix A
Vegetation Communities Map
Page 1 of 34

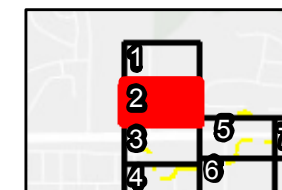
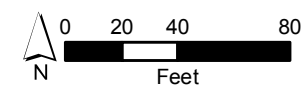


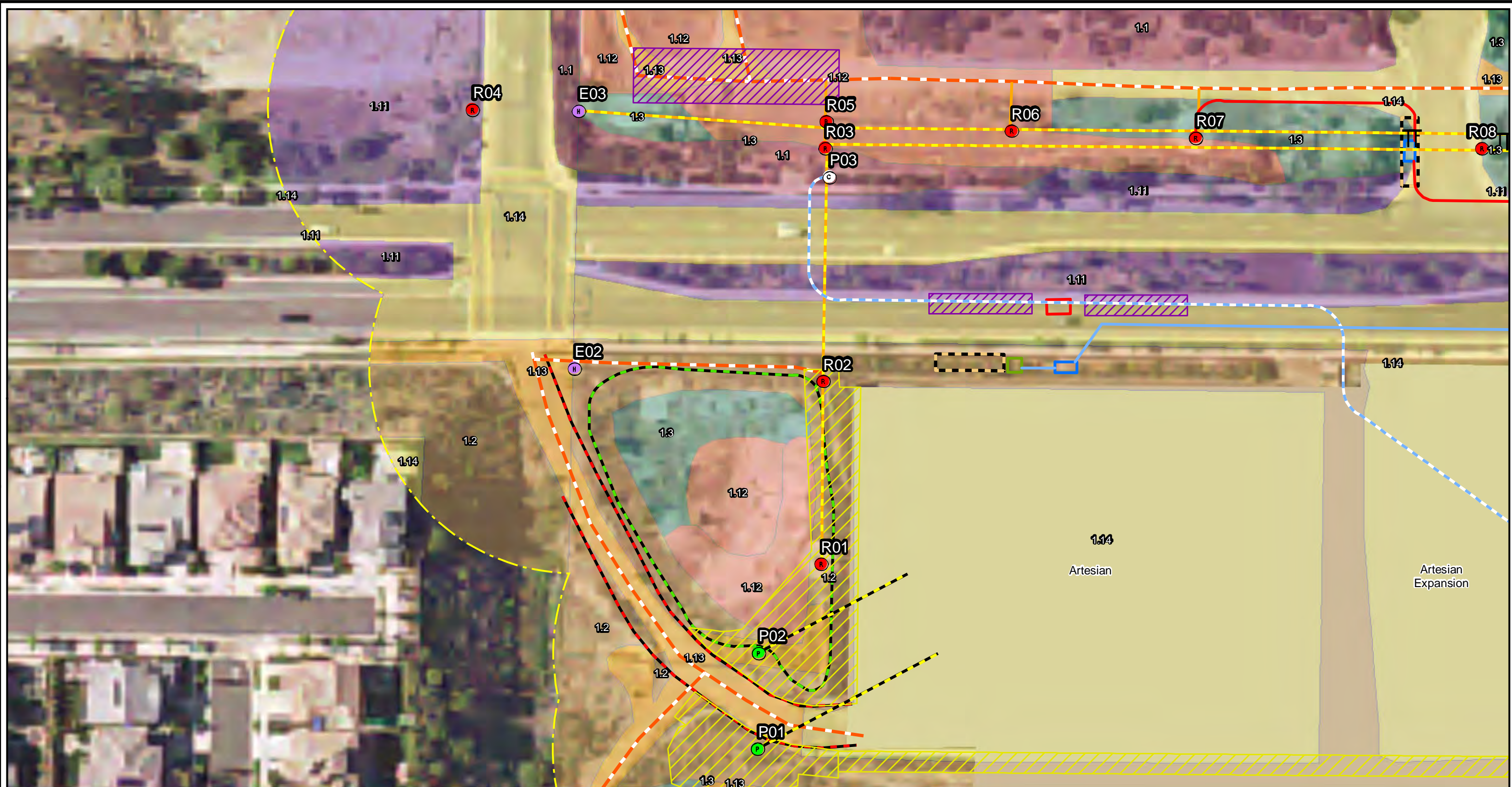


Legend

- Survey Area
- Access Road
- Vegetation Community
- 1.1: California sagebrush-California buckwheat scrub (*Artemisia californica*-*Eriogonum fasciculatum* Shrubland Alliance)
- 1.11: Landscape/Ornamental
- 1.12: Disturbed Areas
- 1.13: Disturbed California sagebrush-California buckwheat scrub (*Artemisia californica*-*Eriogonum fasciculatum* Shrubland Alliance)
- 1.13: Bareground
- 1.14: Urban/Developed
- 1.5: Annual brome grassland (*Bromus [diandrus, hordeaceus]* – *Brachypodium distachyon* Semi-Natural Herbaceous Stands)

Appendix A
Vegetation Communities Map
Page 2 of 34



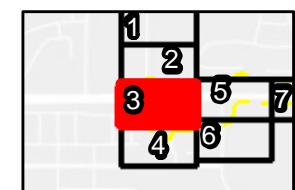
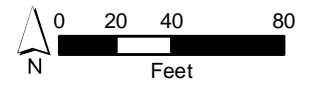


Legend

- Survey Area
- Overhead to be Removed
- Maintenance Pad & Road
- Overhead Transmission Line (Reconductor)
- Stringing/Pulling Site
- Work / Staging Area
- Project Structure
- Power Line Underground Route
- Access Road
- Overland travel
- Foundation cable pole
- Distribution Underground Route
- Distribution Underground Removal
- Transmission Vault
- Pier Foundation Pole
- Remove from service
- Guard Structure
- Overhead work

- Vegetation Community**
- 1.1: California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)
 - 1.2: Restored California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)
 - 1.3: Disturbed California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)
 - 1.11: Landscape/Ornamental
 - 1.12: Disturbed Areas
 - 1.13: Bareground
 - 1.14: Urban/Developed

Appendix A
Vegetation Communities Map
Page 3 of 34

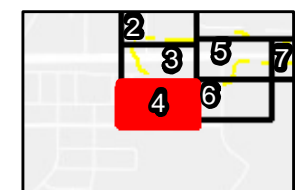


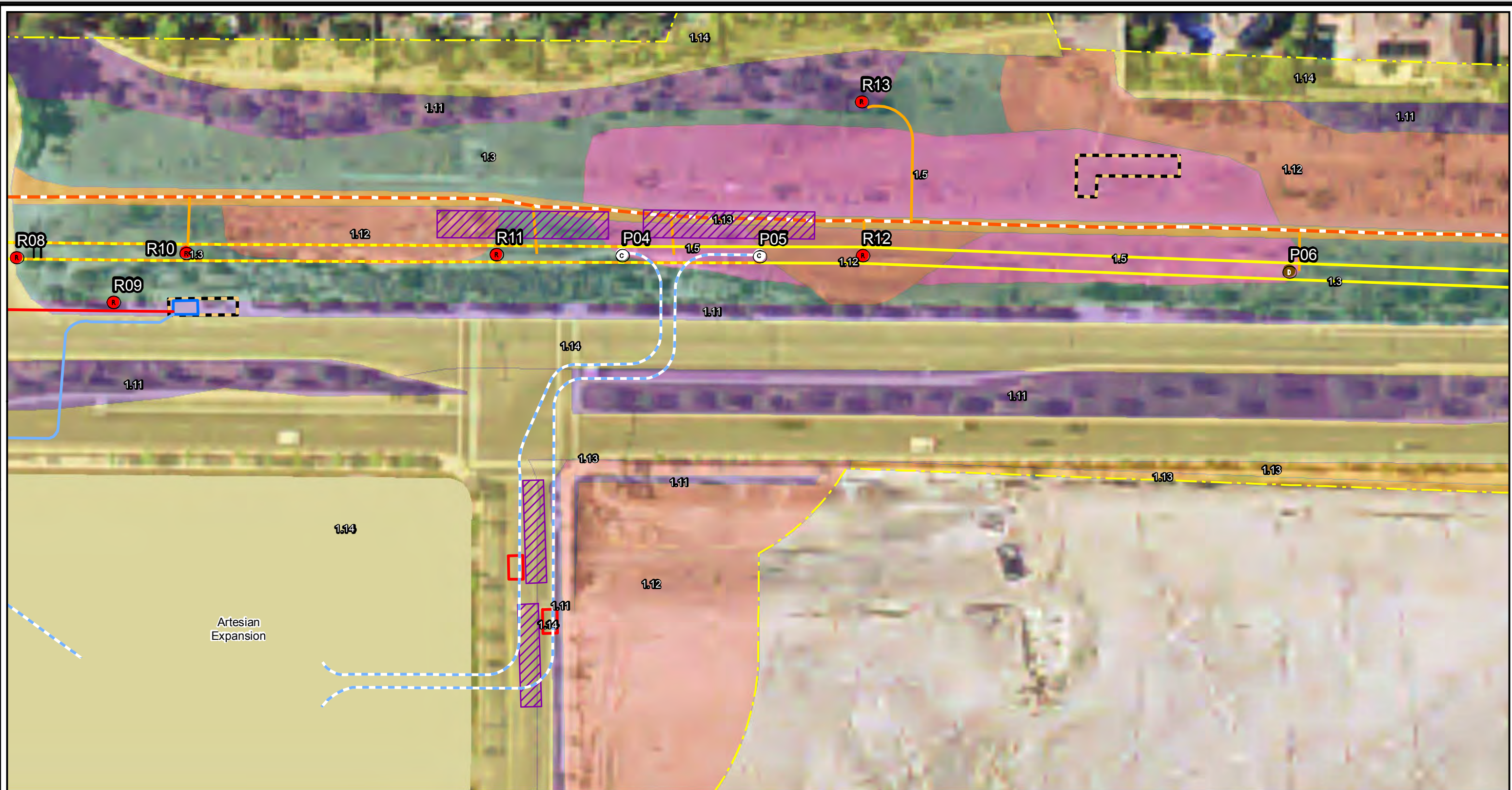


Legend

- | | | |
|------------------------|---|---|
| Survey Area | Vegetation Community | 1.6: Arroyo Willow - Mulefat Woodland (<i>Salix lasiolepis</i> - <i>Baccharis salicifolia</i> Woodland Alliance) |
| Project Structure | 1.2: Restored California sagebrush-California buckwheat scrub (<i>Artemisia californica</i> - <i>Eriogonum fasciculatum</i> Shrubland Alliance) | 1.12: Disturbed Areas |
| New UG Cable | 1.3: Disturbed California sagebrush-California buckwheat scrub (<i>Artemisia californica</i> - <i>Eriogonum fasciculatum</i> Shrubland Alliance) | 1.13: Bareground |
| Maintenance Pad & Road | | 1.14: Urban/Developed |
| Work / Staging Area | | |
| Access Road | | |

Appendix A
Vegetation Communities Map
Page 4 of 34



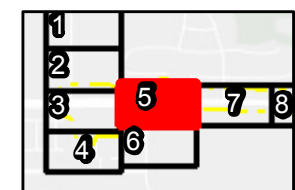
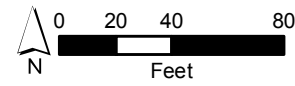


Legend

- Survey Area
- Overhead to be Removed
- Access Road
- Power Line Underground Route
- Distribution Underground Route
- Distribution Underground Removal
- Transmission Vault
- Stringing/Pulling Site
- Work / Staging Area
- Foundation cable pole
- Direct bury
- Remove from service
- Guard Structure
- Overhead Power Line (Reconductor)







- Vegetation Community**
- 1.3: Disturbed California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)
 - 1.11: Landscape/Ornamental
 - 1.12: Disturbed Areas
 - 1.13: Bareground
 - 1.14: Urban/Developed
 - 1.5: Annual brome grassland (Bromus [diandrus, hordeaceus] - Brachypodium distachyon Semi-Natural Herbaceous Stands)

Appendix A
Vegetation Communities Map
Page 5 of 34

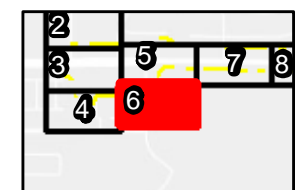
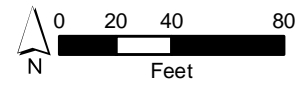




Legend

-  Survey Area
-  Maintenance Pad & Road
- Vegetation Community**
-  1.2: Restored California sagebrush-California buckwheat scrub (*Artemisia californica*-*Eriogonum fasciculatum* Shrubland Alliance)
-  1.11: Landscape/Ornamental
-  1.12: Disturbed Areas
-  1.14: Urban/Developed

Appendix A
Vegetation Communities Map
Page 6 of 34

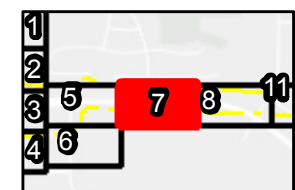
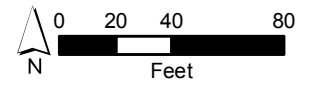


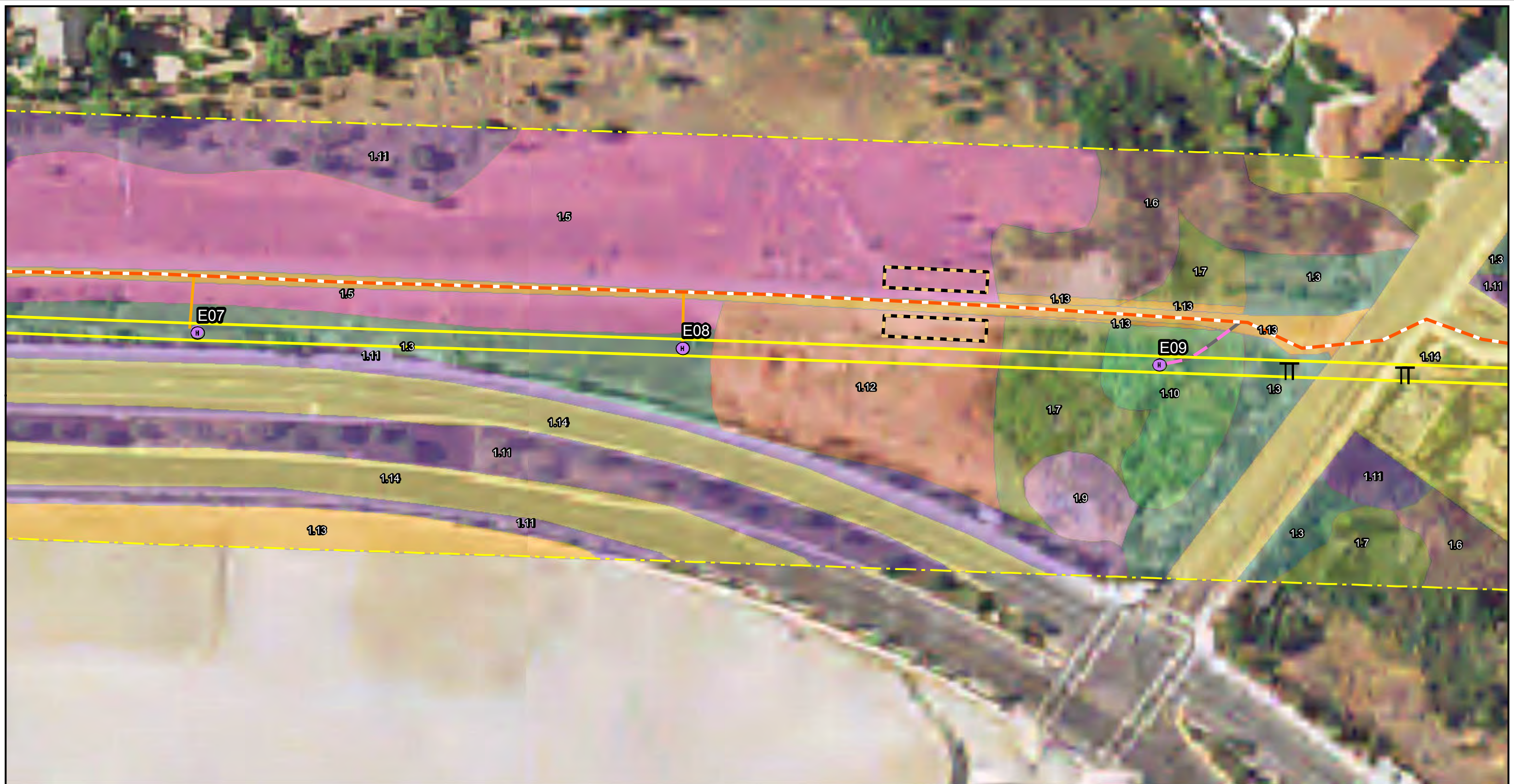


Legend

- Survey Area
- Overland travel
- 1.5: Annual brome grassland (Bromus [diandrus, hordeaceus] - Brachypodium distachyon Semi-Natural Herbaceous Standts)
- Overhead work
- 1.3: Disturbed California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)
- Guard Structure
- 1.11: Landscape/Ornamental
- Overhead Power Line (Reconductor)
- 1.12: Disturbed Areas
- 1.13: Bareground
- Work / Staging Area
- Access Road
- 1.14: Urban/Developed

Appendix A
Vegetation Communities Map
Page 7 of 34

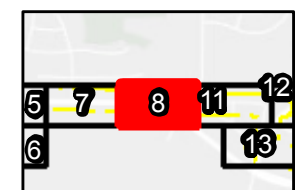
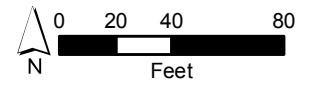




Legend

- | | | | | |
|-----------------------------------|--|---|---|-----------------------|
| Survey Area | Foot path | 1.5: Annual brome grassland (Bromus [diandrus, hordeaceus] - Brachypodium distachyon Semi-Natural Herbaceous Stantds) | 1.7: Cattail marshes Typha [angustifolia, domingensis, latifolia] Herbaceous Alliance | 1.12: Disturbed Areas |
| Project Structure | Overland travel | 1.6: Arroyo Willow - Mulefat Woodland (Salix lasiolepis-Baccharis salicifolia Woodland Alliance) | 1.9: Pale spike rush marshes (Eleocharis macrostachya Herbaceous Alliance) | 1.13: Bareground |
| Overhead work | Vegetation Community | 1.10: Sandbar willow thickets (Salix exigua Shrubland Alliance) | 1.11: Landscape/Ornamental | 1.14: Urban/Developed |
| Guard Structure | 1.3: Disturbed California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance) | | | |
| Overhead Power Line (Reconductor) | | | | |
| Work / Staging Area | | | | |
| Access Road | | | | |

Appendix A
Vegetation Communities Map
Page 8 of 34

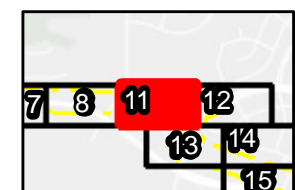
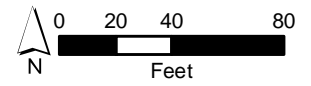




Legend

- | | |
|---|---|
| <ul style="list-style-type: none"> Survey Area Project Structure ● Pier Foundation Pole ⊕ Overhead work ● Remove from service T Guard Structure Overhead Power Line (Reconductor) | <ul style="list-style-type: none"> Distribution Underground Route Stringing/Pulling Site Work / Staging Area Access Road <p>Vegetation Community</p> <ul style="list-style-type: none"> 1.1: California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance) 1.2: Restored California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance) 1.3: Disturbed California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance) 1.6: Arroyo Willow - Mulefat Woodland (Salix lasiolepis-Baccharis salicifolia Woodland Alliance) 1.11: Landscape/Ornamental 1.12: Disturbed Areas 1.13: Bareground 1.14: Urban/Developed |
|---|---|

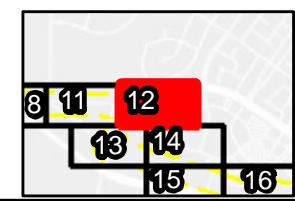
Appendix A
Vegetation Communities Map
Page 9 of 34

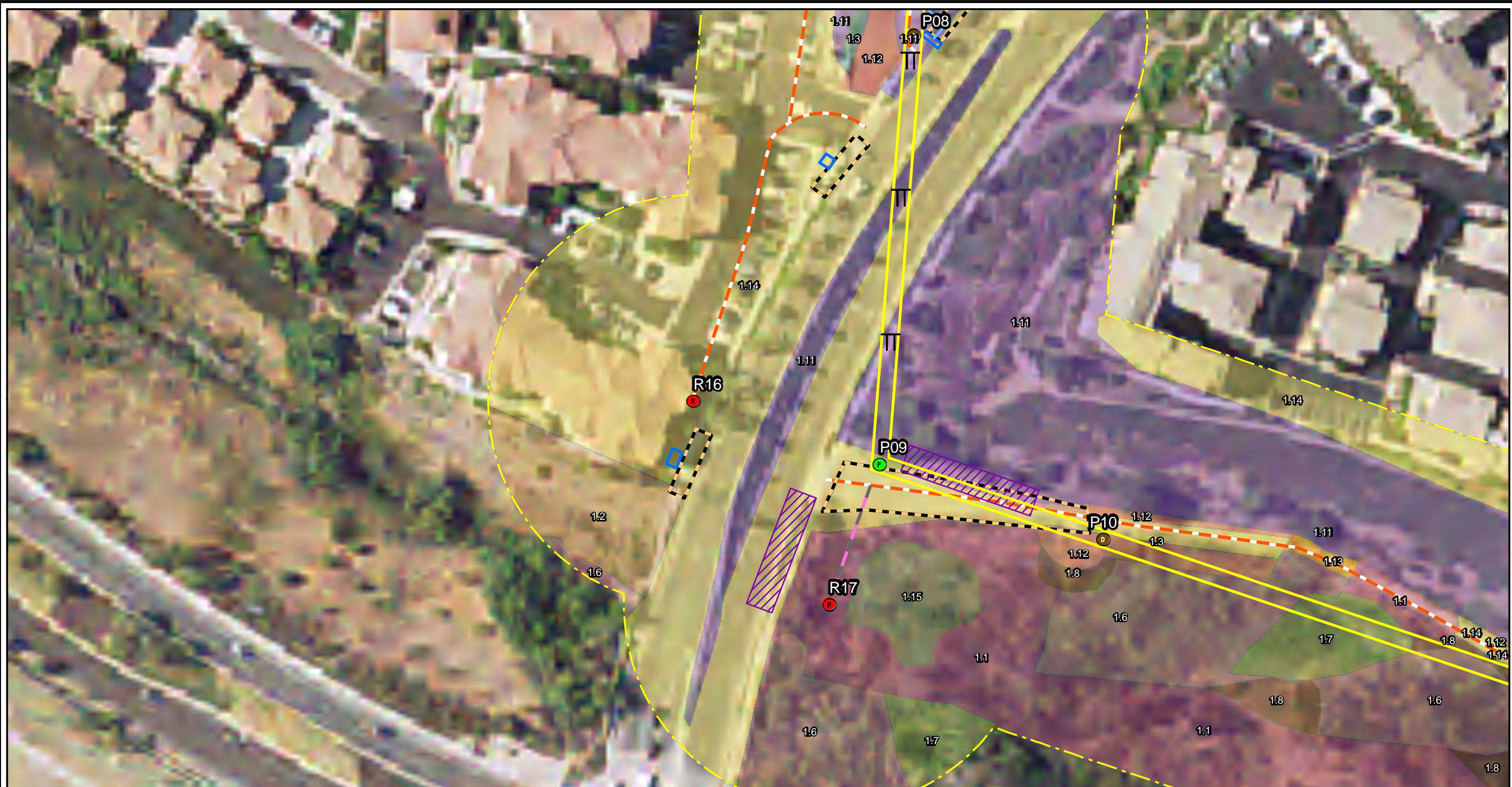




- Legend**
- | | | |
|--------------------------------|---|----------------------------|
| Survey Area | Vegetation Community | 1.11: Landscape/Ornamental |
| Project Structure | 1.2: Restored California sagebrush-California buckwheat scrub (<i>Artemisia californica</i> - <i>Eriogonum fasciculatum</i> Shrubland Alliance) | 1.12: Disturbed Areas |
| Remove from service | 1.3: Disturbed California sagebrush-California buckwheat scrub (<i>Artemisia californica</i> - <i>Eriogonum fasciculatum</i> Shrubland Alliance) | 1.13: Bareground |
| Distribution Underground Route | | 1.14: Urban/Developed |
| Stringing/Pulling Site | | |
| Work / Staging Area | | |
| Access Road | | |

Appendix A
Vegetation Communities Map
Page 10 of 34





Legend

- Survey Area
- Distribution Underground Route
- Pier Foundation Pole
- Direct bury
- Remove from service
- Guard Structure
- Overhead Power Line (Reconductor)
- Stringing/Pulling Site
- Work / Staging Area
- Access Road
- Foot path

Vegetation Community

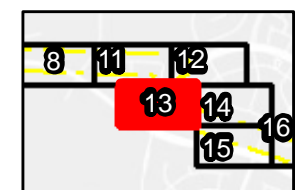
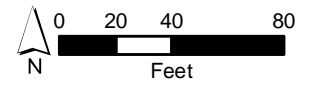
- 1.1: California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)
- 1.2: Restored California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)

- 1.3: Disturbed California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)
- 1.6: Arroyo Willow - Mulefat Woodland (Salix lasiolepis-Baccharis salicifolia Woodland Alliance)

- 1.7: Cattail marshes Typha [angustifolia, domingensis, latifolia] Herbaceous Alliance
- 1.8: Spiny rush marsh (Juncus acutus Herbaceous Alliance)
- 1.11: Landscape/Ornamental
- 1.12: Disturbed Areas
- 1.13: Bareground

- 1.14: Urban/Developed
- 1.15: Salt grass flats (Distichlis spicata Herbaceous Alliance)

Appendix A
Vegetation Communities Map
Page 11 of 34

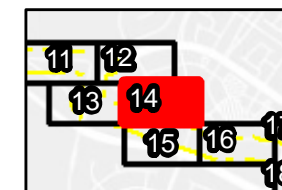
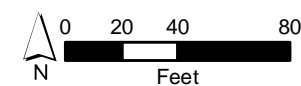




Legend

- | | |
|--|--|
| <ul style="list-style-type: none"> Survey Area Direct bury Overhead Power Line (Reconductor) Access Road | <p>Vegetation Community</p> <ul style="list-style-type: none"> 1.1: California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance) 1.3: Disturbed California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance) 1.6: Arroyo Willow - Mulefat Woodland (Salix lasiolepis-Baccharis salicifolia Woodland Alliance) 1.8: Spiny rush marsh (Juncus acutus Herbaceous Alliance) 1.11: Landscape/Ornamental 1.12: Disturbed Areas 1.14: Urban/Developed |
|--|--|

Appendix A
Vegetation Communities Map
Page 12 of 34

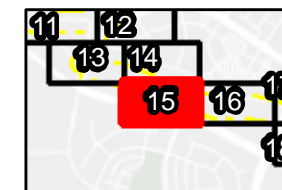




Legend

- | | | | |
|-----------------------------------|--|--|----------------------------|
| Survey Area | Foot path | 1.3: Disturbed California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance) | 1.11: Landscape/Ornamental |
| Project Structure | Vegetation Community | 1.6: Arroyo Willow - Mulefat Woodland (Salix lasiolepis-Baccharis salicifolia Woodland Alliance) | 1.12: Disturbed Areas |
| Direct bury | 1.1: California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance) | 1.8: Spiny rush marsh (Juncus acutus Herbaceous Alliance) | 1.13: Bareground |
| Remove from service | 1.14: Urban/Developed | | |
| Guard Structure | | | |
| Overhead Power Line (Reconductor) | | | |
| Access Road | | | |

Appendix A
Vegetation Communities Map
Page 13 of 34





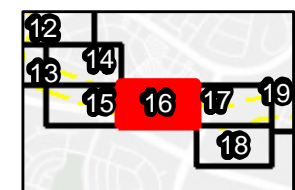
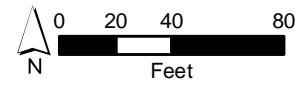
Legend

- Survey Area
- Access Road
- Pier Foundation Pole
- Direct bury
- ⊕ Overhead work
- Overhead Power Line (Reconductor)
- Stringing/Pulling Site

- Vegetation Community**
- 1.1: California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)
 - 1.2: Restored California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)
 - 1.3: Disturbed California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)

- 1.4: Restored/Disturbed California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)
- 1.6: Arroyo Willow - Mulefat Woodland (Salix lasiolepis-Baccharis salicifolia Woodland Alliance)
- 1.7: Cattail marshes Typha [angustifolia, domingensis, latifolia] Herbaceous Alliance
- 1.8: Spiny rush marsh (Juncus acutus Herbaceous Alliance)
- 1.11: Landscape/Ornamental
- 1.12: Disturbed Areas
- 1.13: Bareground

- 1.14: Urban/Developed
- 1.16: Disturbed tall cyperus patch (Cyperus eragrostis Herbaceous Alliance)



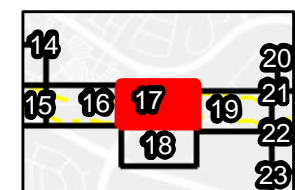
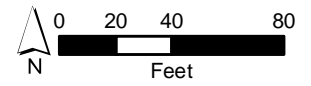
Appendix A
Vegetation Communities Map



Legend

- | | |
|--|--|
| <ul style="list-style-type: none"> Survey Area Project Structure Direct bury Overhead work Guard Structure Overhead Power Line (Reconductor) Access Road | <p>Vegetation Community</p> <ul style="list-style-type: none"> 1.1: California sagebrush-California buckwheat scrub (<i>Artemisia californica</i>-<i>Eriogonum fasciculatum</i> Shrubland Alliance) 1.2: Restored California sagebrush-California buckwheat scrub (<i>Artemisia californica</i>-<i>Eriogonum fasciculatum</i> Shrubland Alliance) 1.4: Restored/Disturbed California sagebrush-California buckwheat scrub (<i>Artemisia californica</i>-<i>Eriogonum fasciculatum</i> Shrubland Alliance) 1.6: Arroyo Willow - Mulefat Woodland (<i>Salix lasiolepis</i>-<i>Baccharis salicifolia</i> Woodland Alliance) 1.7: Cattail marshes <i>Typha</i> [<i>angustifolia</i>, <i>domingensis</i>, <i>latifolia</i>] Herbaceous Alliance 1.8: Spiny rush marsh (<i>Juncus acutus</i> Herbaceous Alliance) 1.10: Sandbar willow thickets (<i>Salix exigua</i> Shrubland Alliance) 1.11: Landscape/Ornamental 1.13: Bareground 1.14: Urban/Developed |
|--|--|

Appendix A
Vegetation Communities Map
Page 15 of 34

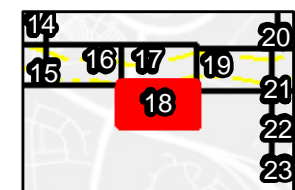


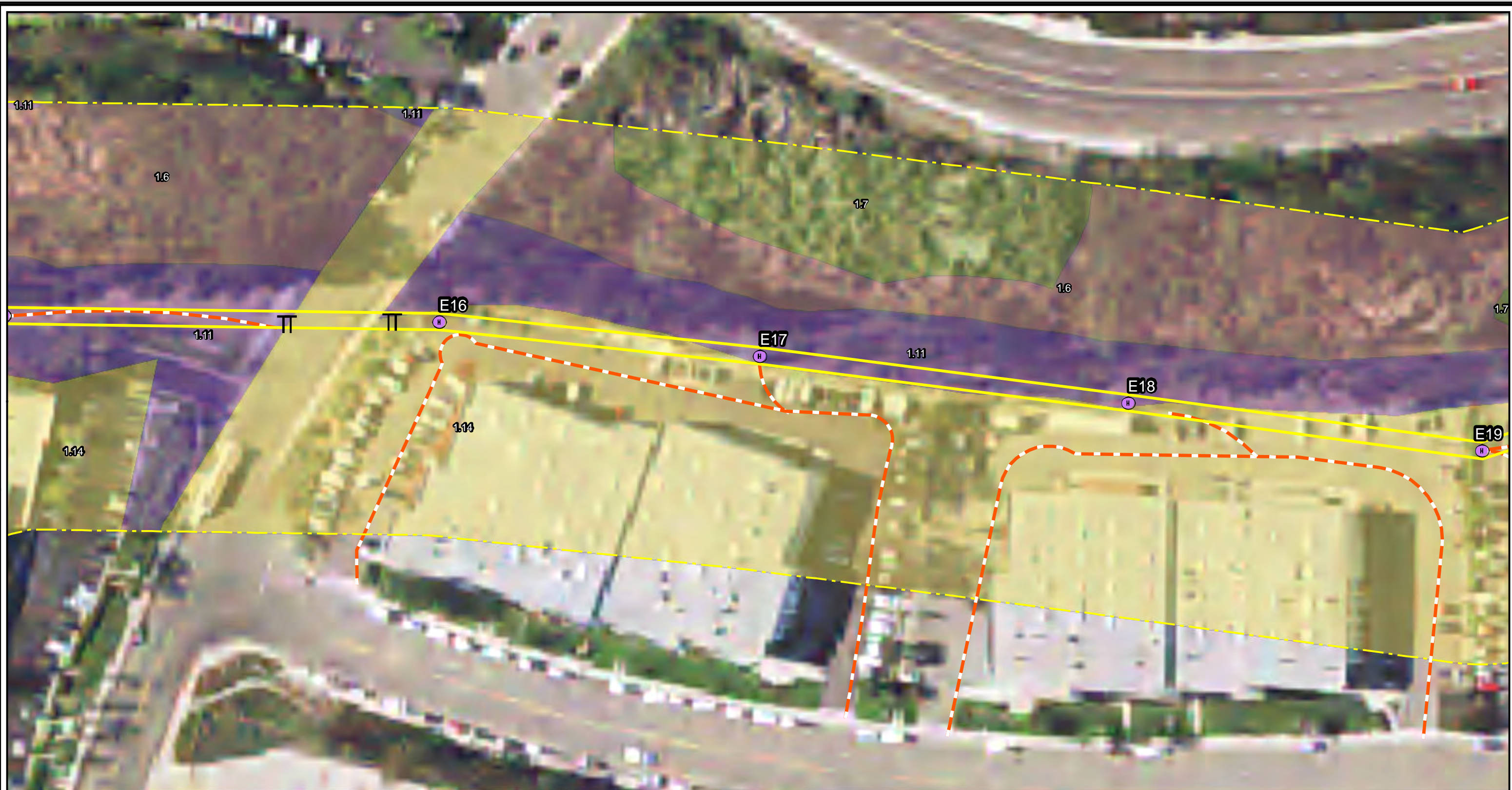


Legend

- Survey Area
- Access Road
- Vegetation Community**
- 1.2: Restored California sagebrush-California buckwheat scrub (*Artemisia californica*-*Eriogonum fasciculatum* Shrubland Alliance)
- 1.6: Arroyo Willow - Mulefat Woodland (*Salix lasiolepis*-*Baccharis salicifolia* Woodland Alliance)
- 1.8: Spiny rush marsh (*Juncus acutus* Herbaceous Alliance)
- 1.11: Landscape/Ornamental Shrubland Alliance)
- 1.14: Urban/Developed

Appendix A
Vegetation Communities Map
Page 16 of 34

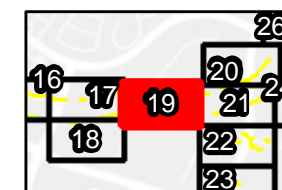
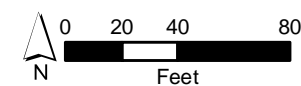




Legend

- Survey Area
 - Project Structure**
 - Overhead work
 - Guard Structure
 - Overhead Power Line (Reconductor)
 - Access Road
- Vegetation Community
- 1.6: Arroyo Willow - Mulefat Woodland (Salix lasiolepis-Baccharis salicifolia Woodland Alliance)
 - 1.7: Cattail marshes Typha [angustifolia, domingensis, latifolia] Herbaceous Alliance
 - 1.11: Landscape/Ornamental
 - 1.14: Urban/Developed

Appendix A
Vegetation Communities Map
Page 17 of 34

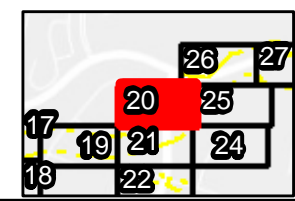
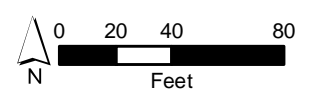


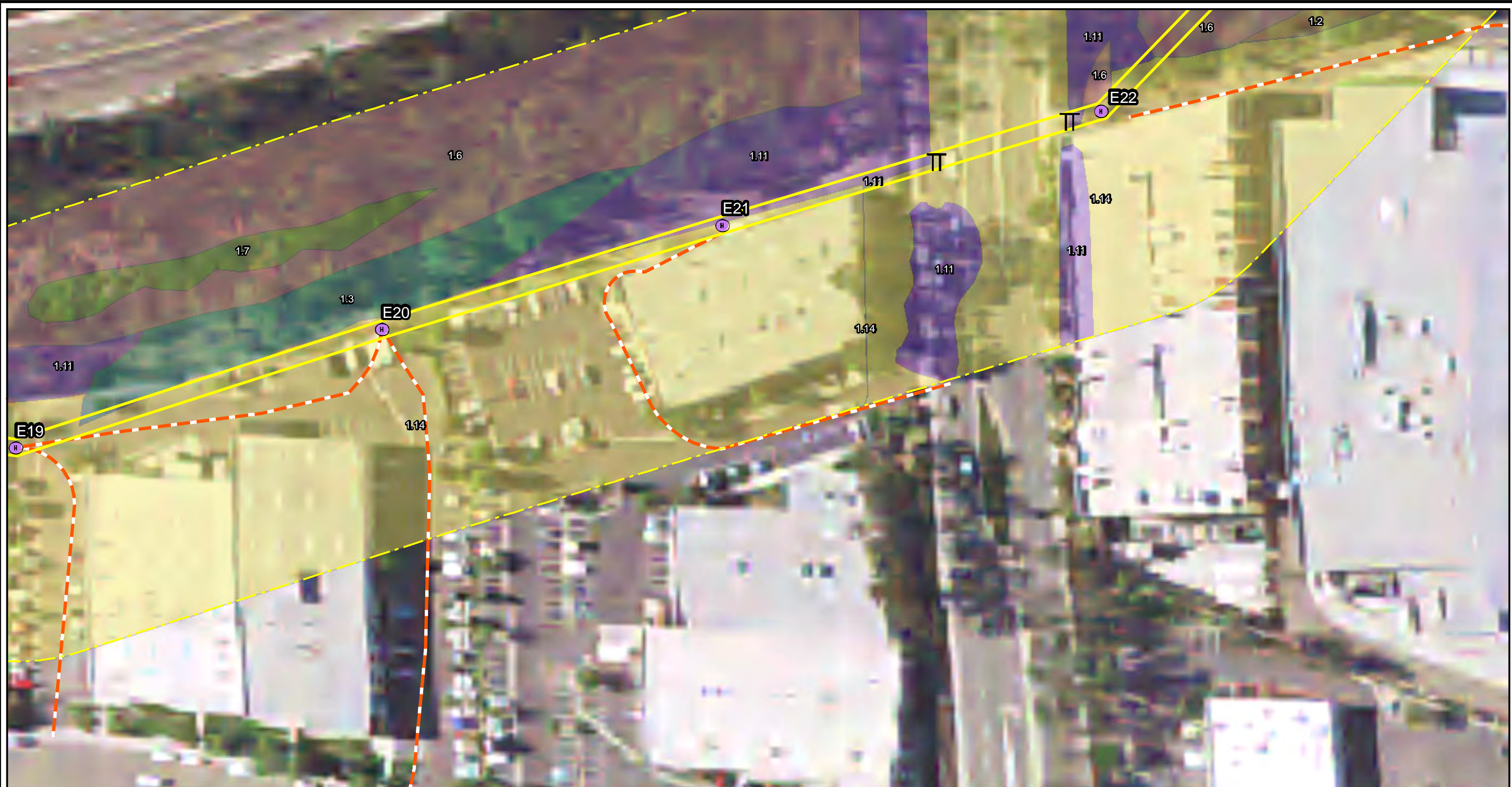


Legend

- Survey Area
 - Project Structure
 - Overhead work
 - Overhead Power Line (Reconductor)
 - Access Road
- Vegetation Community
- 1.11: Landscape/Ornamental
 - 1.14: Urban/Developed
 - 1.2: Restored California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)
 - 1.6: Arroyo Willow - Mulefat Woodland (Salix lasiolepis-Baccharis salicifolia Woodland Alliance)

Appendix A
Vegetation Communities Map
Page 18 of 34





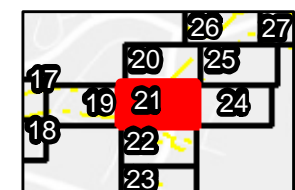
Legend

- Survey Area
- Project Structure
- Overhead work
- Guard Structure
- Overhead Power Line (Reconductor)
- Access Road

Vegetation Community

- 1.2: Restored California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)
- 1.3: Disturbed California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance)
- 1.6: Arroyo Willow - Mulefat Woodland (Salix lasiolepis-Baccharis salicifolia Woodland Alliance)
- 1.7: Cattail marshes Typha [angustifolia, domingensis, latifolia] Herbaceous Alliance
- 1.11: Landscape/Ornamental scrub
- 1.14: Urban/Developed

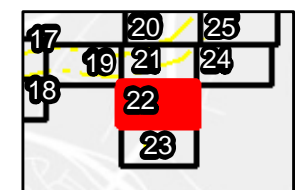
Appendix A
Vegetation Communities Map
Page 19 of 34







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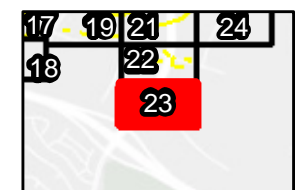
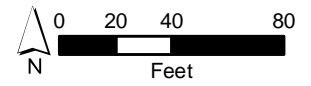
- Survey Area
- Work / Staging Area
- Access Road
- Vegetation Community
- 1.11: Landscape/Ornamental
- 1.14: Urban/Developed





- Legend**
-  Survey Area
 -  Work / Staging Area
 - Vegetation Community
 -  1.11: Landscape/Ornamental
 -  1.14: Urban/Developed

Appendix A
 Vegetation Communities Map
 Page 21 of 34



1.14

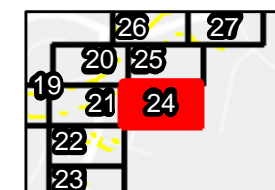
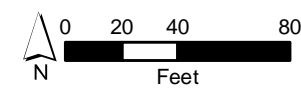


Legend

- Survey Area
- Access Road
- Vegetation Community
- 1.14: Urban/Developed

Appendix A
 Vegetation Communities Map

Page 22 of 34



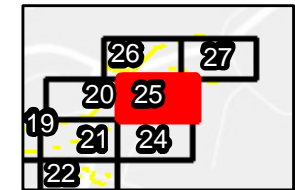
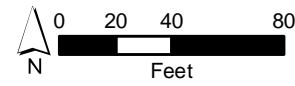


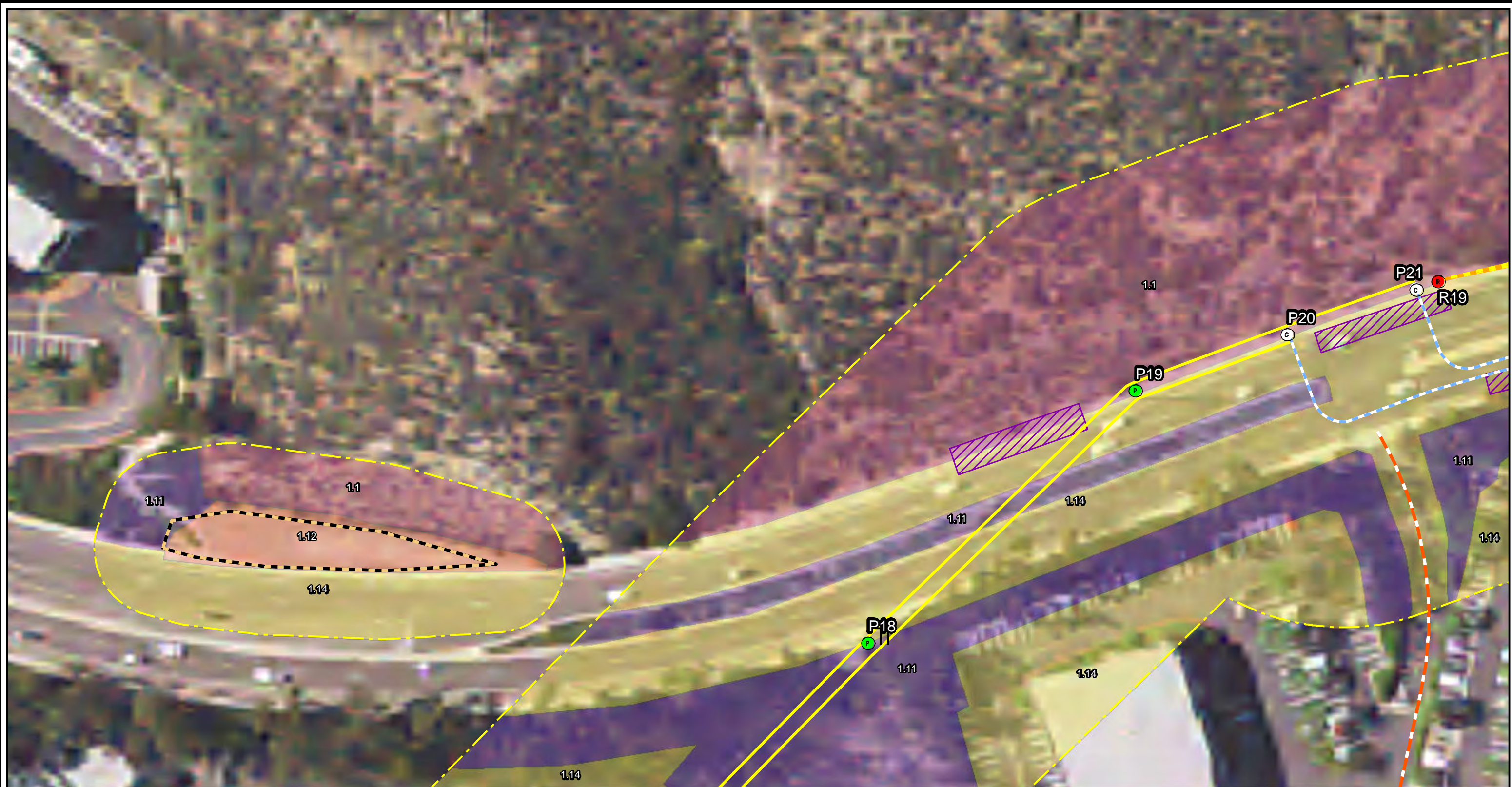
Legend

- Survey Area
- Project Structure**
- Direct bury
- Overhead Power Line (Reconductor)
- Access Road

- Vegetation Community**
- 1.2: Restored California sagebrush-California buckwheat scrub (*Artemisia californica*-*Eriogonum fasciculatum* Shrubland Alliance)
 - 1.11: Landscape/Ornamental
 - 1.14: Urban/Developed

Appendix A
Vegetation Communities Map
Page 23 of 34

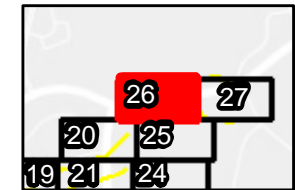
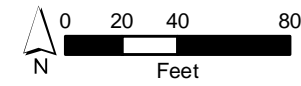




Legend

- | | | |
|-----------------------------------|------------------------------|--|
| Survey Area | Overhead to be Removed | Vegetation Community |
| Project Structure | Power Line Underground Route | 1.1: California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance) |
| Foundation cable pole | Stringing/Pulling Site | 1.11: Landscape/Ornamental |
| Pier Foundation Pole | Work / Staging Area | 1.12: Disturbed Areas |
| Remove from service | Access Road | 1.14: Urban/Developed |
| Guard Structure | | |
| Overhead Power Line (Reconductor) | | |

Appendix A
Vegetation Communities Map
Page 24 of 34

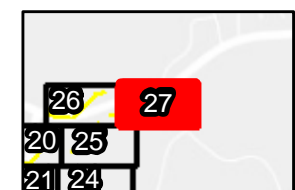
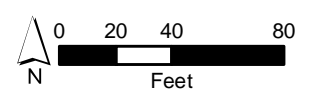


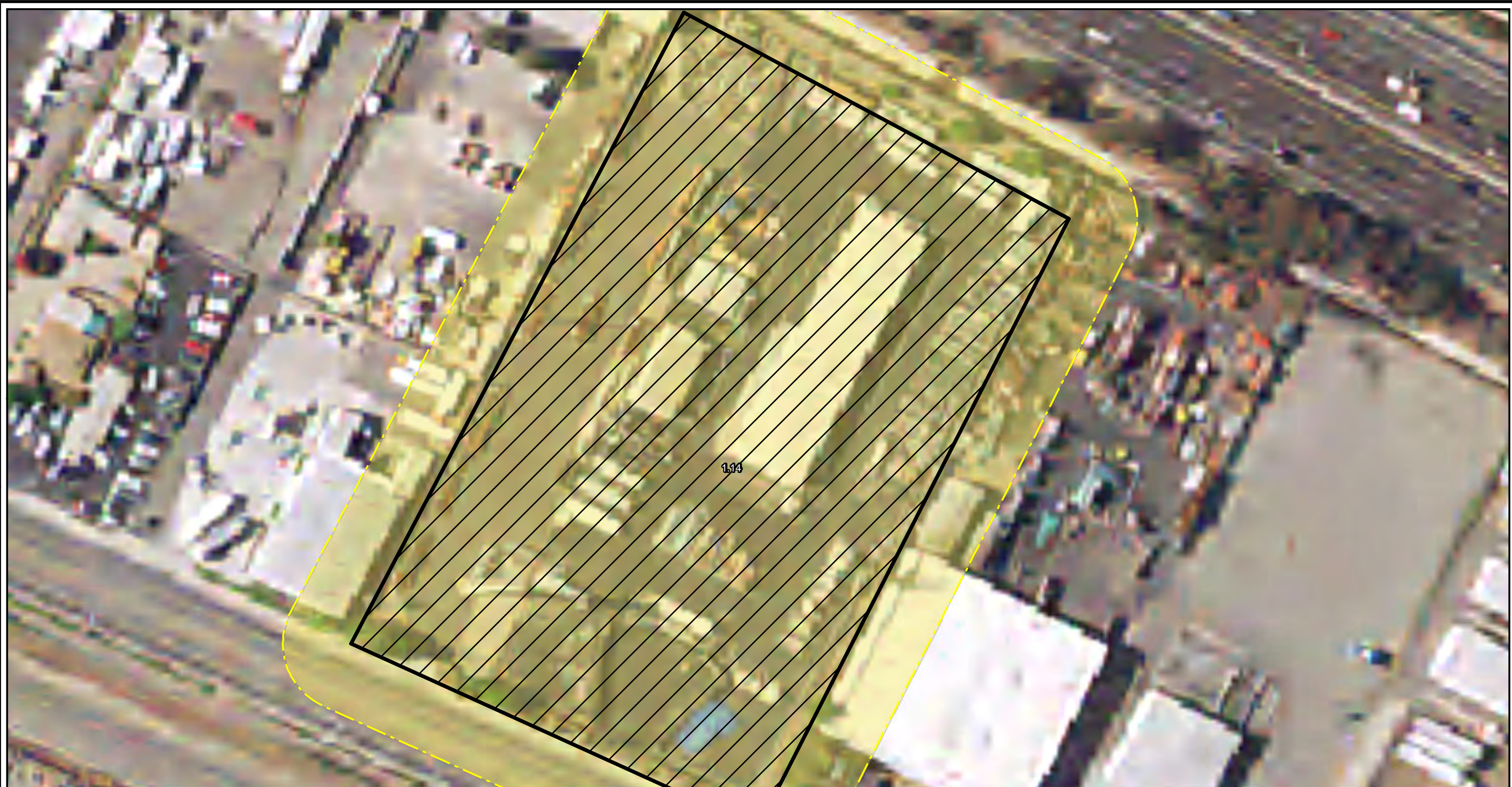




Legend

- | | |
|------------------------------|--|
| Survey Area | Vegetation Community |
| Project Structure | 1.1: California sagebrush-California buckwheat scrub (Artemisia californica-Eriogonum fasciculatum Shrubland Alliance) |
| Remove from service | 1.11: Landscape/Ornamental |
| Overhead to be Removed | 1.13: Bareground |
| Power Line Underground Route | 1.14: Urban/Developed |
| Transmission Vault | |
| Stringing/Pulling Site | |
| Access Road | |

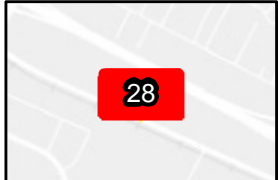
Appendix A
Vegetation Communities Map
Page 25 of 34

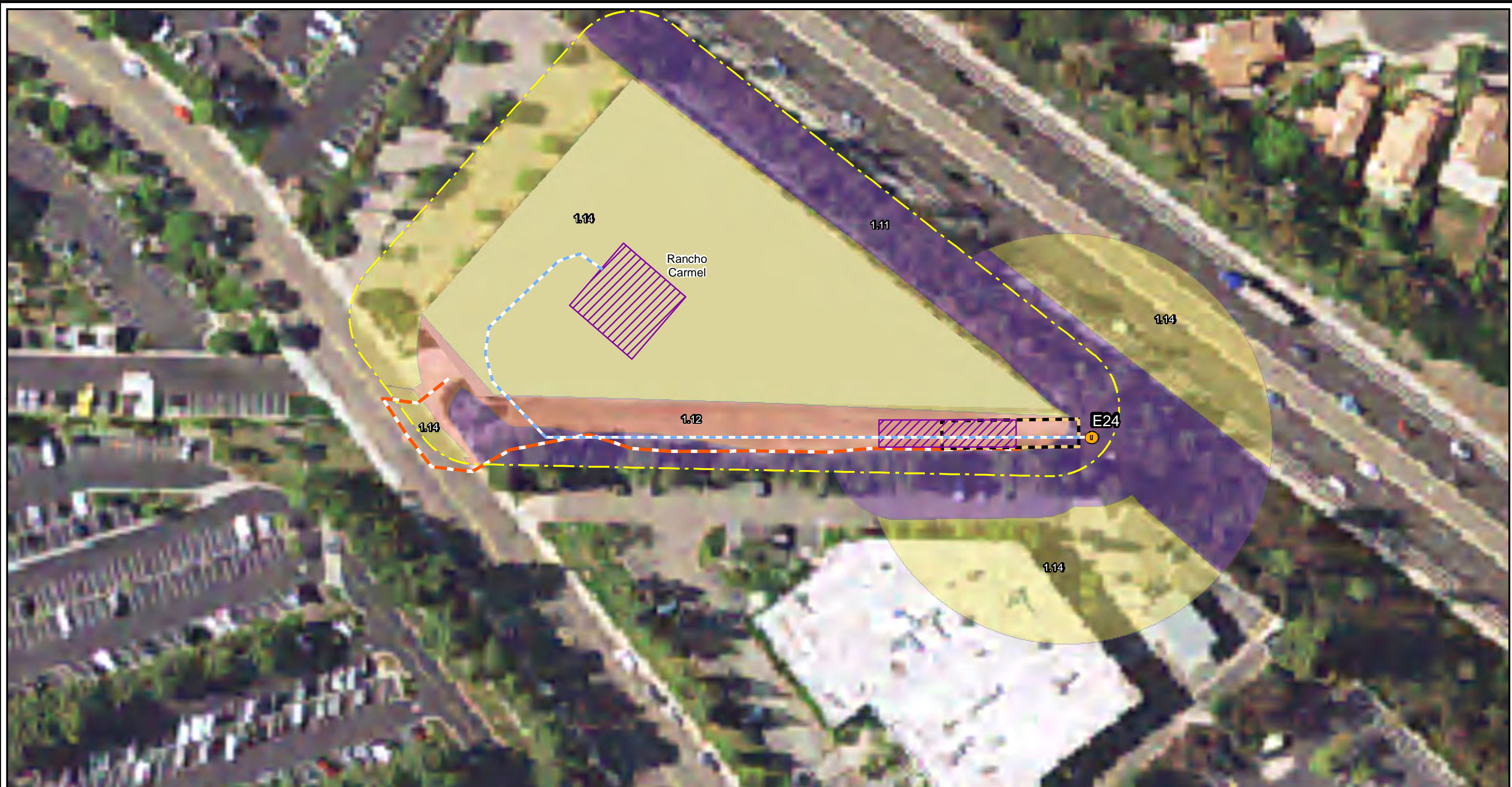




- Legend**
-  Survey Area
 -  Staging Yard
 - Vegetation Community
 -  1.14: Urban/Developed

Appendix A
Vegetation Communities Map
Page 26 of 34

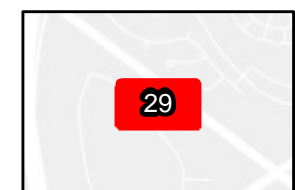
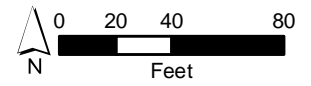


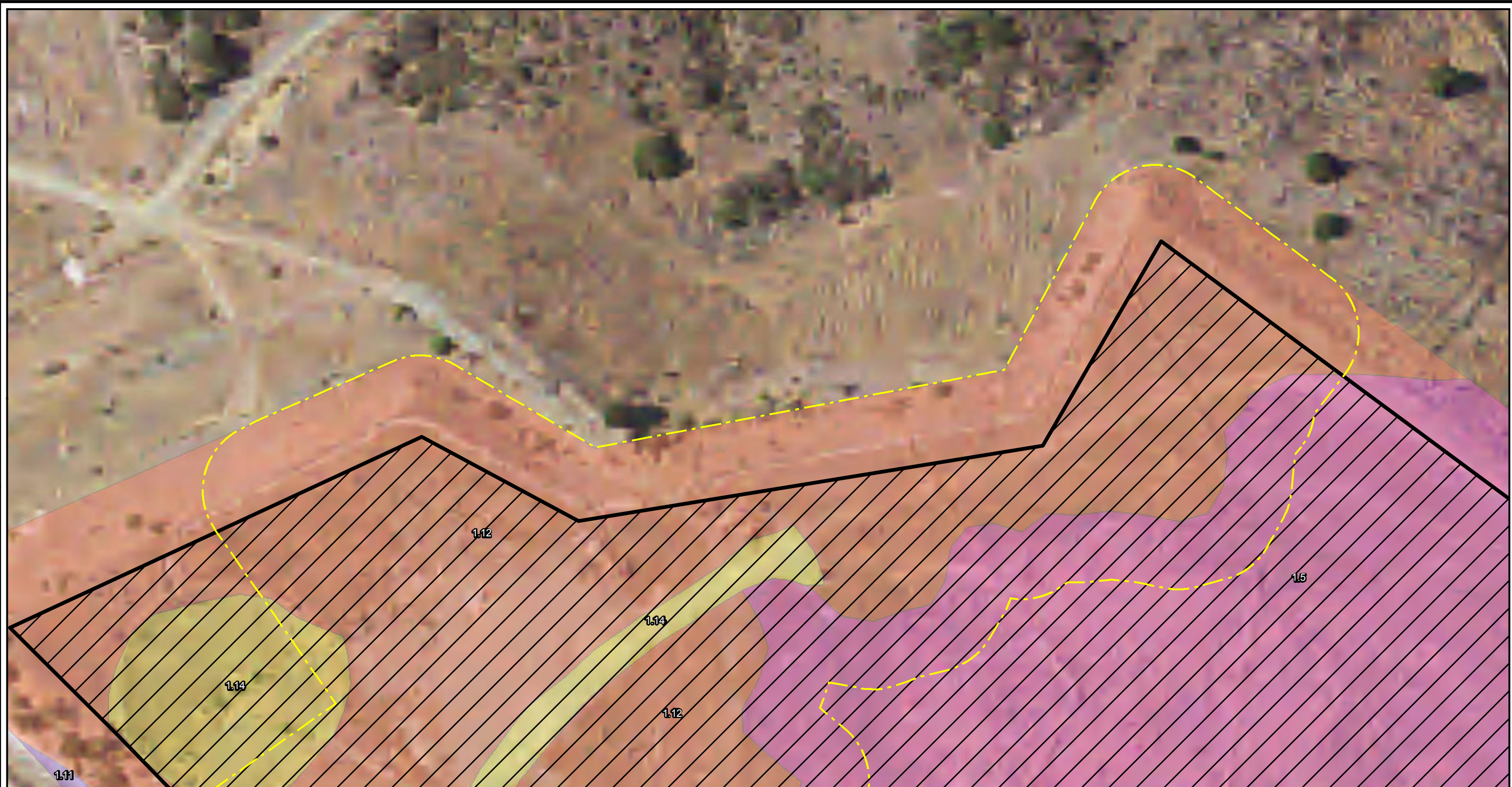


Legend

- | | |
|------------------------------|-----------------------------|
| Survey Area | Vegetation Community |
| Power Line Underground Route | 1.11: Landscape/Ornamental |
| Access Road | 1.12: Disturbed Areas |
| Stringing/Pulling Site | 1.14: Urban/Developed |
| Work / Staging Area | |
| Overhead work; new UG cable | |

Appendix A
Vegetation Communities Map
Page 27 of 34



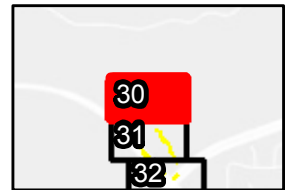


Legend

- Survey Area
- Staging Yard
- 1.12: Disturbed Areas
- 1.14: Urban/Developed







- Vegetation Community
- 1.5: Annual brome grassland (Bromus [diandrus, hordeaceus] – Brachypodium distachyon Semi-Natural Herbaceous Stands)
 - 1.11: Landscape/Ornamental

Appendix A
Vegetation Communities Map
Page 28 of 34

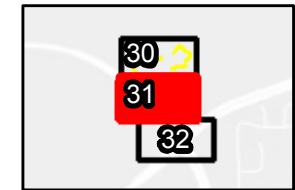
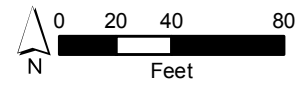




Legend

-  Survey Area
-  Staging Yard
- Vegetation Community
 -  1.5: Annual brome grassland (Bromus [diandrus, hordeaceus] - Brachypodium distachyon Semi-Natural Herbaceous Stantds)
 -  1.11: Landscape/Ornamental
 -  1.12: Disturbed Areas
 -  1.14: Urban/Developed

Appendix A
Vegetation Communities Map
Page 29 of 34

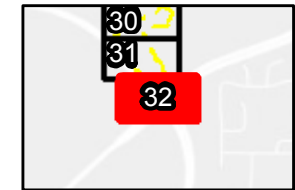
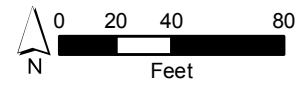




Legend




- Survey Area
- Staging Yard
- Vegetation Community
- 1.5: Annual brome grassland
(*Bromus [diandrus, hordeaceus]*
– *Brachypodium distachyon*
Semi-Natural Herbaceous
Standts)
- 1.11: Landscape/Ornamental
- 1.12: Disturbed Areas
- 1.14: Urban/Developed

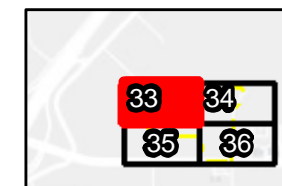
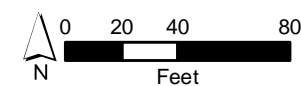
Appendix A
Vegetation Communities Map
Page 30 of 34

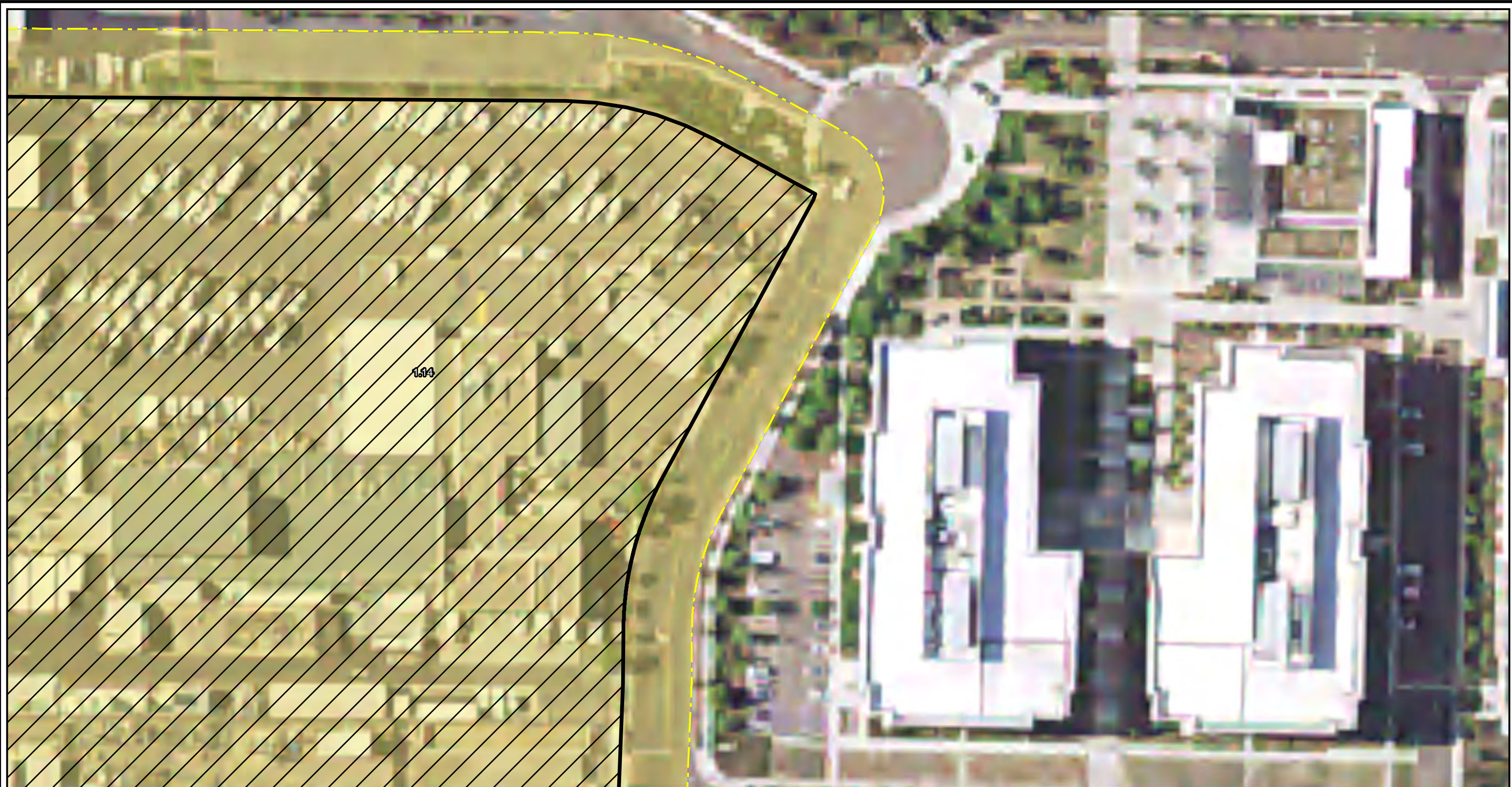




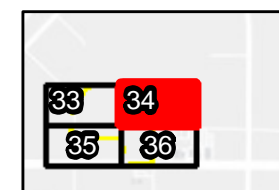
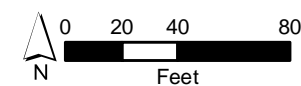
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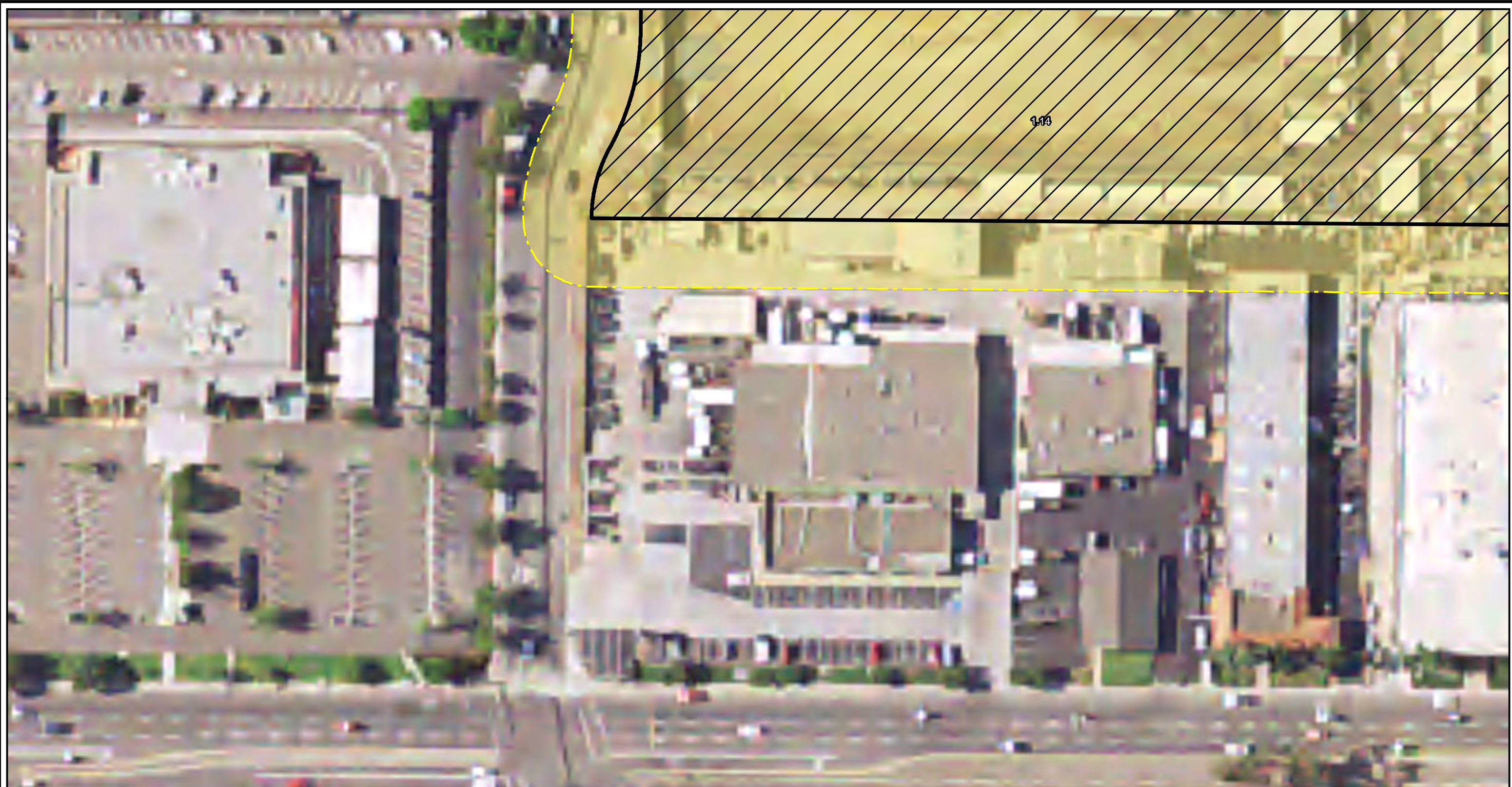
-  Survey Area
-  Staging Yard
- Vegetation Community
-  1.14: Urban/Developed








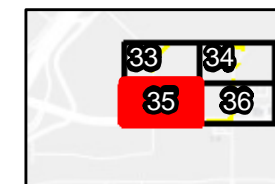
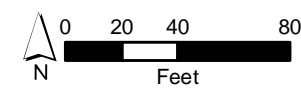
- Legend**
- Survey Area
 - Staging Yard
 - Vegetation Community
 - 1.14: Urban/Developed





Legend

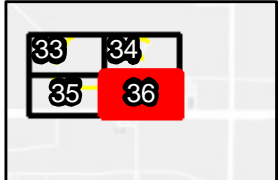
-  Survey Area
-  Staging Yard
- Vegetation Community
-  1.14: Urban/Developed





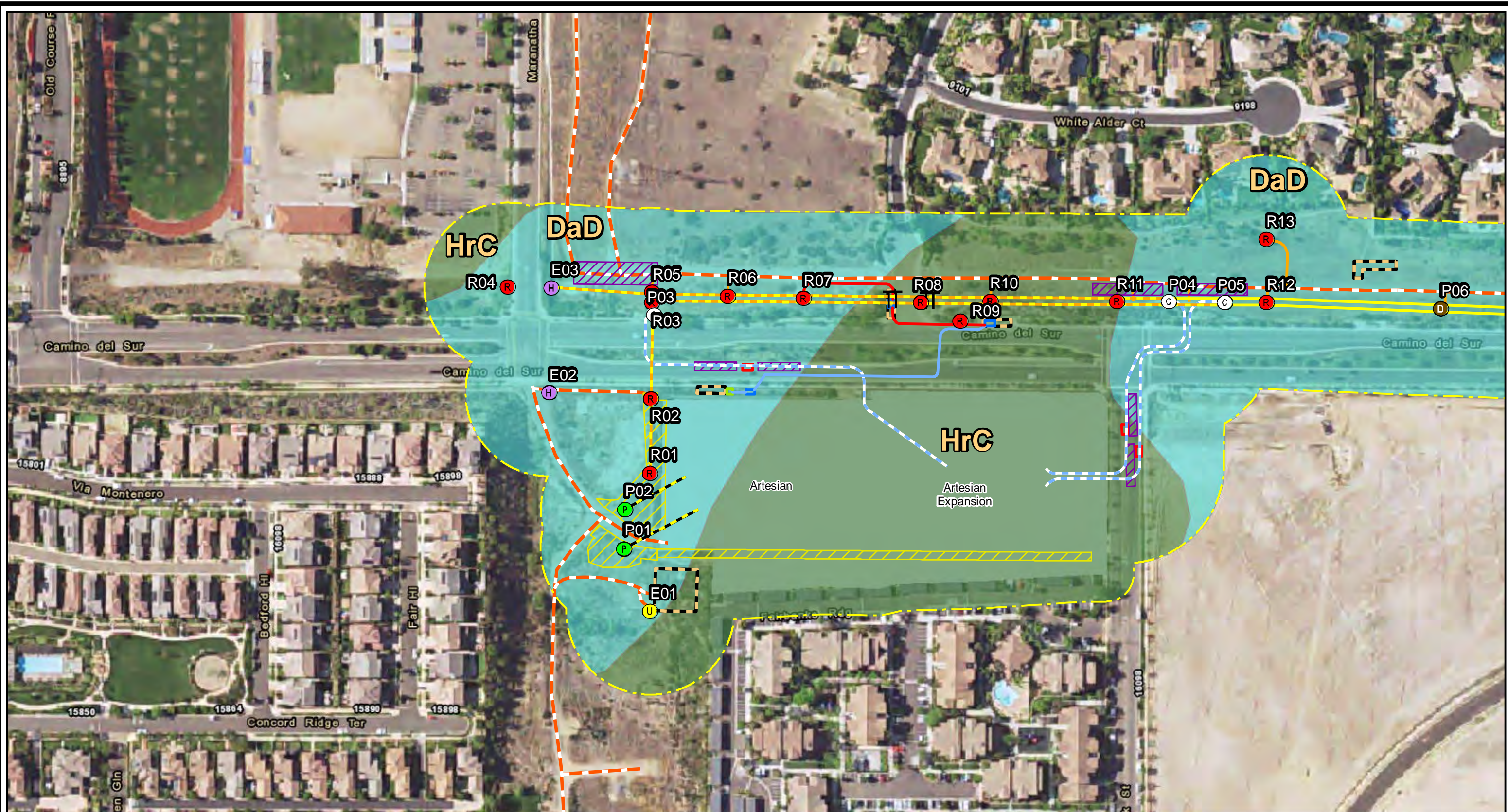
- Legend**
- Survey Area
 - Staging Yard
 - Vegetation Community
 - 1.14: Urban/Developed

Appendix A
Vegetation Communities Map
Page 34 of 34



APPENDIX B – SOILS MAP

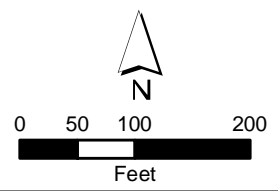




Legend

- | | | | | | |
|-----------------------|-----------------------------------|--------------------------------|--------------------------------|-----------------------------|------------------------|
| Survey Area | New UG Cable | Overhead to be Removed | Distribution Underground Route | Distribution Feature | Stringing/Pulling Site |
| Foundation cable pole | Remove from service | Overhead | Distribution | Existing | Work / Staging Area |
| Pier Foundation Pole | Guard Structure | Transmisson Line (Reconductor) | Underground Removal | Proposed | Access Road |
| Direct bury | Overhead Power Line (Reconductor) | Power Line Underground Route | Transmission Vault | Maintenance Pad & Road | Overland travel |
| Overhead work | | | | | |

- Soils Mapunit Name**
- DaD: Diablo clay, 9 to 15 percent slopes
 - HrC: Huerhuero loam, 2 to 9 percent slopes

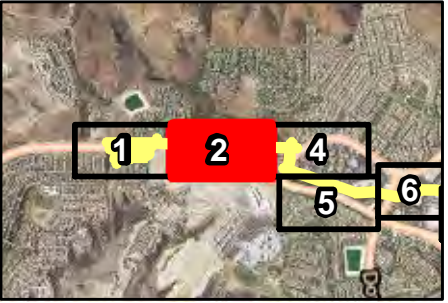


**Appendix B
Soils Map**



Legend

- Survey Area
- Access Road
- HrC: Huerhuero loam, 2 to 9 percent slopes
- SbC: Salinas clay loam, 2 to 9 percent slopes
- Overhead work
- Foot path
- OhC: Olivenhain cobbly loam, 2 to 9 percent slopes
- Guard Structure
- Overland travel
- DaD: Diablo clay, 9 to 15 percent slopes
- Overhead Power Line (Reconductor)
- Work / Staging Area

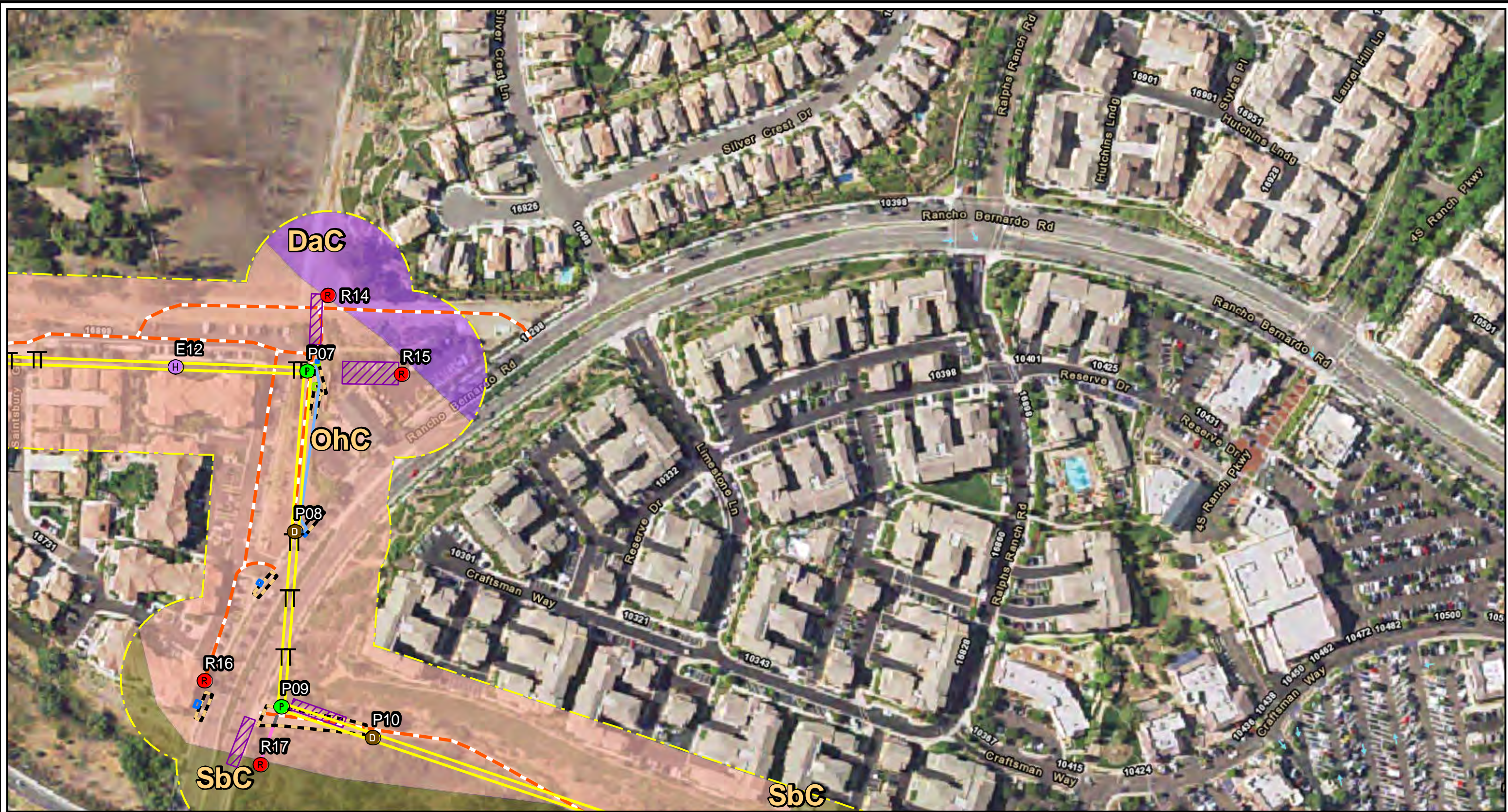


Appendix B
Soils Map

N

0 50 100 200
Feet

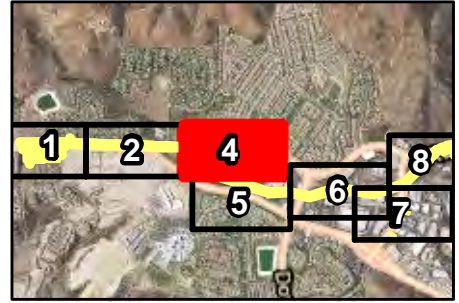
Page 2 of 11



Legend

- Survey Area
- Pier Foundation Pole
- Direct bury
- Overhead work
- Remove from service
- Guard Structure
- Overhead Power Line (Reconductor)
- Distribution Underground Route
- Existing Distribution Feature
- Proposed Distribution Feature
- Stringing/Pulling Site
- Work / Staging Area

- Access Road
- Foot path
- Soils Mapunit Name**
- DaC: Diablo clay, 2 to 9 percent slopes
- OhC: Olivenhain cobbly loam, 2 to 9 percent slopes
- SbC: Salinas clay loam, 2 to 9 percent slopes



Appendix B
Soils Map

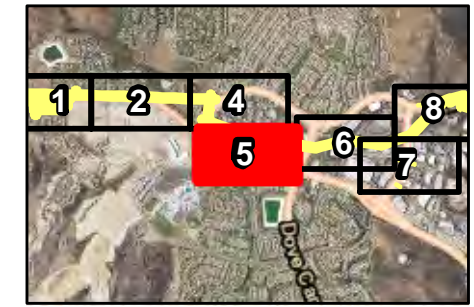
0 50 100 200
Feet

Page 3 of 11



Legend

- | | | | |
|----------------------|-----------------------------------|---|--|
| Survey Area | Guard Structure | Soils Mapunit Name | OhC: Olivenhain cobbly loam, 2 to 9 percent slopes |
| Pier Foundation Pole | Overhead Power Line (Reconductor) | SmE: San Miguel rocky silt loam, 9 to 30 percent slopes | |
| Direct bury | Stringing/Pulling Site | SbC: Salinas clay loam, 2 to 9 percent slopes | |
| Overhead work | Access Road | Foot path | |
| Remove from service | | | |

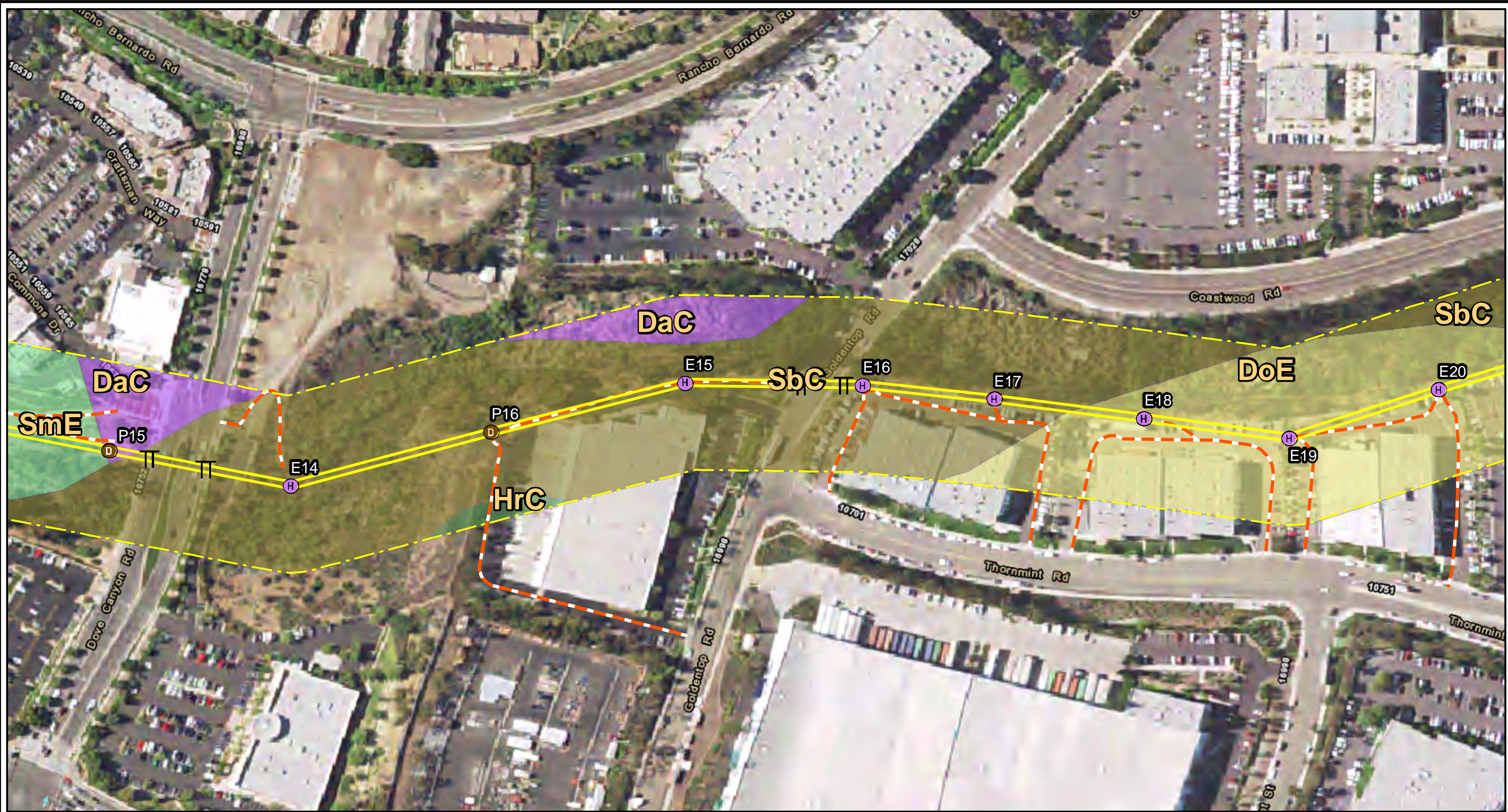


Appendix B
Soils Map

Page 4 of 11

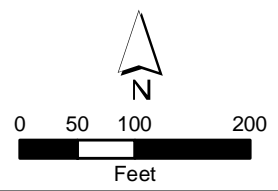
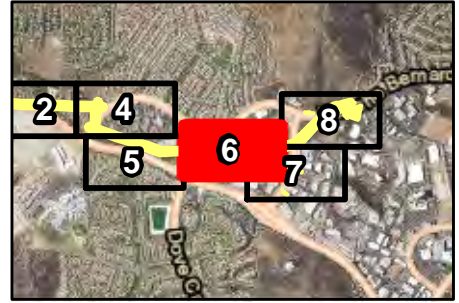
Name: 20824 BTR App B Soils_rev4.Mxd
Print Date: 8/8/2016, Author: stondre





Legend

- Survey Area
- Access Road
- HrC: Huerhuero loam, 2 to 9 percent slopes
- SmE: San Miguel rocky silt loam, 9 to 30 percent slopes
- DaC: Diablo clay, 2 to 9 percent slopes
- SbC: Salinas clay loam, 2 to 9 percent slopes
- DoE: Diablo-Olivenhain complex, 9 to 30 percent slopes
- D Direct bury
- H Overhead work
- Guard Structure
- Overhead Power Line (Reconductor)



Appendix B
Soils Map

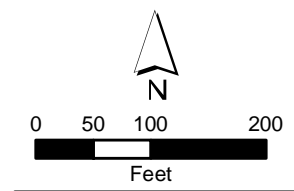
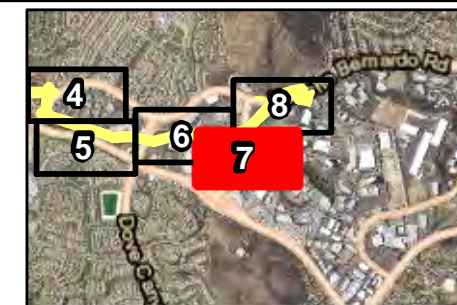


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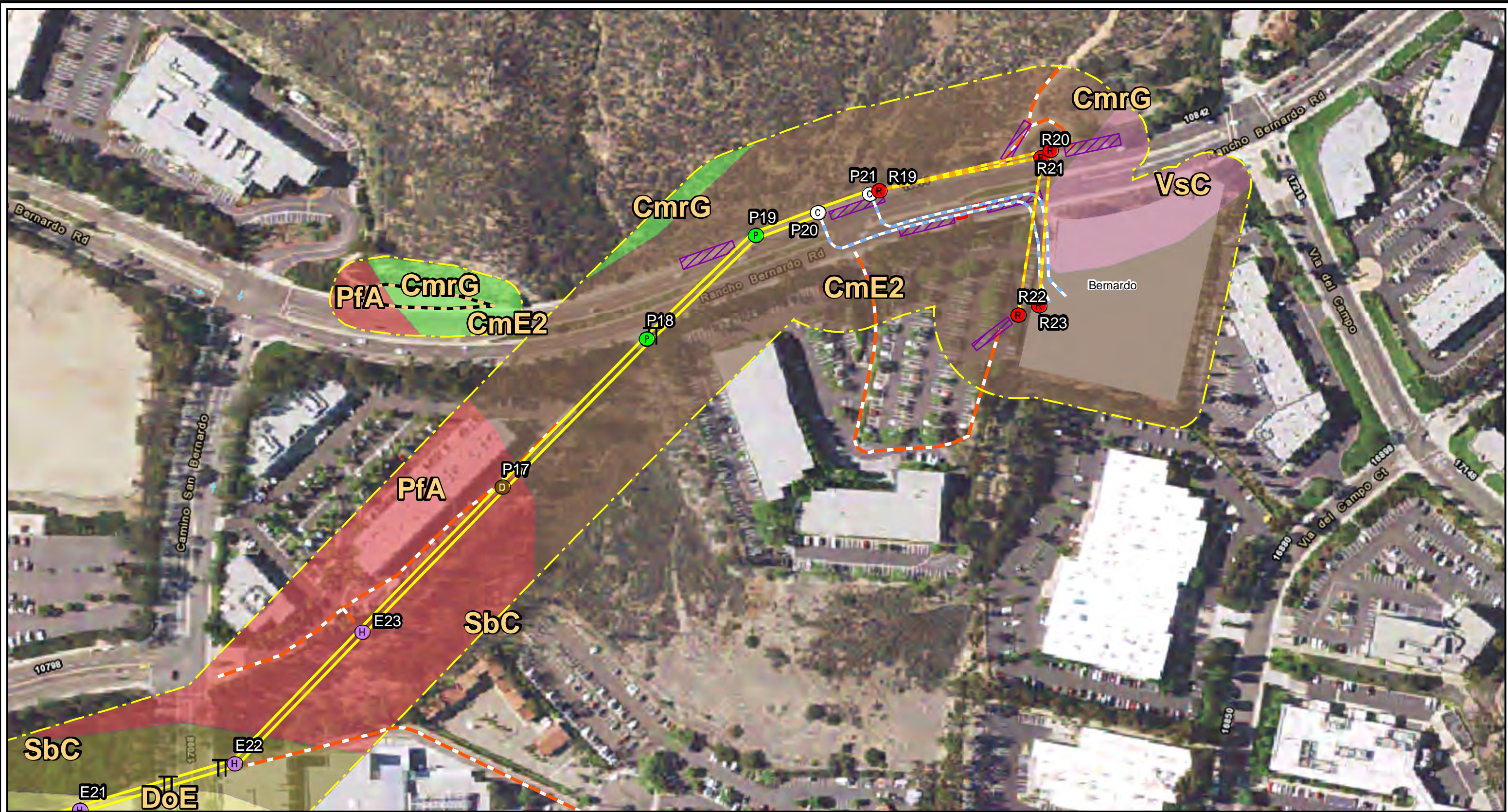
- Survey Area
- Overhead work
- Overhead Power Line (Reconductor)
- Work / Staging Area
- Access Road

- Soils Mapunit Name**
- DoE: Diablo-Olivenhain complex, 9 to 30 percent slopes
 - OhC: Olivenhain cobbly loam, 2 to 9 percent slopes

- OhE: Olivenhain cobbly loam, 9 to 30 percent slopes
- SbC: Salinas clay loam, 2 to 9 percent slopes



**Appendix B
Soils Map**

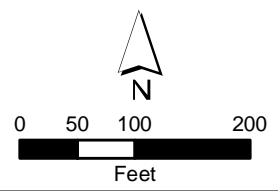


Legend

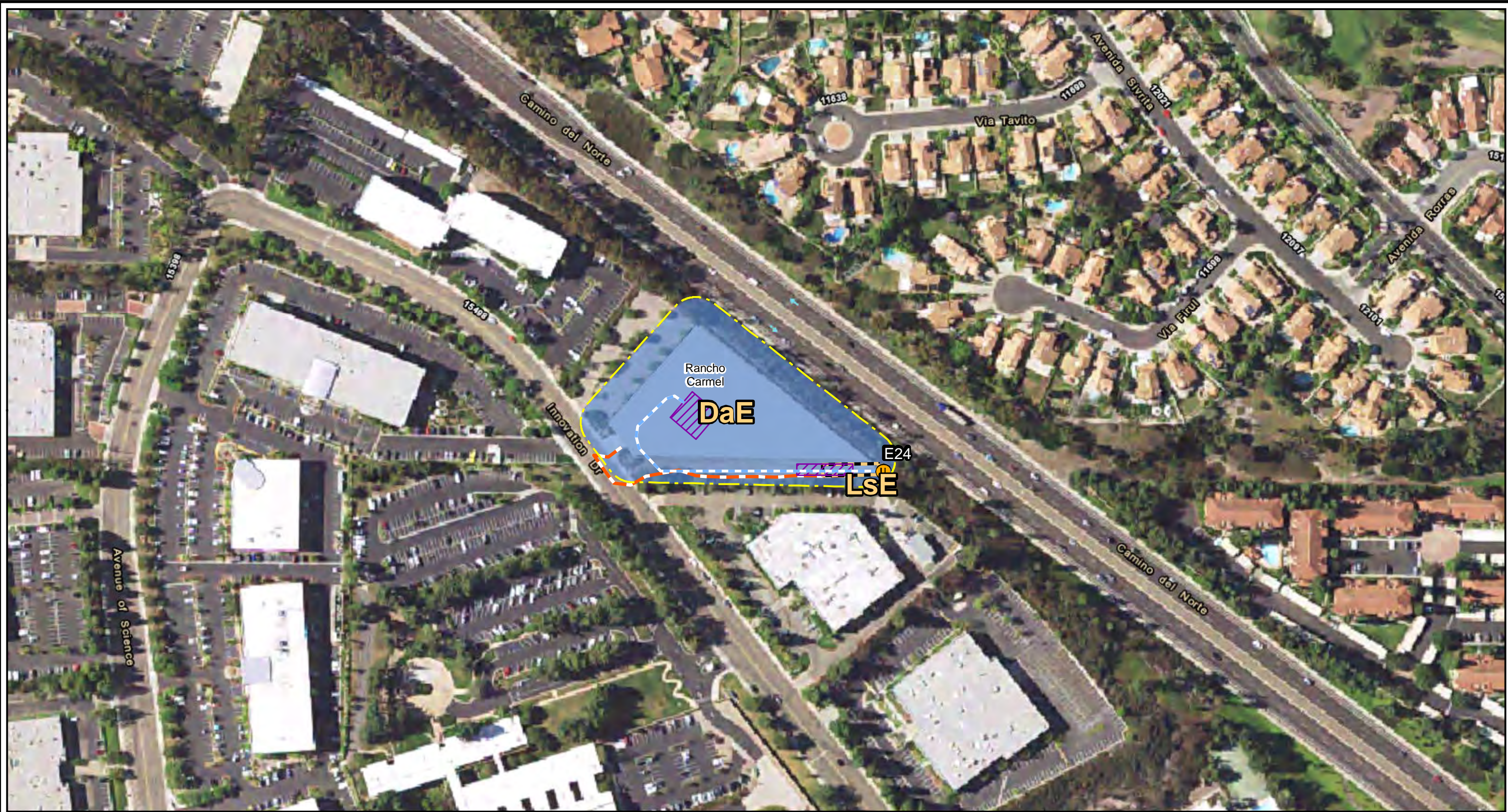
- Survey Area
- Foundation cable pole
- Pier Foundation Pole
- Direct bury
- Overhead work
- Power Line Underground Route
- Transmission Vault
- Stringing/Pulling Site
- Work / Staging Area
- Access Road
- Overhead Power Line (Reconductor)
- Overhead to be Removed
- Π Guard Structure

Soils Mapunit Name

- CmrG: Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes
- PfA: Placentia sandy loam, thick surface, 0 to 2 percent slopes
- VsC: Vista coarse sandy loam, 5 to 9 percent slopes
- CmE2: Cieneba rocky coarse sandy loam, 9 to 30 percent slopes, eroded
- SbC: Salinas clay loam, 2 to 9 percent slopes
- DoE: Diablo-Olivenhain complex, 9 to 30 percent slopes



**Appendix B
Soils Map**



- Legend**
- Survey Area
 - Access Road
 - Overhead work; new UG cable
 - Power Line Underground Route
 - Stringing/Pulling Site
 - Work / Staging Area
- Soils Mapunit Name**
- DaE: Diablo clay, 15 to 30 percent slopes
 - LsE: Linne clay loam, 9 to 30 percent slopes

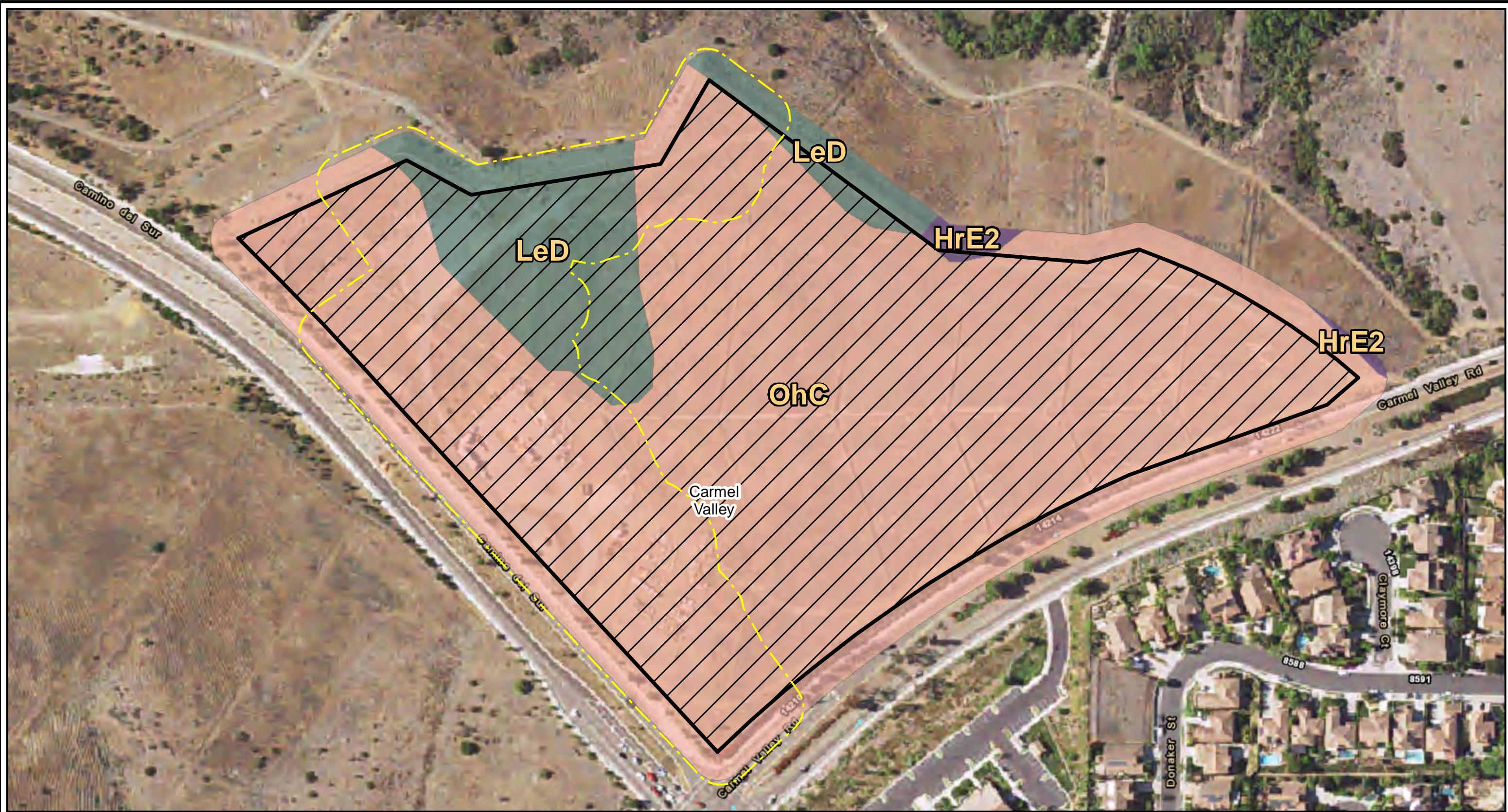


Appendix B
Soils Map

0 50 100 200
Feet

Page 8 of 11

Name: 20824 BTR App B Soils_rev4.Mxd
Print Date: 8/8/2016, Author: stondre



Legend

- Survey Area
- Staging Yard
- Soils Mapunit Name**
- LeD: Las Flores loamy fine sand, 9 to 15 percent slopes
- OhC: Olivenhain cobbly loam, 2 to 9 percent slopes
- HrE2: Huerhuero loam, 15 to 30 percent slopes, eroded



Appendix B
Soils Map

N

0 50 100 200
Feet

Page 9 of 11



- Legend**
- Survey Area
 - Staging Yard
- Soils Mapunit Name**
- RdC: Redding
gravelly loam, 2 to 9
percent slopes



Appendix B
Soils Map

0 50 100 200
Feet

Page 10 of 11



Legend

- Survey Area
- Staging Yard
- Soils Mapunit Name**
- Pfc: Placentia sandy loam, thick surface, 2 to 9 percent slopes



Appendix B
Soils Map

0 50 100 200
Feet

Page 11 of 11

**APPENDIX C – AQUATIC RESOURCE SUMMARY REPORT AND JURISDICTIONAL
RESOURCES MAP**



To: Tamara Spear
Environmental Specialist
SDG&E Environmental Services
8315 Century Park Court, CP21E
San Diego, CA 92123

From: Chambers Group, Inc.

Date: 11/18/15

RE: Aquatics Summary Report for the Artesian Substation Expansion Project

Aquatics Summary Report for the Artesian Substation Expansion Project, Within the City of San Diego and County of San Diego, California

San Diego Gas & Electric (SDG&E) proposes to expand the existing Artesian Substation (Proposed Project). Specifically, the existing 69/12 kilovolt (kV) Artesian Substation will be expanded to add a 230/69kV yard. The Proposed Project is located in the City of San Diego and County of San Diego (Figure 1).

The Proposed Project would include the following primary components:

- Expansion of the existing 69/12kV Artesian Substation to add a 230kV component;
- Reconnector of existing 69kV power lines located between the Artesian and Bernardo Substations, including the replacement of existing wood power line structures with new steel structures, as needed, and the removal of some existing power line structures from service;
- Construction of new underground 69kV power line getaways outside the existing Artesian and Bernardo Substations; and
- Minor distribution line upgrades, including the removal of existing distribution underbuild¹ and wood pole structures;
- Minor modifications at the existing Bernardo and Rancho Carmel Substations within the existing footprints.

The Proposed Project components are located in the western portion of San Diego County, with elements within both the City and unincorporated County of San Diego, California.

The Proposed Project alignment begins at the Artesian Substation near Babcock Street, continues east along Camino Del Sur, and terminates at the Bernardo Substation located south of the intersection of

¹ "Underbuild" refers to the practice where lower voltage conductor (typically distribution) is located on higher voltage structures, placed between the ground and the higher voltage lines.

Rancho Bernardo Road and Via Del Campo. Additional isolated Proposed Project features include the Four Gee Road Staging Yard northeast of the intersection of Camino Del Sur and Four Gee Road; work/staging areas along Thornmint Road and Willow Court; the Rancho Carmel Substation between Camino Del Norte and Innovation Drive; the Carmel Valley Road Staging Yard north of the intersection of Camino Del Sur and Carmel Valley Road; the Kearny Staging Yard northwest of the intersection of Clairemont Mesa Boulevard and Overland Avenue; and the Northeast Annex Staging Yard between East Mission Road and CA-78. The Proposed Project is located within the United States Geological Survey (USGS) *Escondido* and *Rancho Santa Fe* quadrangle maps, Section 30, Township 13, Range 02W (Figure 1).

The construction of the Proposed Project at the Artesian Substation site will occur within the existing property boundary and the adjacent parcel to the east owned by SDG&E. The minor work at the existing Bernardo Substation will not require any site development work at the substation site. The proposed work will require rearrangements and trenching inside the existing substation boundary, but will not require additional grading or other site development activities. The minor work at the existing Rancho Carmel Substation will not require any site development work at the substation site. The proposed work will require rearrangements and trenching inside and outside of the existing substation boundary, but will not require additional grading or other site development activities.

AQUATIC RESOURCE CONSTRAINTS MAPPING

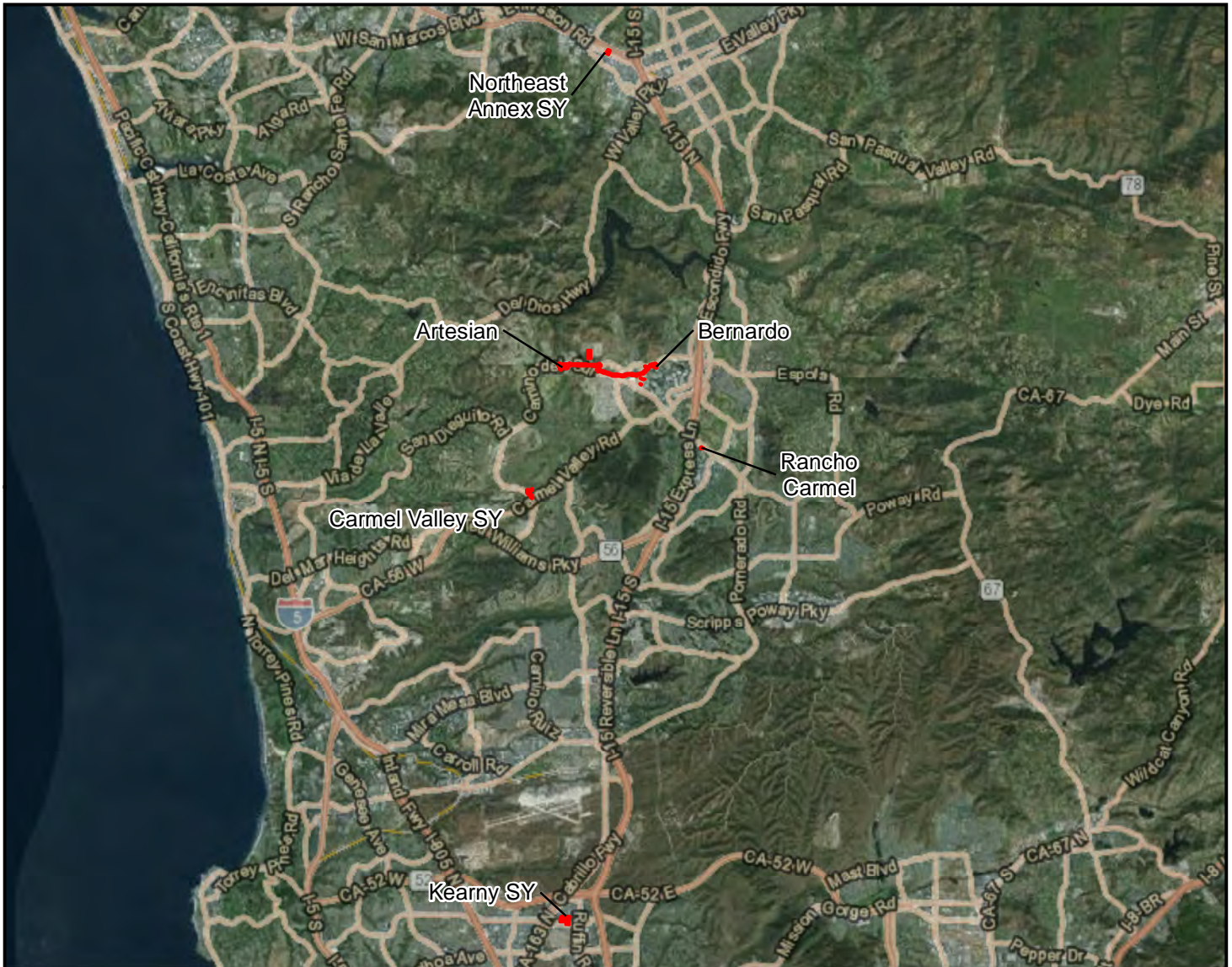
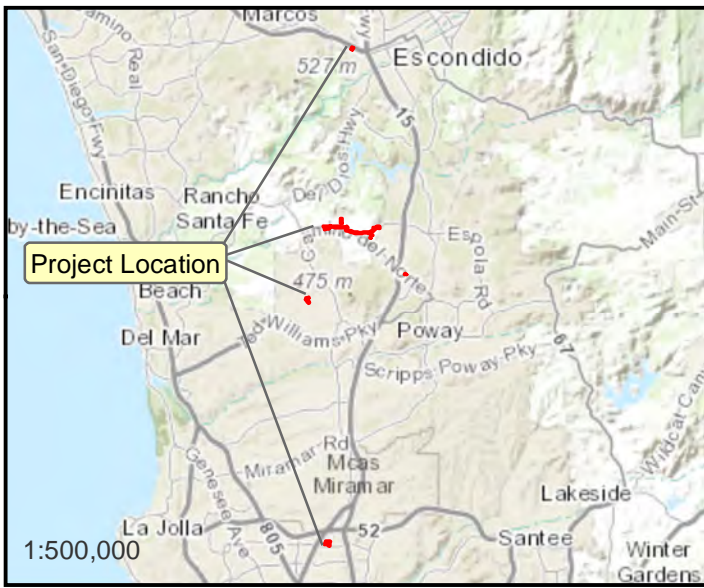
An aquatic constraints mapping effort was performed by RECON Environmental, Inc. (RECON) in 2014 to gather field data at potential wetland and non-wetland water resource areas under state or federal jurisdiction. Chambers Group and SDG&E conducted surveys to field verify and refine (as needed) the aquatic constraints map on September 9, 2015. An additional survey to determine if work area spaces could be located in areas outside of aquatic resources was conducted on Oct 7, 2015. Prior to performing the field surveys, Chambers Group conducted a desktop analysis that included U.S. Geological Survey quadrangle maps and blue-line drainages, Natural Resources Conservation Service soil survey maps (USDA 2015), National Wetland Inventory data (USFWS 2015), topographic maps, and data obtained from SDG&E.

The Proposed Project occurs within the San Dieguito watershed, hydrological unit (HU) 905 and is located entirely within San Diego County. The San Dieguito watershed includes the following tributaries: Santa Maria Creek, Santa Ysabel Creek, Cloverdale Creek, Temescal Creek, Boden Canyon Creek, Black Mountain Creek, and Kit Carson Creek. The watershed includes the following reservoirs: San Dieguito, Hodges, Poway, and Sutherland reservoirs. The San Dieguito River drains approximately 346 square miles and ranges from the Volcan Mountains and flows west into the San Dieguito Lagoon and ultimately into the Pacific Ocean.

The Proposed Project runs along an unnamed tributary to the San Dieguito River near pole locations E09 to E23 (Attachment 1). The unnamed tributary flows west and north for approximately 3.6 river miles to the confluence with the San Dieguito River, immediately downstream of the Lake Hodges Reservoir. The

San Dieguito River continues westward approximately 11 miles to the San Dieguito Lagoon and the Pacific Ocean near Del Mar, San Diego County.

The Survey Area consisted of a 150-foot area around the power line centerline, a 50-foot area around Proposed Project facilities (substations, staging yards, stringing sites, etc.), and a 20-foot area around Proposed Project access roads. The additional area was surveyed to include potential additional work space that may be required during normal construction activities.



Legend

 Project Location

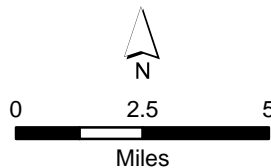


Figure 1
Project Location Map

SURVEY RESULTS

Based on the surveys conducted by RECON in 2014 and the field visits by Chambers Group and SDG&E in 2015, three aquatic features under the jurisdiction of USACE, RWQCB, and CDFW are located within the Proposed Project Survey Area, (see Attachment 1). Specific access to pole locations and the location of work areas were identified to avoid potential impacts to aquatic resources identified within the Survey Area. Based on the new design changes, no permanent and/or temporary impacts to wetland waters or non-wetland waters of the U.S. and/or waters of the State are anticipated. The aquatic features are summarized below:

- AF-1 is an isolated wetland comprised of arroyo willow – mule fat woodland habitat exists to the southwest of the Artesian Substation and pole locations E01 and P01 (Attachment 1, page 1). A historic NWI freshwater emergent wetland existed prior (2004) to development in the area. The historic wetland area is part of the headwaters of an unnamed tributary, which connects to the unnamed tributary of AF-2, and into the San Dieguito River which flows ultimately into the Pacific Ocean. This wetland area now appears to be fed by an existing culvert that receives water from the residential area to the east, and is located within an existing restoration area.
- AF-2 is an unnamed tributary near pole location E09 to pole location E23, spanning approximately 1.5 miles (Attachment 1, pages 2, 4, 5). The unnamed tributary flows west and north for approximately 3.6 river miles to the confluence with the San Dieguito River, immediately downstream of the Lake Hodges Reservoir. The San Dieguito River continues westward approximately 11 miles to the San Dieguito Lagoon and the Pacific Ocean near Del Mar, San Diego County. The NWI layers show this area to be comprised of freshwater emergent marsh and freshwater forested/shrub wetland areas. The riparian/wetland vegetation within this aquatic feature includes arroyo willow – mule fat woodland, sandbar willow thickets, cattail marshes, spiny rush marsh, pale spike rush marsh, and salt grass flats.
- AF-3 is an isolated riparian feature located along the northern boundary of Four Gee Road Staging Yard (Attachment 1, page 3). No historic aquatic feature is located at this location. The unnamed tributary described above is located approximately 590 feet from the southern boundary of the Four Gee Road Staging Yard. Cattail marshes and planted arroyo willow – mule fat woodland are located at the northeast corner and the along a portion of the northwestern boundary, respectively. No hydrological connectivity is associated with the unnamed tributary. The source of water for the cattails is likely associated with nuisance runoff and percolation from the surrounding residential units in the area.
- Non-jurisdictional features are also located within the Proposed Project Survey Area and include brow ditches to the south of the substation and a water detention basin to the west of the substation. Based on an analysis of historical aerial images and topographic maps, no historical

aquatic resource existed in the brow ditch or water detention basin areas. These man-made features were constructed within uplands as BMPs to address storm water surface flows and are therefore exempt from USACE, RWQCB, and CDFW jurisdiction.

AVOIDANCE OF AQUATIC RESOURCES

Pole locations E09, R17, R18, and E14 are located within jurisdictional areas. Pole locations P09, P10, P11, P12, P13, P14, E13, P15, P16, E15, E16 and stub pole, E17, E18, E19, E20, E21, E22, and E23 are located outside, but adjacent to jurisdictional areas. All poles will be accessed by boom truck from existing SDG&E access roads, city roads, or from paved parking areas.

Several changes to pole placement and work area locations have been made to avoid impacts to aquatic resources. The following sections describe the Proposed Project constraints that have been developed to avoid potential impacts.

Aquatic Feature 1

AF-1 is located outside of the proposed work areas. Access to the substation and other Proposed Project work areas (such as pole locations E01 and P01) will occur along existing access roads; therefore, no impacts to AF-1 are anticipated.

Aquatic Feature 2

Four poles and are located within or immediately adjacent to AF-2 and are described below:

- Pole location E09 is located within a sandbar willow thicket to the west of the intersection of Four Gee Road and Camino Del Sur. However, only pole top work is proposed for pole location E09. Access to pole location E09 will occur from the existing paved road with boom truck; therefore, no impacts to AF-2 at pole location E09 are anticipated.
- Stub pole location R17 (stub pole to existing wood structure at pole location P09) is located in upland vegetation immediately west of a wetland area comprised of salt grass (*Distichlis spicata*). The pole is to be removed from service and will be accessed by foot travel from the existing SDG&E access road. The pole will be cut in sections and removed from the area. The pole butt will be but at ground level and left in place to avoid disturbance (grubbing and excavation) within AF-2. Four anchors will be cut 12 to 18 inches from the surface. No impacts to AF-2 at stub pole location R17 are anticipated.
- Pole location R18 is located within arroyo willow – mule fat woodland habitat. In order to avoid construction-related and potential future maintenance-related impacts to AF-2, pole location R18 is to be removed from service. During construction, pole location R18 will be accessed by foot travel from the existing SDG&E access road and the pole will be cut in sections and

removed from the area. The pole butt will be cut at ground level and left in place to avoid disturbance (grubbing and excavation) within AF-2. Therefore, no impacts to AF-2 at pole location R18 are anticipated.

- Pole location E14 is located within spiny rush marsh immediately adjacent to arroyo willow – mule fat woodland community. However, only pole top work is proposed for pole location E14. During construction, pole location E14 will be accessed along the existing access road to within 30 feet of pole. Pole top work will occur from bucket truck which will be parked outside riparian/wetland community. A biological monitor will identify where truck should be parked to avoid impacts to AF-2. Emergent upland vegetation within existing (currently unmaintained) access road may require trimming/mow; no grading will occur, if possible. No impacts to AF-2 at pole location E14 are anticipated.

Aquatic Feature 3

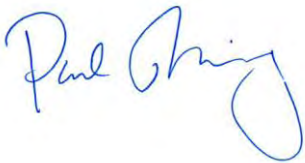
AF-3 is located along the northern boundary of the Four Gee Road Staging Yard. The boundary of the Four Gee Road Staging Yard has been redesigned to avoid impacts to the riparian community; therefore, no impacts to AF-3 are anticipated.

CONCLUSION

Chambers Group and SDG&E identified several pole locations within or immediately adjacent to aquatic resources. Specific access to pole locations and the location of the work areas were identified to avoid potential impacts to aquatic resources identified within the Survey Area. No permanent and/or temporary impacts to wetland waters or non-wetland waters of the U.S. and/or waters of the State are anticipated.

If you have any questions regarding this internal memo, please feel free to contact me at (949) 261-5414 extension 7288 or at pmorrissey@chambersgroupinc.com.

Respectfully submitted,



Paul Morrissey
Director of Biology
Chambers Group, Inc.

REFERENCES

U.S. Department of Agriculture

1973 *Soil Survey, San Diego Area, California*. Soil Conservation Service and Forest Service.

2015 Web Soil Survey. Natural Resource Conservation Service (NRCS). Accessed August 2015 from: <http://websoilsurvey.nrcs.usda.gov/>.

U.S. Fish and Wildlife Service (USFWS)

2015 National Wetlands Inventory Maps; Accessed May 2015 from: <http://www.fws.gov/wetlands/>.

ATTACHMENTS

Attachment 1 – JD Results Map

Attachment 2 – Aquatic Features Table 1

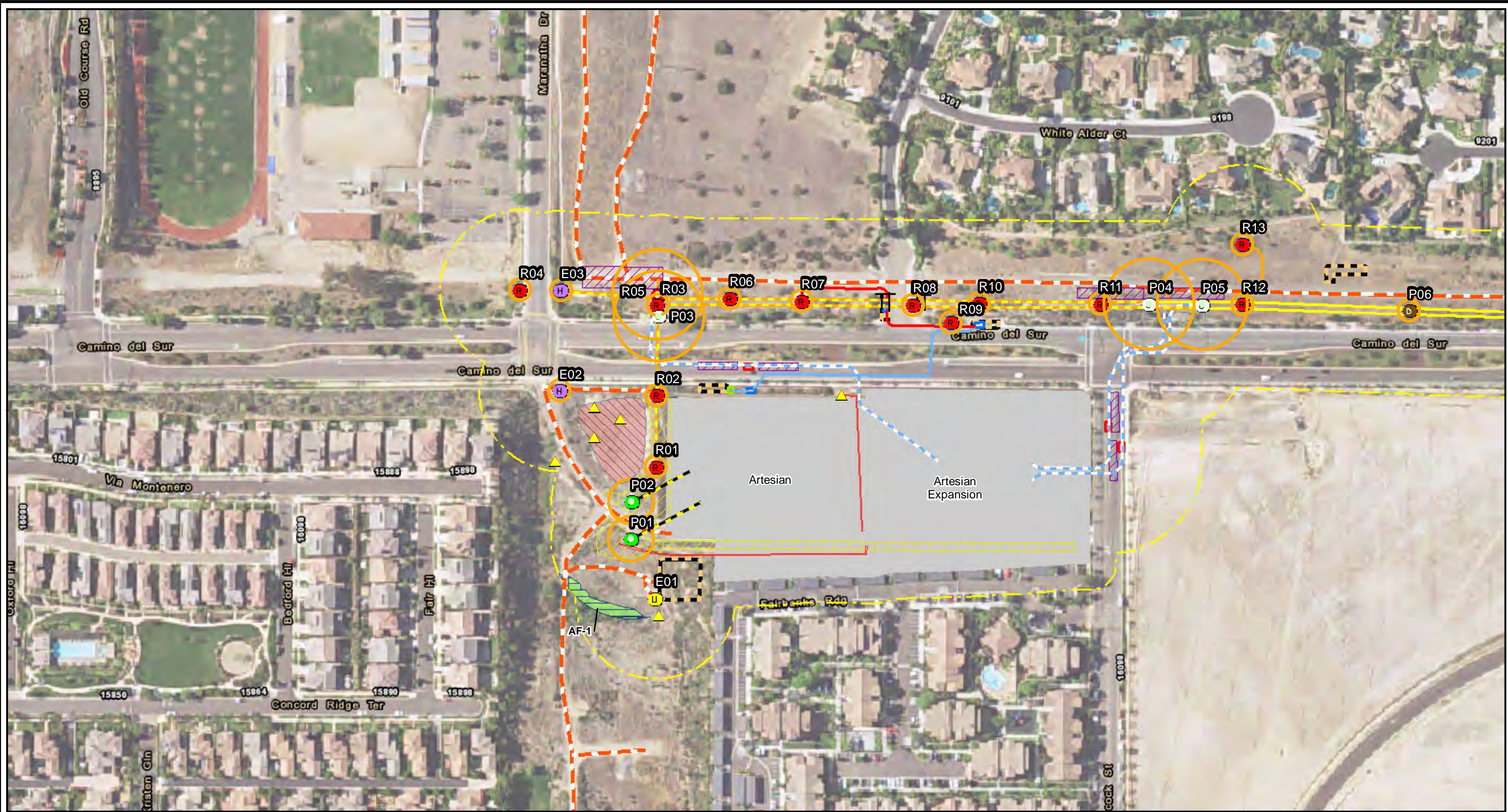
Attachment 3 – Aquatic Features Table 2

Attachment 4 – Photo Document

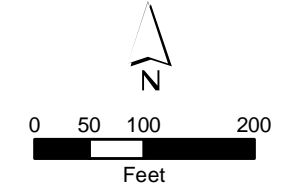
Attachment 5 – Historical Aerial Image of Aquatic Feature 1

ATTACHMENT 1 – JD RESULTS MAP





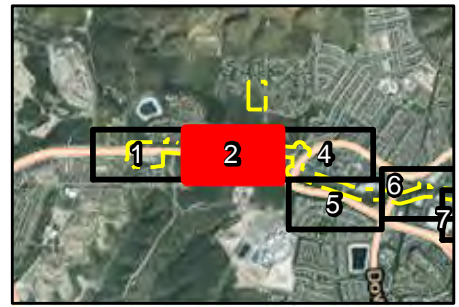
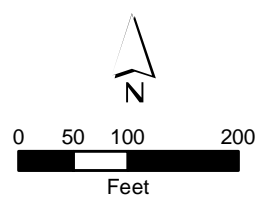
- Legend**
- | | | | |
|----------------------------|-----------------------------------|--|---------------------------|
| Pole Work Area (Permanent) | Overhead work | Overhead Transmission Line (Reconductor) | Stringing/Pulling Site |
| Pole Work Area (Temporary) | New UG Cable | Power Line Underground Route | Work / Staging Area |
| Survey Area | Remove from service | Distribution Underground Route | Access Road |
| Foundation cable pole | Guard Structure | Distribution Underground Removal | Overland travel |
| Pier Foundation Pole | Overhead Power Line (Reconductor) | Transmission Vault | Culvert |
| Direct bury | Overhead to be Removed | Existing | RWQCB Waters of the State |
| | | Proposed | Exempt (Brow Ditch) |
| | | Maintenance Pad & Road | Exempt (Basin) |



Attachment 1
Jurisdictional Resources Map



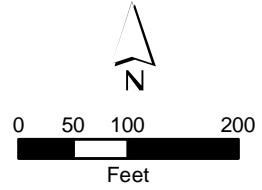
- Legend**
- Pole Work Area (Temporary)
 - Survey Area
 - Overhead work
 - Guard Structure
 - Overhead Power Line (Reconductor)
 - Work / Staging Area
 - Access Road
 - Foot path
 - Overland travel
 - Culvert
 - ACOE Non-wetland Waters of the U.S./RWQCB Waters of State
 - ACOE Wetland Waters of the U.S./RWQCB & CDFW Waters of State
 - CDFW Waters of State
 - Exempt (Brow Ditch)



Attachment 1
Jurisdictional Resources Map



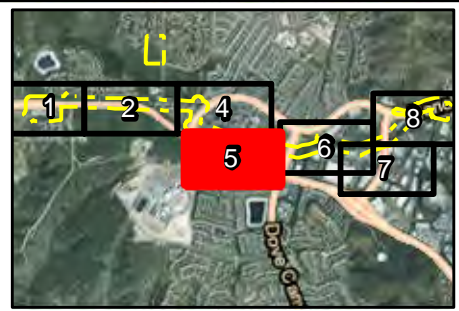
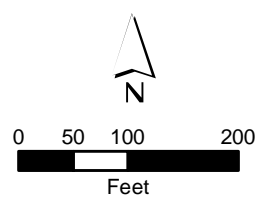
- Legend**
- Pole Work Area (Permanent)
 - Pole Work Area (Temporary)
 - Survey Area
 - P Pier Foundation Pole
 - Direct bury
 - Overhead work
 - Remove from service
 - TT Guard Structure
 - Work / Staging Area
 - Access Road
 - Foot path
 - Overhead Power Line (Reconductor)
 - Distribution Underground Route
 - Existing
 - Proposed
 - Stringing/Pulling Site
 - ACOE Wetland Waters of the U.S./RWQCB & CDFW Waters of State
 - CDFW Waters of State
 - Exempt (Brow Ditch)



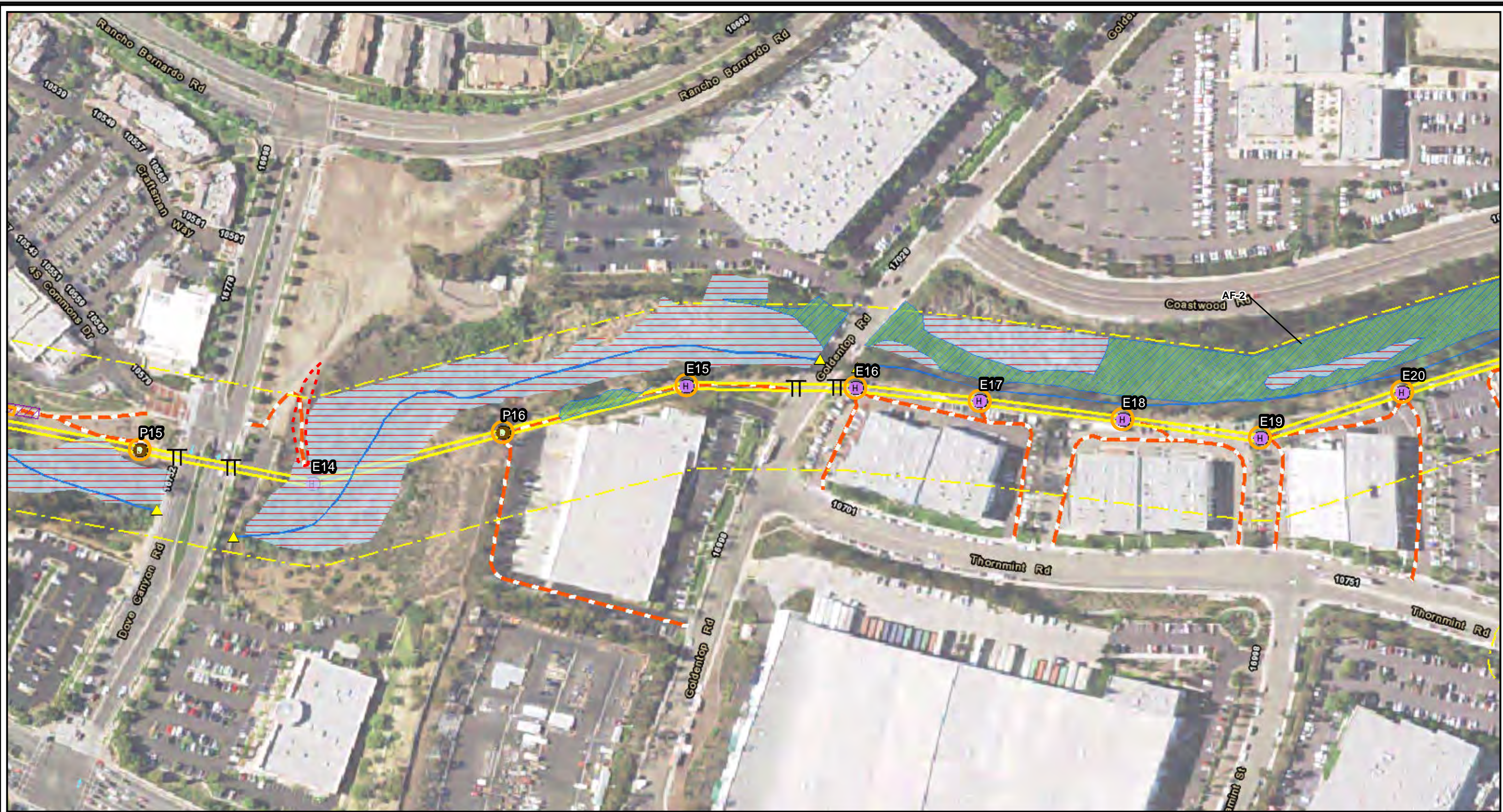
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Jurisdictional Resources Map



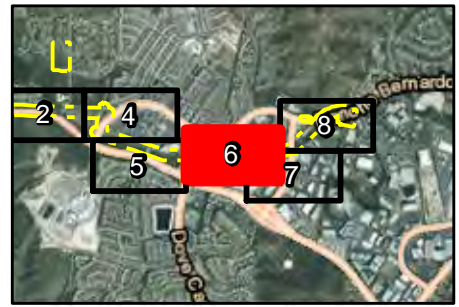
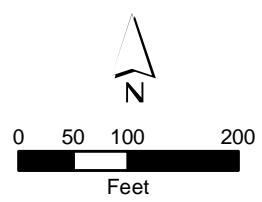
- Legend**
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 - Pole Work Area (Temporary)
 - Survey Area
 - Pier Foundation Pole
 - Direct bury
 - Overhead work
 - Remove from service
 - Guard Structure
 - Overhead Power Line (Reconductor)
 - Access Road
 - Foot path
 - ACOE Non-wetland Waters of the U.S./RWQCB Waters of State
 - ACOE Wetland Waters of the U.S./RWQCB & CDFW Waters of State
 - CDFW Waters of State



Attachment 1 Jurisdictional Resources Map



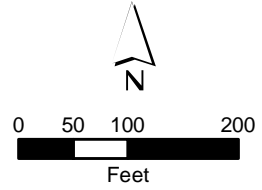
- Legend**
- Pole Work Area (Permanent)
 - Pole Work Area (Temporary)
 - Survey Area
 - D Direct bury
 - H Overhead work
 - Guard Structure
 - Overhead Power Line (Reconductor)
 - Stringing/Pulling Site
 - Access Road
 - Culvert
 - ACOE Non-wetland Waters of the U.S./RWQCB Waters of State
 - ACOE Wetland Waters of the U.S./RWQCB & CDFW Waters of State
 - CDFW Waters of State



Attachment 1 Jurisdictional Resources Map



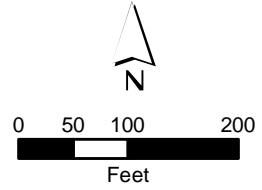
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 - Survey Area
 - Overhead work
 - Guard Structure
 - Overhead Power Line (Reconductor)
 - Work / Staging Area
 - Access Road
 - ACOE Non-wetland Waters of the U.S./RWQCB Waters of State
 - ACOE Wetland Waters of the U.S./RWQCB & CDFW Waters of State
 - CDFW Waters of State



Attachment 1
Jurisdictional Resources Map

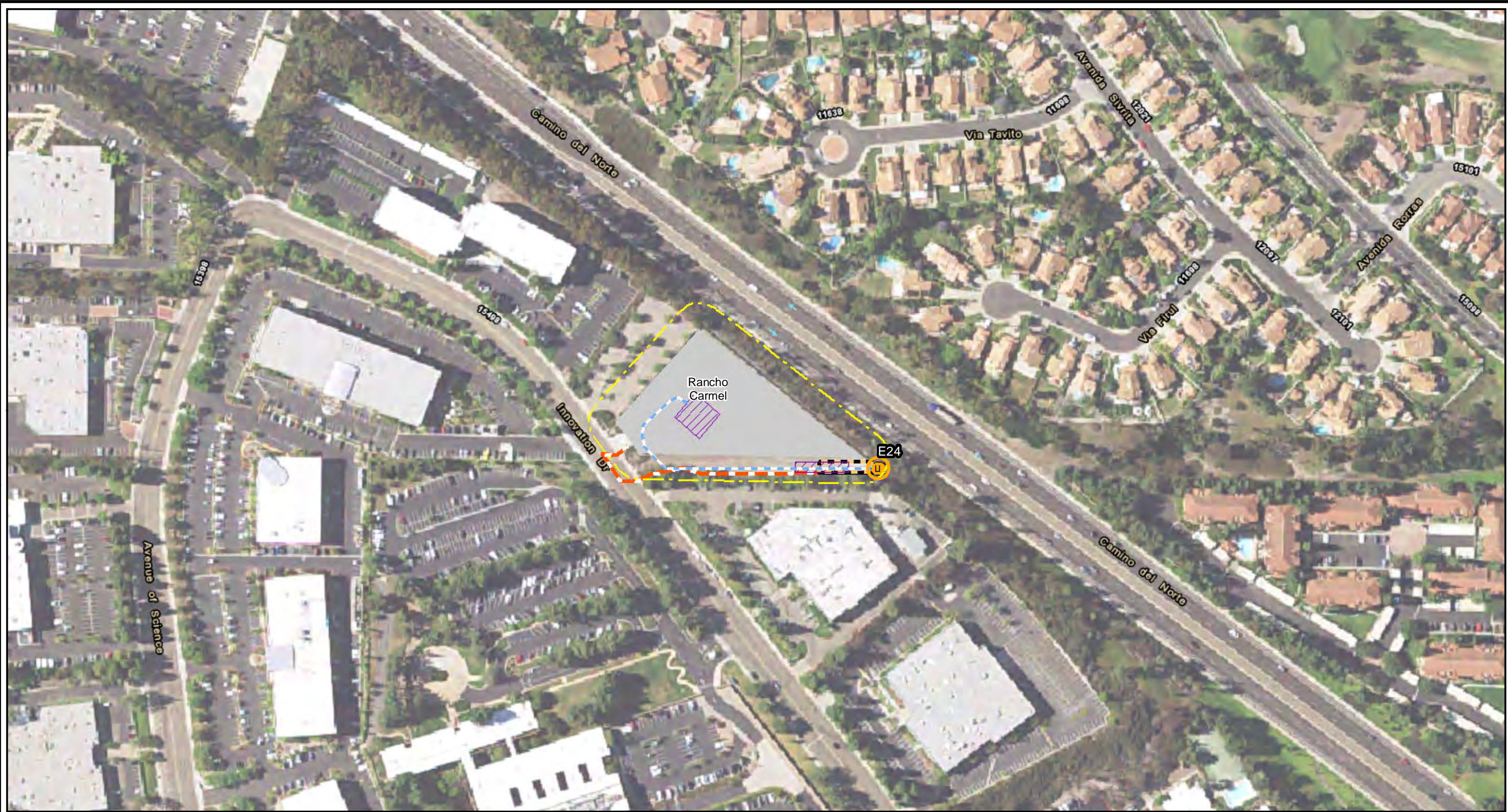


- Legend**
- Pole Work Area (Permanent)
 - Pole Work Area (Temporary)
 - Survey Area
 - Foundation cable pole
 - Pier Foundation Pole
 - Direct bury
 - Overhead work
 - Remove from service
 - Work / Staging Area
 - Access Road
 - Culvert
 - ACOE Non-wetland Waters of the U.S./RWQCB Waters of State
 - CDFW Waters of State
 - Exempt (Brow Ditch)
 - Guard Structure
 - Overhead Power Line (Reconductor)
 - Overhead to be Removed
 - Power Line Underground Route
 - Transmission Vault
 - Stringing/Pulling Site

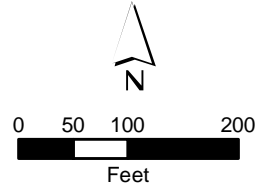


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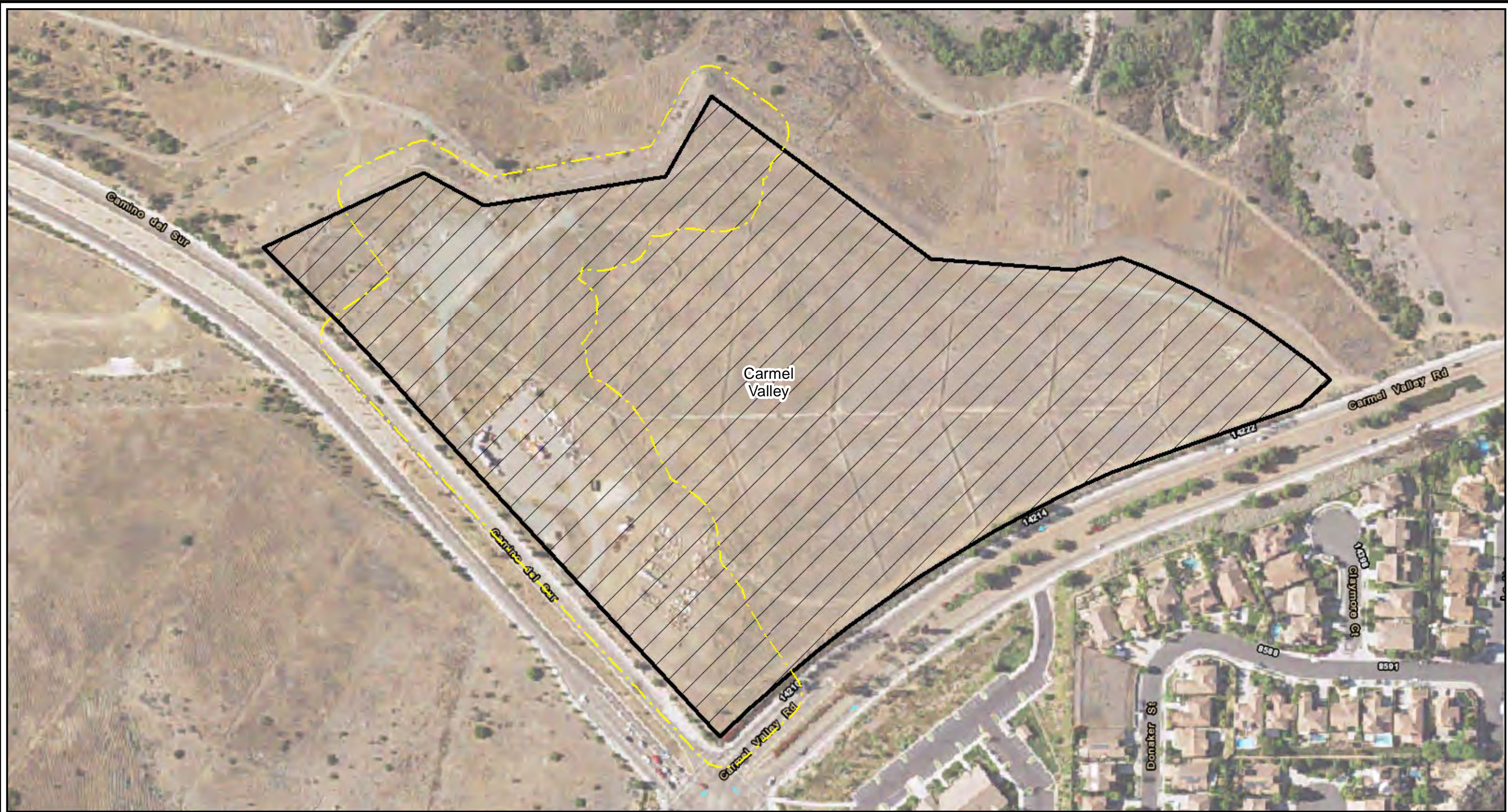




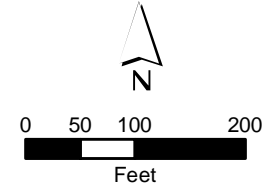
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 - Power Line Underground Route
 - Stringing/Pulling Site
 - Work / Staging Area
 - Access Road



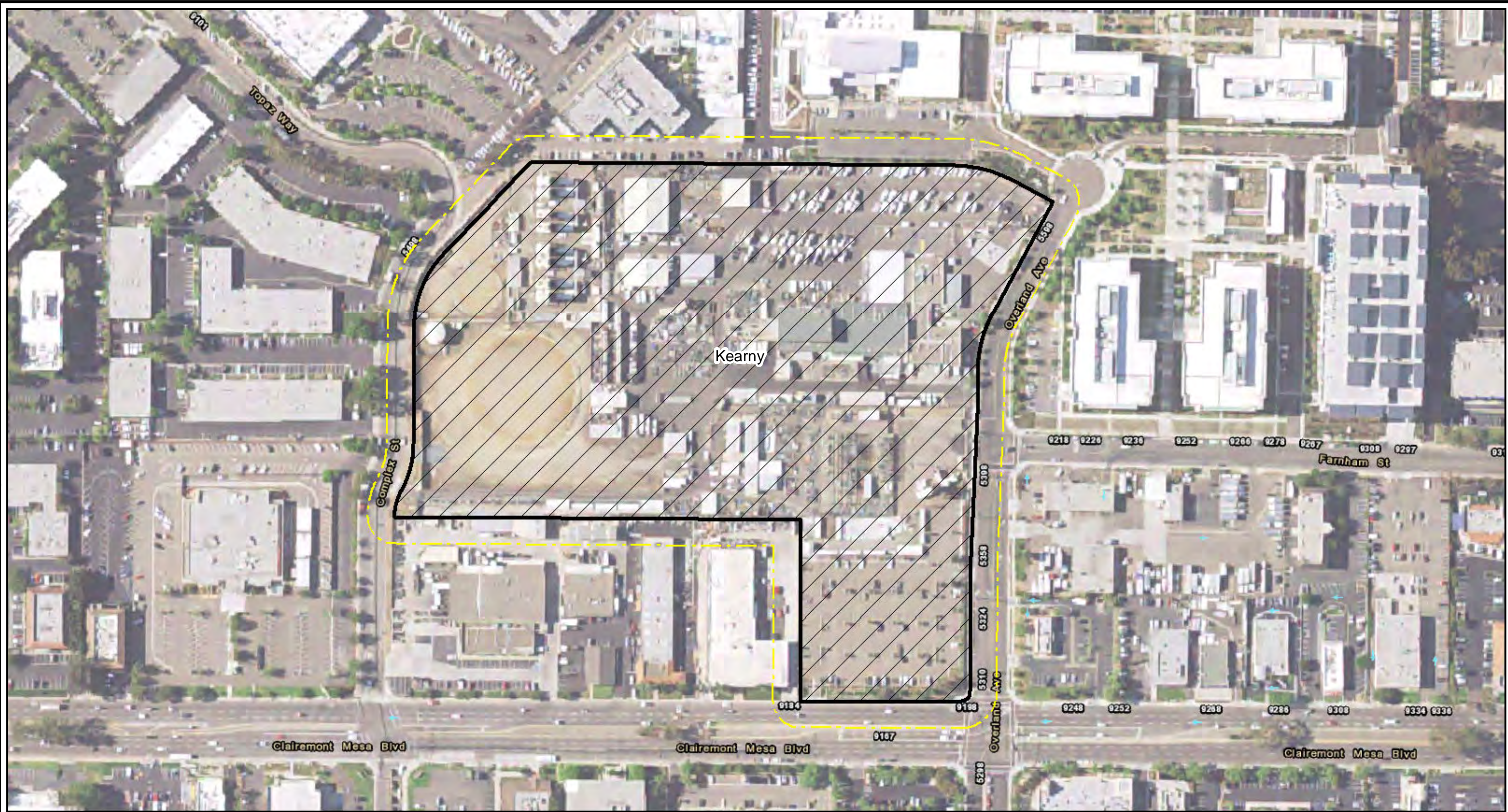
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Jurisdictional Resources Map



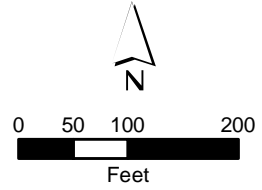
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- Survey Area
 - Staging Yard



Attachment 1
Jurisdictional Resources Map



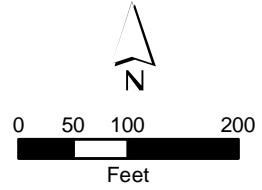
- Legend**
- Survey Area
 - Staging Yard



Attachment 1
Jurisdictional Resources Map



- Legend**
- Survey Area
 - Staging Yard



Attachment 1
Jurisdictional Resources Map

ATTACHMENT 2 – AQUATIC FEATURES TABLE 1



Table 1. Aquatic Feature Location and Description Table

Feature Number	Location Description	Jurisdictional Determination Reasoning	Agency Jurisdiction	Map Page Number(s)
AF-1	Located southwest of the Artesian Substation.	AF-1 is an isolated wetland comprised of arroyo willow – mule fat woodland habitat exists to the southwest of the Artesian Substation and pole locations E01 and P01 (Attachment 1, page 1). A historic NWI freshwater emergent wetland existed prior (2004) to development in the area. The historic wetland area is part of the headwaters of an unnamed tributary, which connects to the unnamed tributary of AF-2, and into the San Dieguito River which flows ultimately into the Pacific Ocean. This wetland area now appears to be fed by an existing culvert that receives water from the residential area to the east, and is located within an existing restoration area.	RWQCB	1
AF-2	The Proposed Project runs along an unnamed tributary from the headwaters near pole location E09 to E23, spanning approximately 1.5 miles.	AF-2 is an unnamed tributary near pole location E09 to pole location E23, spanning approximately 1.5 miles (Attachment 1, pages 2, 4, 5). The unnamed tributary flows west and north for approximately 3.6 river miles to the confluence with the San Dieguito River, immediately downstream of the Lake Hodges Reservoir. The San Dieguito River continues westward approximately 11 miles to the San Dieguito Lagoon and the Pacific Ocean near Del Mar, San Diego County. The NWI layers show this area to be comprised of freshwater emergent marsh and freshwater forested/shrub wetland areas. The riparian/wetland vegetation within this aquatic feature includes arroyo willow – mule fat woodland, sandbar willow thickets, cattail marshes, spiny rush marsh, pale spike rush marsh, and salt grass flats.	USACE/RWQCB/ CDFW	2, 4, 5
AF-3	AF-3 located along Four Gee Road at the Four Gee Staging Yard	AF-3 is an isolated riparian feature located along the northern boundary of Four Gee Road Staging Yard (Attachment 1, page 3). No historic aquatic feature is located at this location. The unnamed tributary described above is located approximately 590 feet from the southern boundary of the Four Gee Road Staging Yard. Cattail marshes and planted arroyo willow – mule fat woodland are located at the northeast corner and the along a portion of the northwestern boundary, respectively. No hydrological connectivity is associated with the unnamed tributary. The source of water for the cattails is likely associated with nuisance runoff and percolation from the surrounding residential units in the area.	RWQCB	3

ATTACHMENT 3 – AQUATIC FEATURES TABLE 2



Attachment 3 - Aquatics Table 2 for the Artesian Substation Expansion Project

San Diego County, California

Feature Number	Pole/Work Areas	Agency Jurisdiction	Project Impacts/ Constraints	Map Page Number(s)	Photograph
AF-1	Artesian Substation, E01, P01, and access roads	RWQCB	Isolated feature located outside of proposed work areas. Access to the Artesian Substation, E01, and P01 will occur along existing access roads. No impacts to AF-1 are anticipated.	1	1-3
AF-2	Pole E09 is located to the west of intersection of Four Gee Road and Camino del Sur.	USACE/RWQCB/CDFW	The proposed work area for pole E09 is located within AF-2. Only pole top work is proposed for pole location E09. Access to pole E09 is from existing paved road with boom truck. No impacts to AF-2 are anticipated.	2	4
AF-2	Stub Pole R17 (stub to pole P9) is located northeast of the intersection of Rancho Bernardo Rd and Camino del Sur.	USACE/RWQCB/CDFW	Stub pole R17 is located in upland vegetation, adjacent to wetland area comprised of salt grass (<i>Distichlis spicata</i>). Pole is to be removed from service and will be accessed by foot travel. The crew will park along the existing SDG&E access road to the north of the pole or from Rancho Bernardo Road to the west, walk in, cut pole, and remove. Four anchors will be cut 12 to 18 inches from surface. No impacts to AF-2 are anticipated.	2	5-6
AF-2	Poles P09, P10, P11, and P12 are located adjacent (north) along the AF-2.	USACE/RWQCB/CDFW	AF-2 is located outside of work areas. Poles P09, P10, P11, and P12 are located immediately north of AF-2 and can be accessed from the existing access road with boom truck. No impacts to AF-2 are anticipated.	2, 4	7-10
AF-2	Pole R18 is located west of the intersection of 4S Ranch Pkwy and Camino del Norte.	CDFW	R18 is located within arroyo willow – mule fat woodland, within CDFW (riparian) jurisdiction only. This pole will be removed from service and will be accessed by foot travel. The crew will park along the existing access road, walk in, cut pole, and remove. No impacts to AF-2 are anticipated.	4	11-12

Attachment 3 - Aquatics Table 2 for the Artesian Substation Expansion Project

San Diego County, California

Feature Number	Pole/Work Areas	Agency Jurisdiction	Project Impacts/ Constraints	Map Page Number(s)	Photograph
AF-2	Poles P13, P14, E13, and P15 are located between 4S Ranch Pkwy and Dove Canyon Road, north of Camino del Norte.	USACE/RWQCB/CDFW	<p>Feature occurs to the south of work areas.</p> <p>Poles P13, P14, E13, and P15 are located in upland vegetation immediately north of riparian system and can be accessed from road with boom truck.</p> <p>No impacts to AF-2 are anticipated.</p>	4	13-16
AF-2	Pole E14 is located northeast of the intersection of Dove Canyon Rd and Camino del Norte.	USACE/RWQCB/CDFW	<p>Pole E14 is located within spiny rush marsh immediately adjacent to arroyo willow – mule fat woodland.</p> <p>Only pole top work is proposed for pole location E14.</p> <p>Bucket truck which will be parked along access road to within 30 feet of pole, at a location outside riparian/wetland community.</p> <p>Biological monitor will identify where truck should be parked to avoid impacts.</p> <p>Emergent upland vegetation within access road may require trimming/mow; no grading if possible.</p> <p>No impacts to AF-2 are anticipated.</p>	4	17-18
AF-2	Poles P16, E15, E16 and stub pole, E17, E18, E19, E20, E21, E22, and E23 are located along AF-2 between Goldentop Rd and Rancho Bernardo Rd.	USACE/RWQCB/CDFW	<p>AF-2 occurs to outside of proposed work areas and pole locations.</p> <p>P16, E15, E16 and stub pole, E17, E18, E19, E20, E21, E22, and E23 are located in upland vegetation or in developed areas immediately south of riparian system and can be accessed from parking lot area with boom truck.</p> <p>No impacts to feature are anticipated.</p>	5	19-34
AF-3	AF-3 located along Four Gee Road at the Four Gee Staging Yard	RWQCB	<p>AF-3 is located along the northern boundary of the Four Gee Staging Yard.</p> <p>The boundary of the Four Gee Staging Yard will be shifted to avoid the riparian vegetation.</p> <p>No impacts to aquatic features are anticipated.</p>	3	35

ATTACHMENT 4 – PHOTO DOCUMENT



ATTACHMENT 4 – SITE PHOTOGRAPHS



Photograph 1. View of Aquatic Feature (AF)-1, an isolated wetland comprised of arroyo willow-mule fat woodland. AF-1 is located southwest of the Artesian Substation, south of P01, and outside of proposed work areas. An existing dirt access road will be used to access the Artesian Substation and other work areas. Note an existing dirt access road for TL6920 separates this aquatic feature from P01. No impacts to AF-1 are anticipated. Photo taken November 13, 2015 facing south.



Photograph 2. View of location for P01, north of AF-1. P01 and the Artesian substation will be accessed from an existing paved access road (pictured) north of the pole and impacts to AF-1 will be avoided. An existing dirt access road for TL6920 separates AF-1 from the location for P01. Photo taken November 13, 2015 facing south.



Photograph 3. Another view of AF-1, separated from P01 by an existing dirt access road to TL6920. Photo taken November 13, 2015 facing southeast.



Photograph 4. View of pole E09, within an unnamed tributary of the San Dieguito River (AF-2). E09 is located within sandbar willow thickets and is adjacent to cattail marshes and pale spike rush marshes. Access will be from an existing dirt access road, and no impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing west.



Photograph 5. View of stub pole R17 which is to be removed from service, is located in upland vegetation west of salt grass flats (in yellow) within AF-2. R17 will be accessed by foot travel from the access road and no impacts to AF-2 are anticipated. Photo taken September 9, 2015 facing southeast.



Photograph 6. Another view of stub pole R17, showing location of pole in reference to salt grass flats within AF-2. Photo taken September 9, 2015 facing south. R17 will be accessed by footpath through upland vegetation from the existing access road.



Photograph 7. View of pole P09, located north of salt grass flats within AF-2. Access to P09 will occur from an existing dirt access road, located between AF-2 and P09. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing south.



Photograph 8. View of pole P10, located north of arroyo willow-mule fat woodland and spiny rush marsh within AF-2. Access to P10 will be from an existing dirt access road immediately north of the pole. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing southwest.



Photograph 9. View of pole P11, located north of arroyo willow-mule fat woodland and spiny rush marsh within AF-2. Access to P11 will be from an existing dirt access road, located between AF-2 and P11. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing west.



Photograph 10. View of pole P12, located north of arroyo willow-mule fat woodland and spiny rush marsh within AF-2. Access to P12 will be from an existing dirt access road, located between AF-2 and P12. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing southeast.



Photograph 11. View of pole R18, located within arroyo willow-mule fat woodland (within CDFW jurisdiction only) within AF-2. R18 will be removed from service and will be accessed by foot travel. The crew will park along the existing access road, walk in, cut pole, and remove. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing southeast.



Photograph 12. Another view of pole R18, located within AF-2. This pole will be removed from service and will be accessed by foot travel. The crew will park along the existing access road, walk in, cut pole, and remove. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing south from access road to pole.



Photograph 13. View of pole P13, located north of arroyo willow-mule fat woodland and spiny rush marsh within AF-2. Access to P13 will be from an existing dirt access road, located immediately north of P13. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing southeast.



Photograph 14. View of pole P14, located north of arroyo willow-mule fat woodland within AF-2. Access to P14 will be from an existing dirt access road, located immediately north of P14. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing east.



Photograph 15. View of pole E13, located north of arroyo willow-mule fat woodland and cattail marshes within AF-2. Access to E13 will be from an existing dirt access road, located immediately north of E13. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing southeast.



Photograph 16. View of pole P13, located north of arroyo willow-mule fat woodland and cattail marshes within AF-2. Access to P15 will be from an existing dirt access road, located immediately north of P15. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing southeast.



Photograph 17. View of pole E14, located within spiny rush marsh and immediately adjacent to northwest of arroyo willow-mule fat woodland, within AF-2. Access to E14 will be from an existing dirt access road north of the pole that comes within 30 feet of the pole. Pole top work will be performed from the access road (and outside of AF-2) by a bucket truck. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing southeast.



Photograph 18. Another view of the existing access road that will be used to access pole E14. Photo taken September 9, 2015 facing north. Vegetation trimming within the access road may be necessary. Grading of road is not anticipated at this time.



Photograph 19. View of pole P16, located south of arroyo willow-mule fat woodland within AF-2. Access to pole will be from an existing paved parking lot (see Photograph 20). No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing north.



Photograph 20. Another view of pole P16, located upslope of AF-2. Photo shows paved parking lot south of P16, which will be used for access. Photo taken November 13, 2015 facing west.



Photograph 21. View of pole E15, located south of arroyo willow-mule fat woodland within AF-2. Access to pole will be from an existing dirt access road from the west. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing northeast.



Photograph 22. View of pole E16, located south of arroyo willow-mule fat woodland within AF-2. Access to pole will be from an existing paved parking lot. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing northeast.



Photograph 23. A closer view of AF-2 located north of E16. Photo taken November 13, 2015 facing northeast while standing just northeast of pole E16.



Photograph 24. View of pole E17, located south of arroyo willow-mule fat woodland and cattail marshes within AF-2. Access to pole will be from an existing paved parking lot. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing northeast.



Photograph 25. Another view of pole E17, located south of arroyo willow-mule fat woodland and cattail marshes within AF-2. Photo taken November 13, 2015 facing northeast.



Photograph 26. View of pole E18, located south of arroyo willow-mule fat woodland and cattail marshes within AF-2. Access to pole will be from an existing paved parking lot. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing northeast.



Photograph 27. Another view of pole E18, located south of arroyo willow-mule fat woodland and cattail marshes within AF-2. Photo taken November 13, 2015 facing southeast.



Photograph 28. View of pole E19, located south of arroyo willow-mule fat woodland and cattail marshes within AF-2. Access to pole will be from an existing paved parking lot. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing northeast.



Photograph 29. A closer view of arroyo willow-mule fat woodland and cattail marshes within AF-2, north of E19. Photo taken November 13, 2015 facing southwest from just northeast of E19.



Photograph 30. View of pole E20, located south of arroyo willow-mule fat woodland and cattail marshes within AF-2. Access to pole will be from an existing paved parking lot. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing northwest.



Photograph 31. View of pole E21, located south of arroyo willow-mule fat woodland within AF-2. Access to pole will be from an existing paved parking lot and along a path by the commercial properties. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing west.



Photograph 32. View of pole E22, located south of arroyo willow-mule fat woodland within AF-2. Access to pole will be from Camino San Bernardo and a small path behind the commercial properties. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing northeast.



Photograph 33. View of pole E23, located northeast of arroyo willow-mule fat woodland within AF-2. Access to pole will be from an existing paved parking lot. No impacts to AF-2 are anticipated. Photo taken November 13, 2015 facing southwest.



Photograph 34. Another view pole E23, located northeast of arroyo willow-mule fat woodland within AF-2. Photo taken November 13, 2015 facing southwest from paved parking lot.



Photograph 35. View of AF-3 located along Four Gee Road at the Four Gee Staging Yard. AF-3 is comprised of cattail marshes (pictured) along the northeast corner and planted arroyo willow-mule fat woodland along the northwest boundary. The boundary of the Four Gee Staging Yard will be shifted south to avoid the riparian vegetation. No impacts to AF-3 are anticipated. Photo taken September 9, 2015 facing north towards the northern boundary of the staging yard.

ATTACHMENT 5 – HISTORICAL AERIAL PHOTOGRAPH OF AQUATIC FEATURE 1

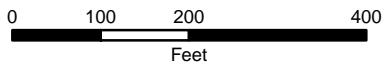




Service Layer Credits: Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors Google Earth Image 2003, 2016.

Legend

- Proposed Project Substation
- Present-day Road Alignments
- Aquatic Feature 1
- USFWS Mapped NWI



Attachment 5
 Historical Aerial Image of
 Aquatic Feature 1

APPENDIX D – SPECIAL STATUS PLANT SPECIES OBSERVED MAP





Legend

— Access Road

RECON Survey Results

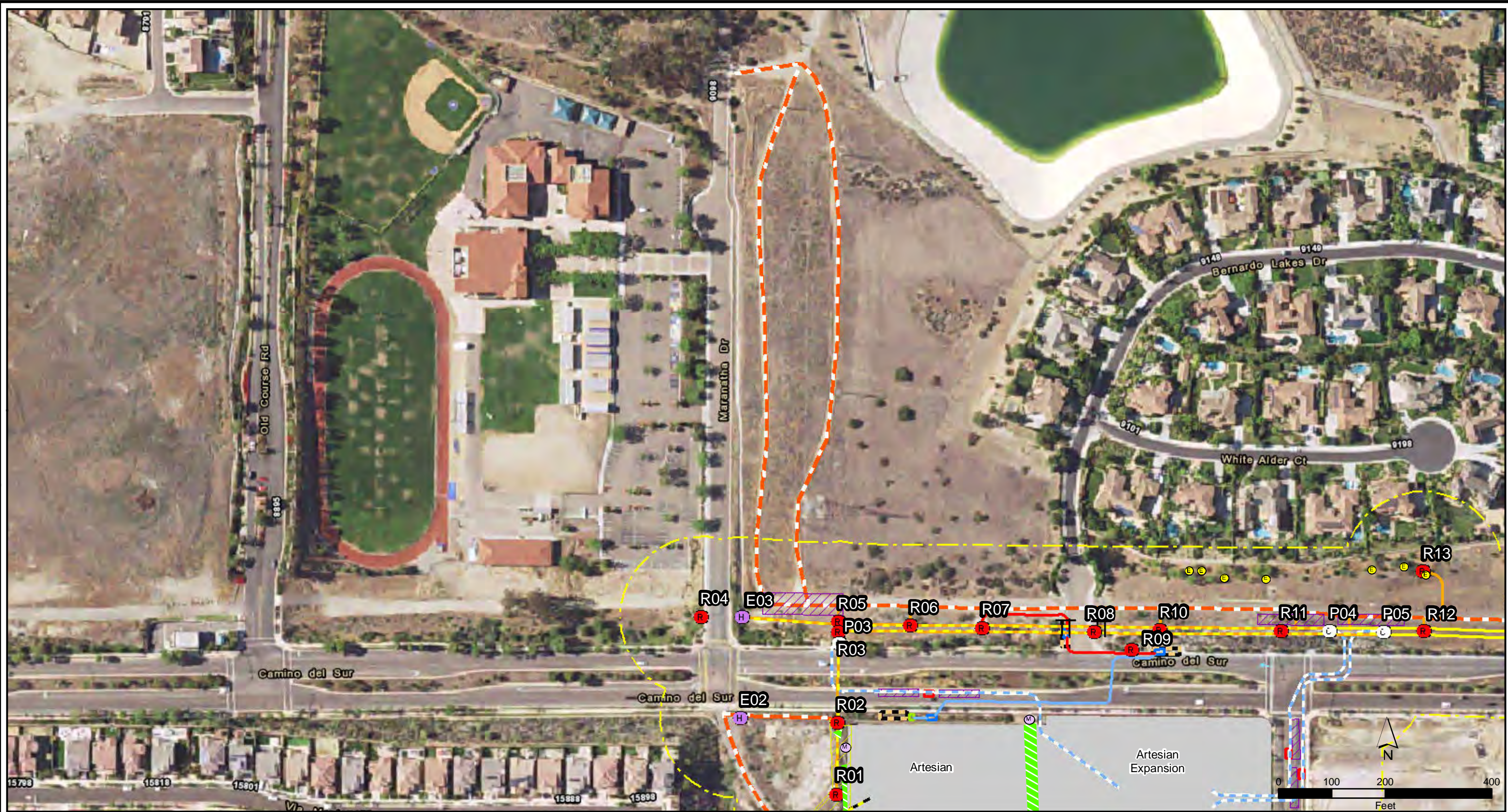
● Ashy Spike-moss

● California Adolphia

■ High Potential for
Robinson's Peppergrass



Appendix D
Special-Status Plant
Species Observed



Legend

- | | | | | | |
|-----------------------|--|----------------------------------|-------------------------------|------------------------------------|-------------------------------------|
| Survey Area | Overhead Power Line (Reconductor) | Power Line Underground Route | Existing Distribution Feature | Work / Staging Area | CGI Survey Results (Polygon) |
| Foundation cable pole | Overhead to be Removed | Distribution Underground Route | Proposed Distribution Feature | Access Road | San Diego Marsh-elder |
| Overhead work | Overhead Transmission Line (Reconductor) | Distribution Underground Removal | Maintenance Pad & Road | Overland travel | RECON Survey Results |
| Remove from service | Transmission Vault | Stringing/Pulling Site | Stringing/Pulling Site | CGI Survey Results (Points) | San Diego Marsh-elder |
| Guard Structure | | | | Engelmann Oak | |



Appendix D
Special-Status Plant Species Observed



Legend

- | | | | | | |
|-----------------------|-----------------------------------|--|----------------------------------|-------------------------------|-----------------------------|
| Survey Area | New UG Cable | Overhead to be Removed | Distribution Underground Route | Proposed Distribution Feature | Overland travel |
| Foundation cable pole | Remove from service | Overhead Transmission Line (Reconductor) | Distribution Underground Removal | Maintenance Pad & Road | RECON Survey Results |
| Pier Foundation Pole | Guard Structure | Power Line Underground Route | Transmission Vault | San Diego Marsh-elder | Engelmann Oak |
| Direct bury | Overhead Power Line (Reconductor) | Existing Distribution Feature | Work / Staging Area | San Diego Marsh-elder | San Diego Marsh-elder |
| Overhead work | | Access Road | | San Diego Marsh-elder | |



Appendix D
Special-Status Plant Species Observed

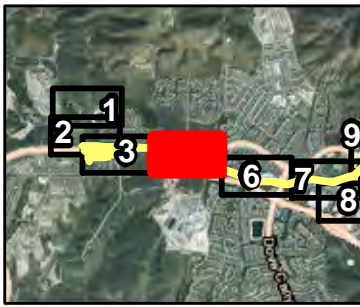
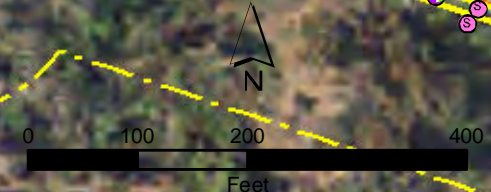


Legend

- Survey Area
- Proposed Distribution Feature
- Pier Foundation Pole
- Stringing/Pulling Site
- Direct bury
- Distribution Underground Route
- Overhead work
- Remove from service
- Existing Distribution Feature
- Guard Structure
- Overhead Power Line (Reconductor)
- Distribution Underground Route
- Work / Staging Area
- Access Road
- Foot path

- Overland travel
- CGI Survey Results (Polygon)**
- San Diego Marsh-elder
- Decumbent Goldenbush

- RECON Survey Results**
- Engelmann Oak
- San Diego Marsh-elder
- Southwestern Spiny Rush



Appendix D
Special-Status Plant Species Observed



Legend

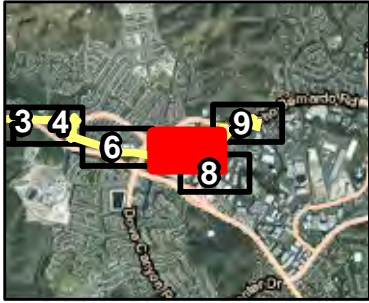
- | | | | |
|----------------------|-----------------------------------|-------------------------------------|-----------------------------|
| Survey Area | Guard Structure | CGI Survey Results (Points) | RECON Survey Results |
| Pier Foundation Pole | Overhead Power Line (Reconductor) | Tecate cypress | Nuttall's Scrub Oak |
| Direct bury | Stringing/Pulling Site | CGI Survey Results (Polygon) | San Diego Marsh-elder |
| Overhead work | Access Road | San Diego Marsh-elder | Southwestern Spiny Rush |
| Remove from service | Foot path | | Southwestern Spiny Rush |



Appendix D
Special-Status Plant Species Observed



- Legend**
- Survey Area
 - Work / Staging Area
 - Southwestern Spiny Rush
 - Direct bury
 - Access Road
 - Overhead work
 - RECON Survey Results**
 - San Diego Marsh-elder
 - Southwestern Spiny Rush
 - Guard Structure
 - Overhead Power Line (Reconductor)



Appendix D
Special-Status Plant
Species Observed



- Legend**
- Survey Area
 - Work / Staging Area
 - Access Road



Appendix D
Special-Status Plant
Species Observed



- Legend**
- | | | | |
|-----------------------|-----------------------------------|------------------------------|-----------------------------|
| Survey Area | Remove from service | Power Line Underground Route | RECON Survey Results |
| Foundation cable pole | Guard Structure | Transmission Vault | Ashy Spike-moss |
| Pier Foundation Pole | Overhead Power Line (Reconductor) | Stringing/Pulling Site | San Diego Barrel Cactus |
| Direct bury | Overhead to be Removed | Work / Staging Area | |
| Overhead work | | Access Road | |



Appendix D
Special-Status Plant
Species Observed



- Legend**
- Survey Area
 - Access Road
 - U Overhead work; new UG cable
 - Power Line Underground Route
 - Stringing/Pulling Site
 - Work / Staging Area



Appendix D
Special-Status Plant
Species Observed



- Legend**
- Survey Area
 - Staging Yard



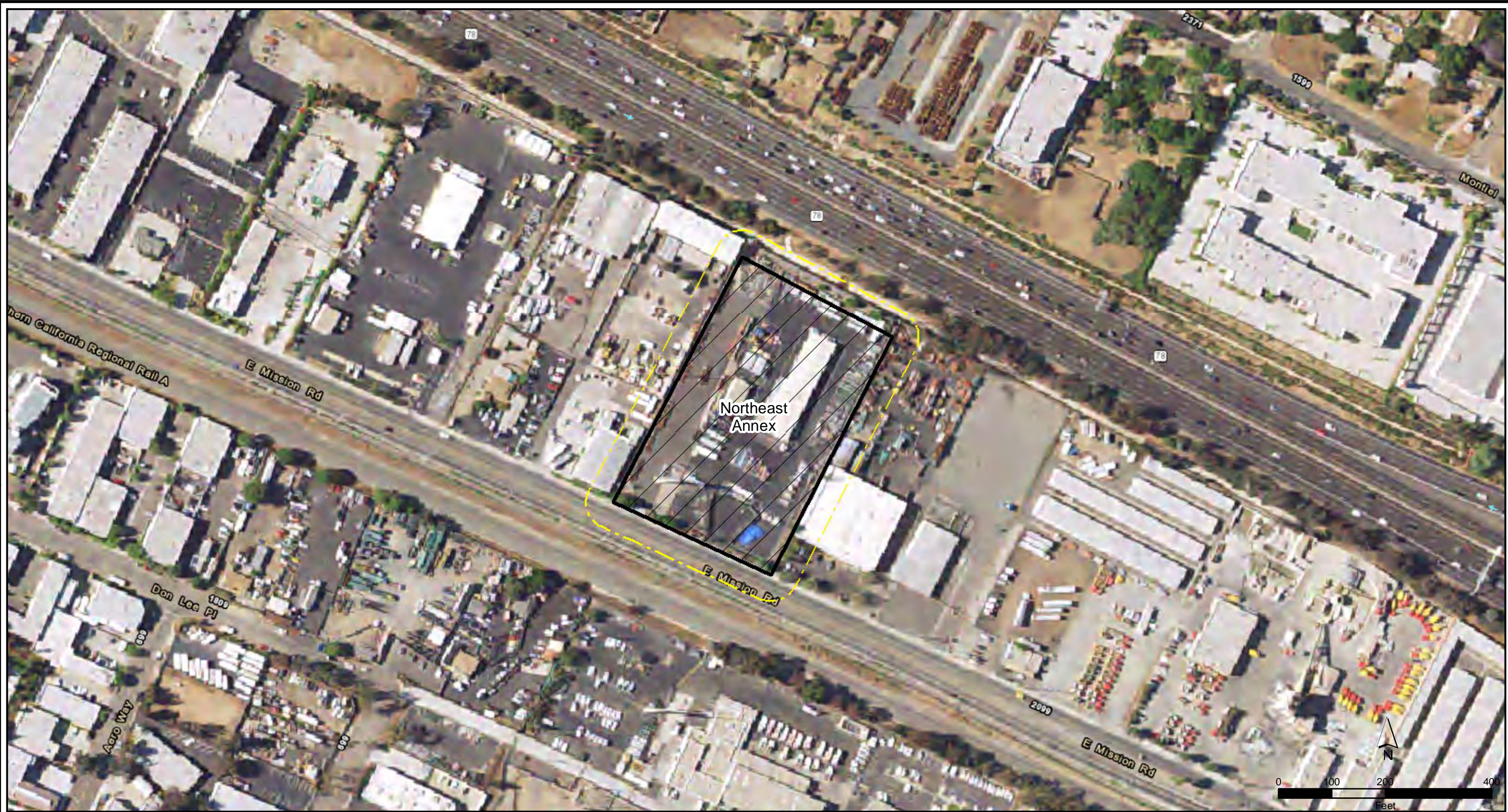
Appendix D
 Special-Status Plant
 Species Observed



- Legend**
- Survey Area
 - Staging Yard



Appendix D
Special-Status Plant
Species Observed



Legend
 Survey Area
 Staging Yard



Appendix D
 Special-Status Plant
 Species Observed

**APPENDIX E – SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING IN
THE SURVEY AREA TABLE**



**Appendix E: Special Status Plant Species Potentially Occurring within the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name <i>Scientific Name</i>	Status Federal/State/CRPR or CNPS Rank	Flowering Season	Habitat and Distribution	Potential for Occurrence (PFO)
San Diego thorn-mint (<i>Acanthomintha ilicifolia</i>)	FE/--/CRPR List 1B.1 NCCP-covered	April-June	Annual herb. Occurs in vernal pools, clay, openings, chaparral, valley and foothill grassland, and coastal sage scrub habitats. Can be found at elevations between 33 and 3,150 feet.	Occurrence potential for this species within the Property site is low. Marginally suitable habitat occurs within the Survey Area. This species was not observed during the focused surveys and is presumed absent from the Survey Area.
California adolphia (<i>Adolphia californica</i>)	--/--/CRPR List 2B.1 NCCP-covered	Dec-April	Shrub. Occurs in chaparral and coastal sage scrub habitats. Can be found at elevation below 1312 feet.	Occurrence potential for this species within the Project site is high. Suitable habitat occurs within the Survey Area and is within the elevation range of the species. Historical records show this species has occurred within the Survey Area. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
San Diego ambrosia (<i>Ambrosia pumila</i>)	FE/--/CRPR List 1B.1 NCCP-covered	April- October	Perennial rhizomatous herb. Occurs in disturbed areas, chaparral, coastal scrub, valley and foothill grassland, and vernal pool habitats. Can be found at elevations less than 1,360 feet.	Occurrence potential for this species within the Project site is moderate. Suitable habitat occurs within the Survey Area and is within the elevation range of the species. Historical records show this species has occurred within the Survey Area. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.

**Appendix E: Special Status Plant Species Potentially Occurring within the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name <i>Scientific Name</i>	Status Federal/State/CRPR or CNPS Rank	Flowering Season	Habitat and Distribution	Potential for Occurrence (PFO)
Del Mar manzanita (<i>Arctostaphylos glandulosa</i> subsp. <i>crassifolia</i>)	FE/--/CRPR List 1B.1	December-February	Perennial shrub. Occurs in coastal chaparral habitat. Can be found at elevations below 328 feet.	Occurrence potential for this species within the Property site is low No suitable habitat occur within the Survey Area. This species was not observed during the focused surveys and is presumed absent from the Survey Area.
Coulter's saltbush (<i>Atriplex coulteri</i>)	--/--/CRPR List 1B.2	March-October	Perennial herb. This species often grows in alkaline or clay soils, coastal dunes, coastal scrub, and coastal bluff scrub. Can be found at elevations less than 1,500 feet.	Occurrence potential for this species within the Survey Area is moderate Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
south coast saltscale (<i>Atriplex pacifica</i>)	--/--/CRPR List 1B.2	March-October	Annual herb. Occurs in coastal bluff scrub, dunes, and playa habitats. Can be found at elevations less than 460 feet.	Occurrence potential for this species within the Survey Area is moderate. Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
Encinitas baccharis (<i>Baccharis vanessae</i>)	FT/CE/CRPR List 1B.1 NCCP-covered	August-November	Perennial deciduous shrub. Occurs in chaparral (maritime) and cismontane woodland habitats. Can be found at elevations between 200 and 2,360 feet.	Occurrence potential for this species within the Survey Area is moderate. Habitat occurs on site and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.

**Appendix E: Special Status Plant Species Potentially Occurring within the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name <i>Scientific Name</i>	Status Federal/State/CRPR or CNPS Rank	Flowering Season	Habitat and Distribution	Potential for Occurrence (PFO)
San Diego goldenstar <i>(Bloomeria clevelandii)</i>	--/--/CRPR List 1B.1 NCCP-covered	April-May	Perennial bulbiferous herb. Occurs in chaparral, valley and foothill grassland, coastal scrub, and vernal pool habitats. Can be found at elevations between 164 and 1,525 feet.	Occurrence potential for this species within the Survey Area is moderate. Habitat occurs on site and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
thread-leaved brodiaea <i>(Brodiaea filifolia)</i>	FT/CE/CRPR List 1B.1	March- June	Perennial bulbiferous herb. This species is found in shallow seasonal pools and depressions of water, usually swales in grassland habitat or vernal pools, typically at elevations between 82 and 2,789 feet.	Occurrence potential for this species within the Survey Area is moderate. Marginal habitat occurs on the site and is within the elevation range of species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
Orcutt's brodiaea <i>(Brodiaea orcuttii)</i>	--/--/CRPR List 1B.1	May-July	Annual herb. Occurs in grassland near streams and vernal pools. Can be found at elevations between 98 and 5,560 feet.	Occurrence potential for this species within the Survey Area is low. Marginal habitat occurs on the site and is within the elevation range of species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
wart-stemmed ceanothus <i>(Ceanothus verrucosus)</i>	--/--/CRPR List 2B.2 NCCP-covered	January- April	Evergreen shrub. Occurs on rocky slopes in chaparral habitats at elevations below 1,148 feet.	Occurrence potential for this species within the Survey Area is low. Marginal habitat occurs on the site and is within the elevation range of species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.

**Appendix E: Special Status Plant Species Potentially Occurring within the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name <i>Scientific Name</i>	Status Federal/State/CRPR or CNPS Rank	Flowering Season	Habitat and Distribution	Potential for Occurrence (PFO)
southern tarplant (<i>Centromadia parryi</i> subsp. <i>australis</i>)	--/--/CRPR 1B.1	Jun-Oct	Annual herb. Occurs in salt marshes, grasslands, vernal pools, and coastal scrub. Can be found at elevations below 656 feet.	Occurrence potential for this species within the Survey Area is moderate. Habitat occurs on site and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
smooth tarplant (<i>Centromadia pungens</i>)	--/--/CRPR 1B.1	April-Sept	Annual herb. Occurs in depressions, poorly drained flats, drainage bed and banks, grasslands, and disturbed areas. Can be found at elevation between 295 and 1640 feet.	Occurrence potential for this species within the Project site is moderate. Habitat occurs on the site and is within the elevation range of species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
Orcutt's spineflower (<i>Chorizanthe orcuttiana</i>)	FE/CE/CRPR 1B.1	March-May	Annual herb. Occurs in sandy, open areas within coastal scrub habitats. Can be found at elevations between 196 and 656 feet.	Occurrence potential for this species within the Survey Area is low. Marginal habitat occurs on the site and is within the elevation range of species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
long-spined spineflower (<i>Chorizanthe polygonoides</i> var. <i>longispina</i>)	--/--/CRPR List 1B.2	April-July	Annual herb. Occurs in clay soils of chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Can be found at elevations between 100 and 5,020 feet.	Occurrence potential for this species within the Project site is moderate. Habitat occurs on the site and is within the elevation range of species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.

**Appendix E: Special Status Plant Species Potentially Occurring within the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name <i>Scientific Name</i>	Status Federal/State/CRPR or CNPS Rank	Flowering Season	Habitat and Distribution	Potential for Occurrence (PFO)
summer holly (<i>Comarostaphylis diversifolia</i> subsp. <i>diversifolia</i>)	--/--/CRPR List 1B.2	April-June	Evergreen shrub. This shrub occurs in chaparral habitats at elevations between 328 and 1,804 feet.	Occurrence potential for this species within the Property site is low. No suitable habitat occurs within the Survey Area. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
delicate clarkia (<i>Clarkia delicata</i>)	--/--/CRPR 1B.2	April-June	Annual herb. This herb occurs in chaparral and oak woodland habitats at elevations below 3,281 feet.	Occurrence potential for this species within the Survey Area is low. Marginal habitat occurs on the site and is within the elevation range of species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
Del Mar Mesa san aster (<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i>)	--/--/CRPR 1B.1	May - September	Perennial herb. This species is found in openings of coastal chaparral and coastal sage scrub habitats at elevations between 49 and 492 feet.	Occurrence potential for this species within the Survey Area is low. Marginal habitat occurs on the site and is within the elevation range of species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.

**Appendix E: Special Status Plant Species Potentially Occurring within the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name <i>Scientific Name</i>	Status Federal/State/CRPR or CNPS Rank	Flowering Season	Habitat and Distribution	Potential for Occurrence (PFO)
variegated dudleya <i>(Dudleya variegata)</i>	--/--/CRPR List 1B.2 NCCP-covered	April-June	Perennial herb. This species is found in heavy clay soils within chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pool habitats at elevations between 10 and 1,900 feet	Occurrence potential for this species within the Survey Area is moderate. Suitable habitat occurs within the Survey Area and is within the elevation range of the species. Historical records show this species has occurred within the Survey Area. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
sticky dudleya <i>(Dudleya viscida)</i>	--/--/CRPR 1B.2	May-June	Perennial herb. This succulent occurs on bluffs and rocky cliffs within chaparral and coastal sage scrub habitats at elevations below 1476 feet.	Occurrence potential for this species within the Survey Area is low. Marginal habitat occurs on the site and is within the elevation range of species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
Palmer's Goldenbush <i>(Ericameria palmeri</i> <i>var. palmeri)</i>	--/--/CNPS 1B.1	September – November	Perennial shrub. This shrub occurs in coastal sage scrub and chaparral habitats below 8,202 feet.	Occurrence potential for this species within the Survey Area is high. Suitable habitat occurs within the Survey Area and is within the elevation range of the species. Historical records show this species has occurred within the Survey Area. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.

**Appendix E: Special Status Plant Species Potentially Occurring within the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name <i>Scientific Name</i>	Status Federal/State/CRPR or CNPS Rank	Flowering Season	Habitat and Distribution	Potential for Occurrence (PFO)
San Diego button-celery (<i>Eryngium aristulatum</i> var. <i>parishii</i>)	FE/CE/CRPR List 1B.1 NCCP-Covered	April-June	Annual/perennial herb. This species can be found mesic soils of coastal scrub, valley and foothill grassland, and vernal pools. San Diego button-celery can be found at elevations between 65 and 2,034 feet.	Occurrence potential for this species within the Survey Area is low. Marginal habitat occurs on the site and is within the elevation range of species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
San Diego barrel cactus (<i>Ferocactus viridescens</i>)	--/--/CRPR List 2B.1 NCCP-covered	May-June	Stem succulent. This barrel cactus species grows in sandy and rocky areas within chaparral, coastal sage scrub, vernal pools, and valley grassland habitats at elevations between 10 and 1,476 feet.	This species is present within the Survey Area and in immediately adjacent areas.
Campbell's liverwort (<i>Geothallus tuberosus</i>)	--/--/CRPR 1B.1	n/a	Liverwort. This bryophyte occurs in mesic soils of coastal scrub and vernal pool habitats.	Occurrence potential for this species within the Survey Area is moderate. Suitable habitat occurs within the Survey Area. Historical records show this species has occurred within the Survey Area. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
Tecate cypress (<i>Hesperocyparis forbesii</i>)	--/--/CRPR List 1B.2 NCCP -covered	n/a	Perennial tree. This evergreen cypress is typically found growing on hillsides and canyons in mountain chaparral habitat elevations between 1,476 and 4,921 feet.	This species is present within the Survey Area.

**Appendix E: Special Status Plant Species Potentially Occurring within the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name <i>Scientific Name</i>	Status Federal/State/CRPR or CNPS Rank	Flowering Season	Habitat and Distribution	Potential for Occurrence (PFO)
decumbent goldenbush (<i>Isocoma menziesii</i> var. <i>decumbens</i>)	--/--/CRPR List 1B.2	April- November	Perennial shrub. This variety of goldenbush favors hillsides and arroyos in sandy soils in coastal scrub, grassland, and disturbed habitat at elevations below 656 feet.	This species is present within the Survey Area and in immediately adjacent areas.
San Diego marsh- elder (<i>Iva hayesiana</i>)	--/--/CRPR List 2B.2	April- October	Perennial herb. This rhizomatous subshrub is associated with streambeds, depressions, and alkaline sinks. San Diego marsh-elder can be found at elevations from 33 – 1,640 feet.	This species is present within the Survey Area and in immediately adjacent areas.
Southwestern spiny rush (<i>Juncus acutus</i> <i>ssp. leopoldii</i>)	--/--/CRPR List 4.2	May-June	Perennial herb (rhizomatous). This grasslike perennial is associated with moist habitats including salt marshes, alkaline seeps, meadows, and wetland/riparian habitats at elevations below 984 feet.	This species is present within the Survey Area and in immediately adjacent areas.
sea dahlia (<i>Leptosyne maritima</i>)	--/--/CRPR 2B.2	March-May	Perennial herb. This species is found growing on seabluffs in coastal sage scrub habitat at elevations below 66 feet.	Occurrence potential for this species within the Survey Area is very low. No suitable habitat occurs within the Survey Area and is not within the elevation range of the species. This species was not observed during the focused surveys and is presumed absent from the Survey Area.

**Appendix E: Special Status Plant Species Potentially Occurring within the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name <i>Scientific Name</i>	Status Federal/State/CRPR or CNPS Rank	Flowering Season	Habitat and Distribution	Potential for Occurrence (PFO)
felt leaved monardella <i>(Monardella hypoleuca ssp. lanata)</i>	--/--/CRPR List 1B.2	May- October	Perennial herb. Occurs on rocky, granitic slopes or hilltops in chaparral habitats at elevations between 984 and 4,921 feet.	Occurrence potential for this species within the Survey Area is moderate. Patches of suitable habitat occurs within the Survey Area and is within the elevation range of the species. Historical records show this species has occurred within the Survey Area. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
willowy monardella <i>(Monardella viminea)</i>	FE/CE/CRPR List 1B.1 NCCP-covered	January- April	Perennial herb. Occurs on rocky washes with cobbles and 2 degrees alluvial bench at elevations below 1,312 feet.	Occurrence potential for this species within the Survey Area is moderate. Habitat occurs on site and is within the elevation range of the species.
spreading navarretia <i>(Navarretia fossalis)</i>	FT/--/CRPR List 1B.1 NCCP-covered	April-June	Annual herb. This species is found growing in chenopod scrub, marsh/swamp, playa, and vernal pool habitats at elevations between 98 and 2,040 feet.	Occurrence potential for this species within the Survey Area is moderate. Habitat occurs on the site and is within the elevation range of species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.
San Diego mesa mint <i>(Pogogyne abramsii)</i>	FE/CE/CRPR 1B.1	March- June	Annual herb. Coastal terrace vernal pools within coastal sage scrub, chaparral, riparian, and freshwater wetland habitats at elevation ranging from 328 and 656 feet.	Occurrence potential for this species within the Survey Area is low. Marginal habitat occurs on the site and is within the elevation range of species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.

**Appendix E: Special Status Plant Species Potentially Occurring within the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name <i>Scientific Name</i>	Status Federal/State/CRPR or CNPS Rank	Flowering Season	Habitat and Distribution	Potential for Occurrence (PFO)
Nuttall's scrub oak (<i>Quercus dumosa</i>)	--/--/CRPR List 1B.1	February- August	Perennial evergreen shrub. This species is found growing in sandy, clay loam, closed-cone coniferous forest, chaparral, and coastal scrub habitats at elevations between 49 and 1,300 feet.	This species is present on the boundary of the Survey area.
Engelmann oak (<i>Quercus engelmannii</i>)	--/--/CRPR List 4.2	March- June	Perennial evergreen tree. This species favors foothills and slopes within chaparral, woodland, and valley grassland habitats at elevations below 4,265 feet.	This species is present within the Survey Area and in immediately adjacent areas.
Ashy spike moss (<i>Selaginella cinerascens</i>)	--/--/CRPR List 4.1	n/a	Rhizomatous fern. This pteridophyte prefers sunny spots or under shrubs within chaparral and coastal sage scrub habitats at elevations under 1,804 feet.	This species is present within the Survey Area and in immediately adjacent areas.
purple stemodia (<i>Stemodia durantifolia</i>)	--/--/CRPR List 2B.1	Year round	Perennial herb. This species can be found in Sonoran desert scrub, often on mesic, sandy soils at elevations between 591 and 984 feet.	Occurrence potential for this species within the Survey Area is low. Marginal suitable habitat occurs within the Survey Area and is within the elevation range of the species. Historical records show this species has occurred within the Survey Area. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area.

APPENDIX F – PLANT SPECIES OBSERVED LIST



**Appendix F – Plant Species Observed List For the Artesian Substation Expansion Project
San Diego County, California**

Scientific Name	Common Name
FERNS	
SELAGINELLACEAE	Spike-Moss Family
<i>Selaginella cinerascens</i>	mesa spike-moss
GYMNOSPERMS	
CUPRESSACEAE	CYPRESS FAMILY
<i>Hesperocyparis forbesii</i>	tecate cypress
<i>Juniperus chinensis*</i>	Chinese juniper
PINACEAE	PINE FAMILY
<i>Pinus radiata</i>	Monterey pine
MAGNOLIIDS	
LAURACEAE	LAUREL FAMILY
<i>Cinnamomum camphora*</i>	camphor tree
<i>Persea americana</i>	avocado
SAURURACEAE	LIZARD'S-TAIL FAMILY
<i>Anemopsis californica</i>	yerba mansa
ADOXACEAE	MUSKROOT FAMILY
<i>Sambucus nigra</i> subsp. <i>caerulea</i>	black elderberry
AIZOACEAE	FIG-MARIGOLD FAMILY
<i>Carpobrotus edulis*</i>	hottentot-fig
<i>Mesembryanthemum crystallinum*</i>	crystalline iceplant
ANGIOSPERMS (EUDICOTS)	
ANACARDIACEAE	SUMAC OR CASHEW FAMILY
<i>Malosma laurina</i>	laurel sumac
<i>Rhus integrifolia</i>	lemonadeberry
<i>Rhus ovata</i>	sugar bush
<i>Searsia molle*</i>	african sumac
<i>Schinus molle*</i>	Peruvian pepper tree
<i>Schinus terebinthifolius*</i>	Brazilian pepper tree
APIACEAE	CARROT FAMILY
<i>Apium graveolens*</i>	celery
<i>Foeniculum vulgare*</i>	fennel
APOCYNACEAE	DOGBANE FAMILY
<i>Carissa macrocarpa+</i>	natal plum
<i>Mandevilla splendens*</i>	rocketrumpet
<i>Nerium oleander*</i>	oleander
<i>Hedera helix*</i>	English ivy
<i>Trachelospermum jasminoides*</i>	star jasmine
ASTERACEAE	SUNFLOWER FAMILY

**Appendix F – Plant Species Observed List For the Artesian Substation Expansion Project
San Diego County, California**

Scientific Name	Common Name
<i>Achillea millefolium</i>	California yarrow
<i>Ambrosia psilostachya</i>	western ragweed
<i>Anthemis cotula</i> *	mayweed
<i>Artemisia californica</i>	California sagebrush
<i>Artemisia douglasiana</i>	mugwort
<i>Baccharis pilularis</i>	coyote brush
<i>Baccharis salicifolia</i> subsp. <i>salicifolia</i>	mule fat
<i>Baccharis salicina</i>	emory baccharis
<i>Baccharis sarothroides</i>	broom baccharis
<i>Baileya multiradiata</i>	desert marigold
<i>Carduus pycnocephalus</i> subsp. <i>pycnocephalus</i> *	Italian thistle
<i>Centaurea melitensis</i> *	tocalote
<i>Cirsium vulgare</i> *	bull thistle
<i>Corethrogyne filaginifolia</i> var. <i>filaginifolia</i>	common sand-aster
<i>Cotula coronopifolia</i> *	brass-buttons
<i>Cynara cardunculus</i> *	cardo
<i>Deinandra fasciculata</i>	fascicled tarweed
<i>Dimorphotheca fruticosa</i> *	trailing African daisy
<i>Dimorphotheca sinuata</i> *	blue-eye cape-marigold
<i>Dittrichia graveolens</i> *	stinkwort
<i>Encelia californica</i>	California bush sunflower
<i>Encelia farinosa</i>	brittlebush
<i>Erigeron bonariensis</i> *	flax-leaved horseweed
<i>Erigeron canadensis</i>	horseweed
<i>Eriophyllum confertiflorum</i>	golden yarrow
<i>Gazania linearis</i> *	treasure flower
<i>Glebionis coronaria</i> *	garland daisy
<i>Gnaphalium palustre</i>	lowland cudweed
<i>Gutierrezia californica</i>	california matchweed
<i>Hazardia squarrosa</i> var. <i>squarrosa</i>	sawtooth goldenbush
<i>Hedypnois cretica</i> *	crete hedypnois
<i>Helminthotheca echioides</i> *	bristly ox-tongue
<i>Heterotheca grandiflora</i>	telegraph weed
<i>Hypochaeris glabra</i> *	smooth cat's-ear
<i>Isocoma menziesii</i> var. <i>decumbens</i>	decumbent goldenbush
<i>Isocoma menziesii</i> var. <i>menziesii</i>	spreading goldenbush
<i>Iva hayesiana</i>	San Diego marsh-elder

**Appendix F – Plant Species Observed List For the Artesian Substation Expansion Project
San Diego County, California**

Scientific Name	Common Name
<i>Lactuca serriola</i> *	prickly lettuce
<i>Leucanthemum x superbum</i> *	shasta daisy
<i>Logfia filaginoides</i>	California fluffweed
<i>Logfia gallica</i> *	narrow-leaf filago
<i>Pluchea odorata</i> var. <i>odorata</i>	salt marsh fleabane
<i>Pluchea sericea</i>	arrow weed
<i>Pseudognaphalium californicum</i>	California everlasting
<i>Pseudognaphalium luteoalbum</i> *	everlasting cudweed
<i>Pseudognaphalium biolettii</i>	bicolored cudweed
<i>Senecio talinoides</i> *	blue chalk sticks
<i>Senecio vulgaris</i> *	common groundsel
<i>Sonchus asper</i> subsp. <i>asper</i> *	prickly sow thistle
<i>Sonchus oleraceus</i> *	common sow thistle
<i>Stephanomeria diegensis</i>	San Diego wreath-plant
<i>Stephanomeria virgata</i> subsp. <i>pleurocarpa</i>	tall wreath-plant
<i>Taraxacum officinale</i> *	common dandelion
<i>Xanthium strumarium</i>	cocklebur
BERBERIDACEAE	BARBERRY FAMILY
<i>Nandina domestica</i> *	sacred bamboo
BETULACEAE	BIRCH FAMILY
<i>Alnus rhombifolia</i>	white alder
BIGNONIACEAE	BIGNONIA FAMILY
<i>Jacaranda mimosifolia</i> *	jacaranda
BORAGINACEAE	BORAGE FAMILY
<i>Amsinckia intermedia</i>	Rancher's fiddleneck
<i>Cryptantha</i> sp.	cryptantha
<i>Echium candicans</i> *	pride of Madeira
<i>Heliotropium curassavicum</i> var. <i>oculatum</i>	salt heliotrope
<i>Phacelia cicutaria</i>	caterpillar phacelia
<i>Phacelia imbricata</i>	imbricate phacelia
<i>Phacelia ramosissima</i>	branching phacelia
BRASSICACEAE	MUSTARD FAMILY
<i>Brassica nigra</i> *	black mustard
<i>Hirschfeldia incana</i> *	shortpod mustard
<i>Lepidium nitidum</i>	shining peppergrass
<i>Lepidium virginicum</i>	wild peppergrass
<i>Nasturtium officinale</i>	water-cress

**Appendix F – Plant Species Observed List For the Artesian Substation Expansion Project
San Diego County, California**

Scientific Name	Common Name
BUDDLEJACEAE	BUDDLEJA FAMILY
<i>Buddleja davidii</i> *	butterfly bush
CACTACEAE	CACTUS FAMILY
<i>Ferocactus viridescens</i>	San Diego barrel cactus
<i>Opuntia ficus-indica</i> *	Indian fig
<i>Opuntia littoralis</i>	coastal prickly pear
CAPRIFOLIACEAE	HONEYSUCKLE FAMILY
<i>Lonicera japonica</i> *	Japanese honeysuckle
<i>Lonicera subspicata</i>	southern honeysuckle
<i>Spergularia bocconi</i> *	Boccone's sandspurrey
CARYOPHYLLACEAE	PINK FAMILY
<i>Polycarpon tetraphyllum</i> var. <i>tetraphyllum</i> *	four-leaf allseed
CELASTRACEAE	STAFF TREE FAMILY
<i>Euonymus japonicus</i> *	Evergreen spindle
CHENOPODIACEAE	GOOSEFOOT FAMILY
<i>Atriplex semibaccata</i> *	Australian saltbush
<i>Chenopodium album</i> *	lamb's quarters
<i>Chenopodium macrospermum</i> *	coast goosefoot
<i>Chenopodium murale</i> *	nettle-leaved goosefoot
<i>Salsola australis</i> *	Russian-thistle
CISTACEAE	ROCK-ROSE FAMILY
<i>Cistus incanus</i> *	purple rock-rose
CONVOLVULACEAE	MORNING-GLORY FAMILY
<i>Calystegia macrostegia</i>	western bindweed
<i>Convolvulus arvensis</i> *	bindweed
CRASSULACEAE	STONECROP FAMILY
<i>Sedum morganianum</i> *	burro tail
DILLENIACEAE	DILLENIA FAMILY
<i>Hibbertia scandens</i> *	Guinea gold vine
ERICACEAE	HEATH FAMILY
<i>Arbutus unedo</i> *	strawberry tree
EUPHORBIACEAE	SPURGE FAMILY
<i>Chamaesyce maculata</i> *	spotted spurge
<i>Chamaesyce serpens</i> *	creeping spurge
<i>Croton setiger</i>	turkey mullien
<i>Euphorbia peplus</i> *	petty spurge
<i>Euphorbia tirucalli</i>	pencil tree
<i>Ricinus communis</i> *	castor-bean

**Appendix F – Plant Species Observed List For the Artesian Substation Expansion Project
San Diego County, California**

Scientific Name	Common Name
FABACEAE	LEGUME FAMILY
<i>Acacia baileyana</i>	mimosa acacia
<i>Acacia cyclops</i> *	cyclops acacia
<i>Acacia longifolia</i> *	Sydney golden wattle
<i>Wisteria floribunda</i> *	wisteria
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish clover
<i>Acmispon glaber</i>	deerweed
<i>Acmispon heermannii</i>	woolly lotus
<i>Acmispon micranthus</i>	San Diego lotus
<i>Cytisus striatus</i> *	Portuguese broom
<i>Hosackia oblongifolia</i> var. <i>oblongifolia</i>	stream lotus
<i>Lotus corniculatus</i> *	birdfoot trefoil
<i>Medicago polymorpha</i> *	bur clover
<i>Melilotus albus</i> *	white sweetclover
<i>Melilotus indicus</i> *	Indian sweetclover
<i>Parkinsonia aculeata</i>	Mexican palo verde
FAGACEAE	OAK FAMILY
<i>Quercus agrifolia</i> var. <i>agrifolia</i>	coast live oak, encina
<i>Quercus dumosa</i>	coastal scrub oak
<i>Quercus engelmannii</i>	Engelmann oak
<i>Quercus ilex</i>	holly oak
GERANIACEAE	GERANIUM FAMILY
<i>Erodium botrys</i> *	broad-lobed filaree
<i>Erodium cicutarium</i> *	red-stemmed filaree
LAMIACEAE	MINT FAMILY
<i>Lavandula dentata</i> *	French lavender
<i>Lavandula spica</i> *	lavendar
<i>Lavandula stoechas</i> *	Spanish lavender
<i>Lavandula stoechas</i> *	French lavender
<i>Marrubium vulgare</i> *	horehound
<i>Phlomis fruticosa</i> *	Jerusalem sage
<i>Rosmarinus officinalis</i> *	rosemary
<i>Salvia apiana</i>	white sage
<i>Salvia clevelandii</i>	fragrant sage
<i>Salvia mellifera</i>	black sage
<i>Trichostema lanceolatum</i>	vinegar weed
LYTHRACEAE	LOOSESTRIFE FAMILY
<i>Lagerstroemia indica</i> *	crepe myrtle

**Appendix F – Plant Species Observed List For the Artesian Substation Expansion Project
San Diego County, California**

Scientific Name	Common Name
<i>Lythrum hyssopifolia</i> *	hyssop loosestrife
<i>Punica granatum</i> *	pomogranate
MAGNOLIACEAE	MAGNOLIA FAMILY
<i>Magnolia grandiflora</i> *	southern magnolia
MALVACEAE	MALLOW FAMILY
<i>Lavatera maritima</i>	tree mallow
<i>Malva parviflora</i> *	cheeseweed
<i>Malva pseudolavatera</i> *	malva rosa
MORACEAE	MULBERRY FAMILY
<i>Morus alba</i> *	white mulberry
MYRSINACEAE	MYRSINE FAMILY
<i>Anagallis arvensis</i> *	scarlet pimpernel
MYRTACEAE	MYRTLE FAMILY
<i>Callistemon citrinus</i> *	crimson bottlebrush
<i>Eucalyptus camaldulensis</i> *	red gum
<i>Eucalyptus globulus</i> *	blue gum
<i>Lophostemon confertus</i> +	brush box
<i>Melaleuca viminalis</i> *	bottlebrush
<i>Metrosideros excelsa</i> *	New Zealand Christmas tree
NYCTAGINACEAE	FOUR O'CLOCK FAMILY
<i>Bougainvillea spectabilis</i> *	bougainvillea
<i>Mirabilis laevis</i> var. <i>crassifolia</i>	California wishbone bush
OLEACEAE	OLIVE FAMILY
<i>Ligustrum lucidum</i> *	Chinese privet
<i>Olea europaea</i> *	olive
ONAGRACEAE	EVENING PRIMROSE FAMILY
<i>Camissoniopsis bistorta</i>	California sun cup
<i>Epilobium canum</i>	California fuchsia
<i>Epilobium ciliatum</i> subsp. <i>ciliatum</i>	epilobium cilatum
<i>Oenothera elata</i> subsp. <i>hirsutissima</i>	great marsh evening-primrose
OXALIDACEAE	OXALIS FAMILY
<i>Oxalis pes-caprae</i> *	Bermuda buttercup
PAPAVERACEAE	POPPY FAMILY
<i>Eschscholzia californica</i>	California poppy
PHRYMACEAE	LOPSEED FAMILY
<i>Mimulus aurantiacus</i>	orange bush monkey-flower
<i>Plantago major</i> *	common plantain
PITTOSPORACEAE	TOBIRA FAMILY

**Appendix F – Plant Species Observed List For the Artesian Substation Expansion Project
San Diego County, California**

Scientific Name	Common Name
<i>Pittosporum undulatum</i> *	victoria-box
PLANTAGINACEAE	PLANTAIN FAMILY
<i>Plantago erecta</i>	western plantain
<i>Plantago lanceolata</i> *	English plantain
<i>Plantago ovata</i> var. <i>insularis</i>	desert plantain
PLATANACEAE	SYCAMORE FAMILY
<i>Platanus racemosa</i>	western sycamore
PLUMBAGINACEAE	LEADWORT FAMILY
<i>Limonium perezii</i> *	Perez's marsh-rosemary
<i>Limonium sinuatum</i> *	sea lavender
<i>Plumbago auriculata</i> *	cape plumbago
POLEMONIACEAE	PHLOX FAMILY
<i>Eriastrum sapphirinum</i>	sapphire eriastrum
<i>Navarretia hamata</i> subsp. <i>leptantha</i>	hooked pincushion plant
POLYGALACEAE	MILKWORT FAMILY
<i>Polygala dalmaisiana</i> *	sweet pea shrub
POLYGONACEAE	BUCKWHEAT FAMILY
<i>Eriogonum fasciculatum</i> var. <i>fasciculatum</i>	coastal California buckwheat
<i>Eriogonum giganteum</i> var. <i>giganteum</i> *	Santa Catalina island buckwheat
<i>Eriogonum parvifolium</i>	coast buckwheat
<i>Rumex conglomeratus</i> *	dock
<i>Leucadendron salignum</i> *	leucadendron
<i>Polygonum aviculare</i> subsp. <i>depressum</i> *	common knotweed, doorweed
<i>Rumex crispus</i> *	curly dock
RHAMNACEAE	BUCKTHORN FAMILY
<i>Ceanothus tomentosus</i> x*	ceanothus cultivore
ROSACEAE	ROSE FAMILY
<i>Cotoneaster x watereri</i> *	Waterer's cotoneaster
<i>Eriobotrya deflexa</i> *	coppertone loquat
<i>Eriobotrya japonica</i> *	loquat
<i>Heteromeles arbutifolia</i>	toyon
<i>Prunus domestica</i> *	plum tree
<i>Prunus persica</i> *	peach
<i>Pyracantha koidzumii</i>	Taiwan firethorn
<i>Rhaphiolepis indica</i> *	Indian hawthorne
<i>Rosa multiflora</i>	Japanise rose
<i>Rosa x floribunda</i>	rose
<i>Rubus leucodermis</i>	blackcap raspberry

**Appendix F – Plant Species Observed List For the Artesian Substation Expansion Project
San Diego County, California**

Scientific Name	Common Name
<i>Rhaphiolepis indica</i> *	Indian hawthorne
<i>Rosa</i> sp.	ornamental rose
<i>Rubus ursinus</i>	California blackberry
RUTACEAE	RUE FAMILY
<i>Geijera parviflora</i> *	Australian willow
SALICACEAE	WILLOW FAMILY
<i>Populus fremontii</i> subsp. <i>fremontii</i>	Fremont cottonwood
<i>Salix exigua</i>	narrow-leaved willow
<i>Salix gooddingii</i>	black willow
<i>Salix laevigata</i>	red willow
<i>Salix lasiolepis</i>	arroyo willow
SAPINDACEAE	SOAPBERRY FAMILY
<i>Cupaniopsis anacardioides</i> *	carrotwood
<i>Dodonaea viscosa</i> +	hop bush
SCROPHULARIACEAE	FIGWORT FAMILY
<i>Myoporum montanum</i> *+	waterbush
<i>Myoporum parvifolium</i> *+	slender myoporum
SOLANACEAE	NIGHTSHADE FAMILY
<i>Nicotiana glauca</i> *	tree tobacco
<i>Solanum douglasii</i>	Douglas' nightshade
<i>Solanum americanum</i>	small-flowered nightshade
<i>Solanum elaeagnifolium</i> *	white horse-nettle
SIMAROUBACEAE	QUASSIA FAMILY
<i>Ailanthus altissima</i> *	tree of heaven
TAMARICACEAE	TAMARISK FAMILY
<i>Tamarix ramosissima</i> *	Mediterranean tamarisk
ULMACEAE	ELM FAMILY
<i>Ulmus parvifolia</i> *	Chinese elm
VERBENACEAE	VERVAIN FAMILY
<i>Lantana camara</i> *	common lantana
<i>Lantana montevidensis</i> *	trailing lantana
<i>Verbena lasiostachys</i> var. <i>lasiostachys</i>	western vervain
<i>Verbena menthifolia</i>	mint-leaved verbena
VITACEAE	GRAPE FAMILY
<i>Vitis vinifera</i> *	European grape
ANGIOSPERMS (MONOCOTS)	
AGAVACEAE	AGAVE FAMILY
<i>Agave americana</i> *	century plant

**Appendix F – Plant Species Observed List For the Artesian Substation Expansion Project
San Diego County, California**

Scientific Name	Common Name
<i>Agave attenuata</i> *	agave
<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	wavy-leaf soap-plant/amole
<i>Yucca gloriosa</i> *+	Spanish dagger
AMARYLLIDACEAE	Amaryllis Family
<i>Agapanthus praecox</i> *	lily-of-the-Nile
ARECACEAE	PALM FAMILY
<i>Phoenix canariensis</i> *	Canary Island date palm
<i>Washingtonia robusta</i> *	Mexican fan palm
ASPARAGACEAE	ASPARAGUS FAMILY
<i>Asparagus aethiopicus</i> *	Sprenger's asparagus-fern
ASPHODELACEAE	ASPHODEL FAMILY
<i>Asphodelus fistulosus</i> *	hollow-stem asphodel
CYPERACEAE	SEDGE FAMILY
<i>Carex spissa</i>	San Diego sedge
<i>Cyperus eragrostis</i>	tall cyperus
<i>Cyperus involucratus</i> *	umbrella-plant
<i>Schoenoplectus americanus</i>	winged three-square
<i>Schoenoplectus californicus</i>	California bulrush
IRIDACEAE	IRIS FAMILY
<i>Iris</i> sp.	iris
<i>Sisyrinchium bellum</i>	blue-eyed grass
JUNCACEAE	RUSH FAMILY
<i>Juncus acutus</i> subsp. <i>leopoldii</i>	southwestern spiny rush
<i>Juncus mexicanus</i>	Mexican rush
LILIACEAE	LILY FAMILY
<i>Dietes bicolor</i> *	bicolor fortnight lily
POACEAE	GRASS FAMILY
<i>Avena barbata</i> *	slender wild oat
<i>Avena fatua</i> *	wild oat
<i>Bothriochloa barbinodis</i>	cane bluestem
<i>Bouteloua gracilis</i>	common grama
<i>Brachypodium distachyon</i> *	false-brome
<i>Bromus diandrus</i> *	ripgut grass
<i>Bromus hordeaceus</i> *	soft chess
<i>Bromus madritensis</i> subsp. <i>rubens</i> *	red brome
<i>Cortaderia jubata</i> *	purple pampas grass
<i>Cortaderia selloana</i> *	pampas grass

**Appendix F – Plant Species Observed List For the Artesian Substation Expansion Project
San Diego County, California**



Scientific Name	Common Name
<i>Cynodon dactylon</i> *	Bermuda grass
<i>Distichlis spicata</i>	saltgrass
<i>Echinochloa crus-galli</i> *	barnyard grass
<i>Elymus glaucus</i>	blue wildrye
<i>Eragrostis cilianensis</i> *	stinkgrass
<i>Eragrostis mexicana</i> subsp. <i>mexicana</i>	Mexican lovegrass
<i>Festuca perennis</i> *	Italian ryegrass
<i>Festuca myuros</i> *	rat-tail fescue
<i>Hainardia cylindrica</i> *	barbgrass
<i>Hordeum marinum</i> subsp. <i>gussoneanum</i> *	Mediterranean barley
<i>Hordeum murinum</i> subsp. <i>glaucum</i> *	glaucous barley
<i>Lamarckia aurea</i> *	goldentop
<i>Leptochloa fusca</i> subsp. <i>Uninervia</i>	Mexican sprangletop
<i>Melinis repens</i> subsp. <i>repens</i> *	natal grass
<i>Muhlenbergia rigens</i>	deergress
<i>Paspalum dilatatum</i> *	dallis grass
<i>Pennisetum setaceum</i> *	fountain grass
<i>Phalaris canariensis</i>	canary grass
<i>Phalaris minor</i> *	Mediterranean canary grass
<i>Polypogon monspeliensis</i> *	annual beard grass
<i>Schismus barbatus</i> *	Mediterranean schismus
<i>Stipa miliacea</i> var. <i>miliacea</i> *	smilo grass
<i>Stipa cernua</i>	nodding needlegrass
<i>Stipa pulchra</i>	purple needlegrass
STRELITZIACEAE	BIRD OF PARADISE FAMILY
<i>Strelitzia reginae</i> *	bird of paradise
THEMIDACEAE	BRODIAEA FAMILY
<i>Dichelostemma capitatum</i>	blue dicks
TYPHACEAE	CATTAIL FAMILY
<i>Typha domingensis</i>	slender cattail
<i>Typha latifolia</i>	broad-leaved cattail
XANTHORRHOEACEAE	
<i>Aloe africana</i> *	African aloe
<i>Phormium tenax</i> *	New Zealand flax
<i>Hemerocallis lilioasphodelus</i> *	daylily
ZINGIBERACEAE	GINGER FAMILY
<i>Zingiber officinale</i> *	ginger

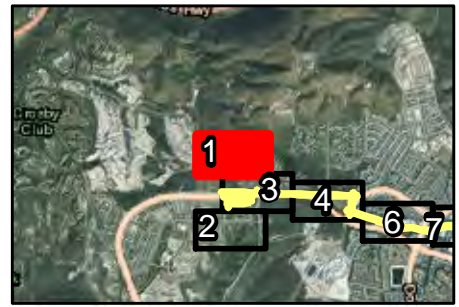
*indicates non-native plant species

APPENDIX G – SPECIAL WILDLIFE SPECIES OBSERVED MAP





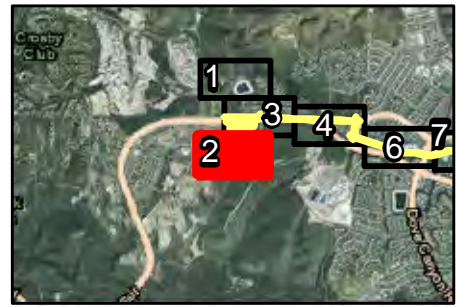
- Legend**
-  Access Road
 -  COHA Observation
 -  CAGN Observation



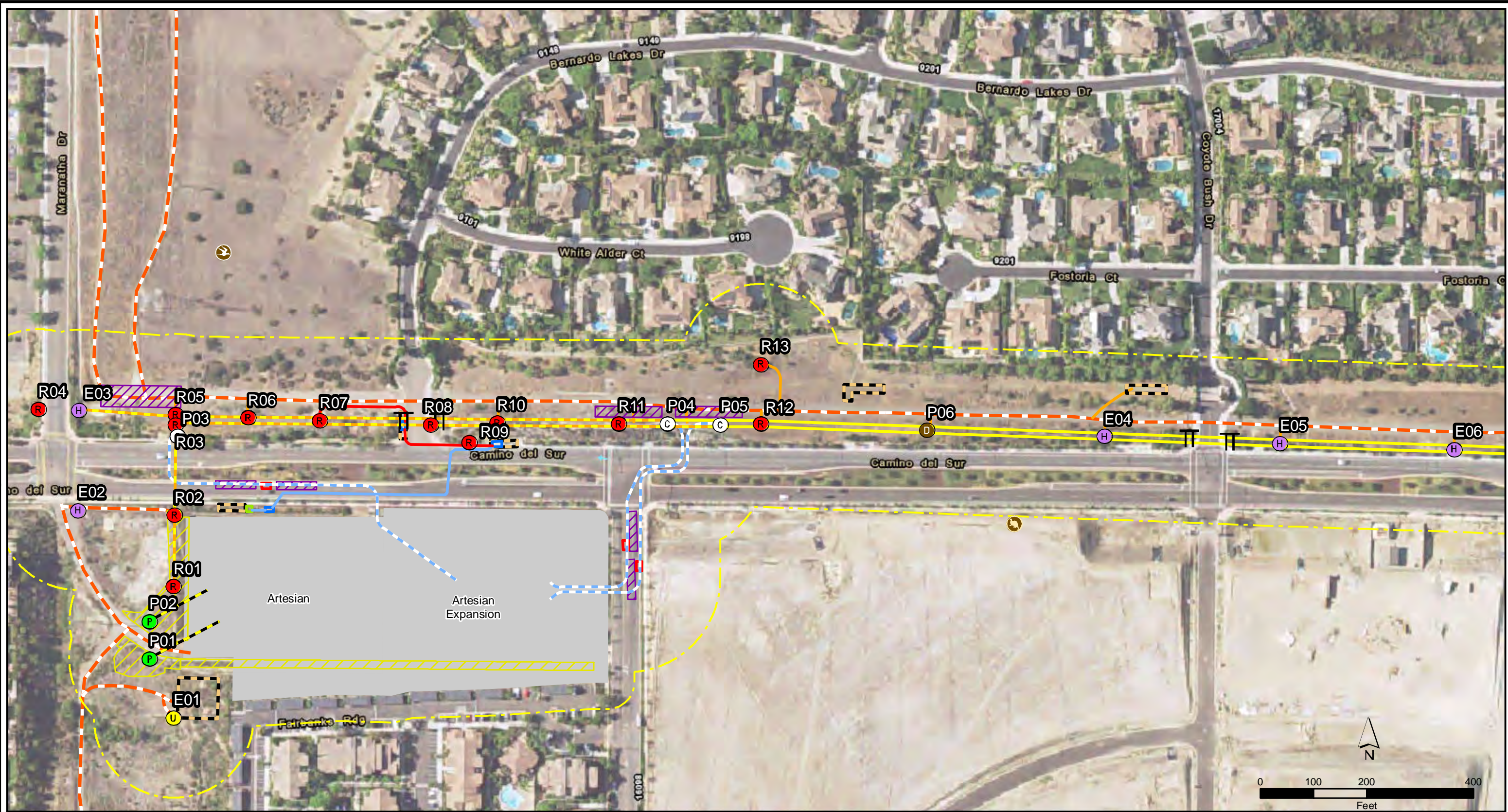
Appendix G
 Special-Status Wildlife
 Species Detected



- Legend**
- Survey Area
 - Access Road
 - ➔ CAGN Observation

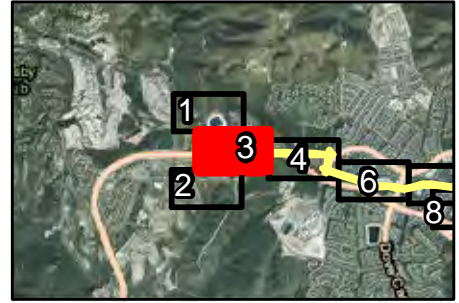


Appendix G
Special-Status Wildlife
Species Detected



Legend

- | | | | | | |
|-----------------------|-----------------------------------|--|----------------------------------|-------------------------------|-----------------------------------|
| Survey Area | New UG Cable | Overhead to be Removed | Distribution Underground Route | Proposed Distribution Feature | Overland travel |
| Foundation cable pole | Remove from service | Overhead Transmission Line (Reconductor) | Distribution Underground Removal | Maintenance Pad & Road | San Diego Black-tailed Jackrabbit |
| Pier Foundation Pole | Guard Structure | Power Line Underground Route | Transmission Vault | Stringing/Pulling Site | NOHA Observation |
| Direct bury | Overhead Power Line (Reconductor) | | Existing Distribution Feature | Work / Staging Area | |
| Overhead work | | | | Access Road | |

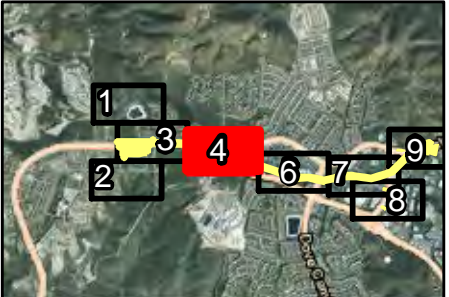


Appendix G
Special-Status Wildlife
Species Detected



Legend

Survey Area	Guard Structure	Proposed Distribution Feature	YEWA Observation
Pier Foundation Pole	Overhead Power Line (Reconductor)	Stringing/Pulling Site	HOLA Observation
Direct bury	Distribution Underground Route	Work / Staging Area	YBCH Observation
Overhead work	Existing Distribution Feature	Access Road	NOHA Observation
Remove from service	Foot path	Overland travel	NUWO Observation

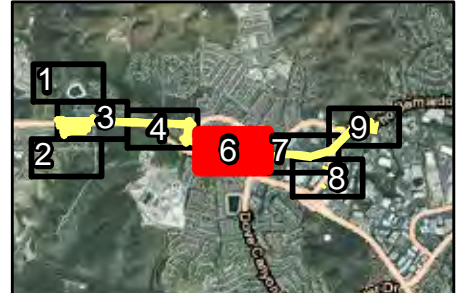


Appendix G
Special-Status Wildlife
Species Detected



Legend

Survey Area	Guard Structure	YEWA Observation
Pier Foundation Pole	Overhead Power Line (Reconductor)	ALHU Observation
Direct bury	Stringing/Pulling Site	COHA Observation
Overhead work	Access Road	NUWO Observation
Remove from service	Foot path	YEWA Observation



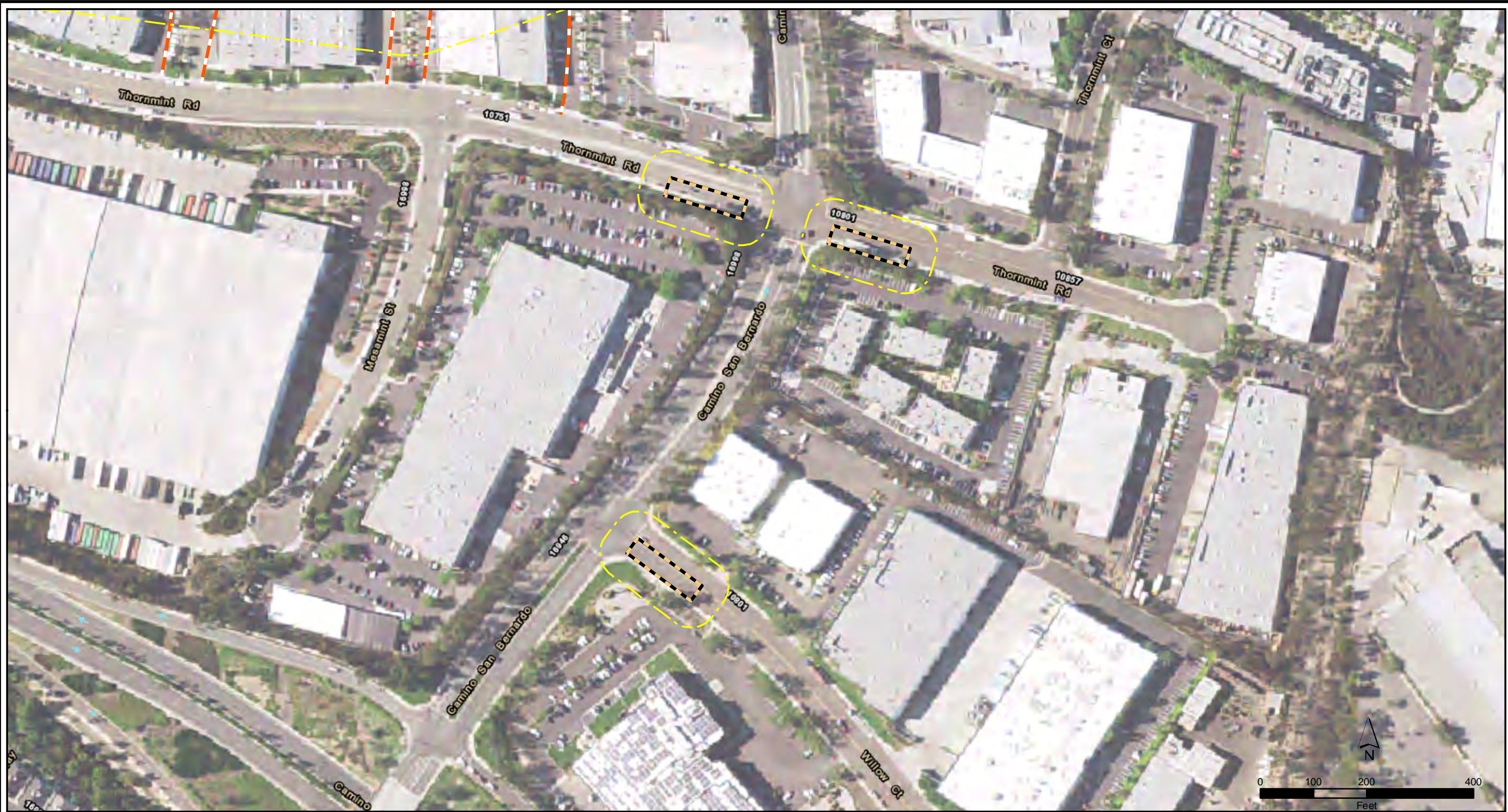
Appendix G
Special-Status Wildlife
Species Detected



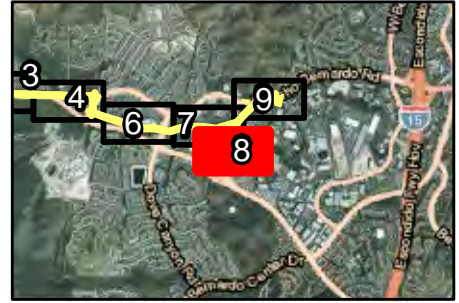
- Legend**
- Survey Area
 - Work / Staging Area
 - D Direct bury
 - Access Road
 - H Overhead work
 - Y LBVI Observation
 - || Guard Structure
 - Y YEWA Observation
 - Overhead Power Line (Reconductor)
 - Y LBVI Observation



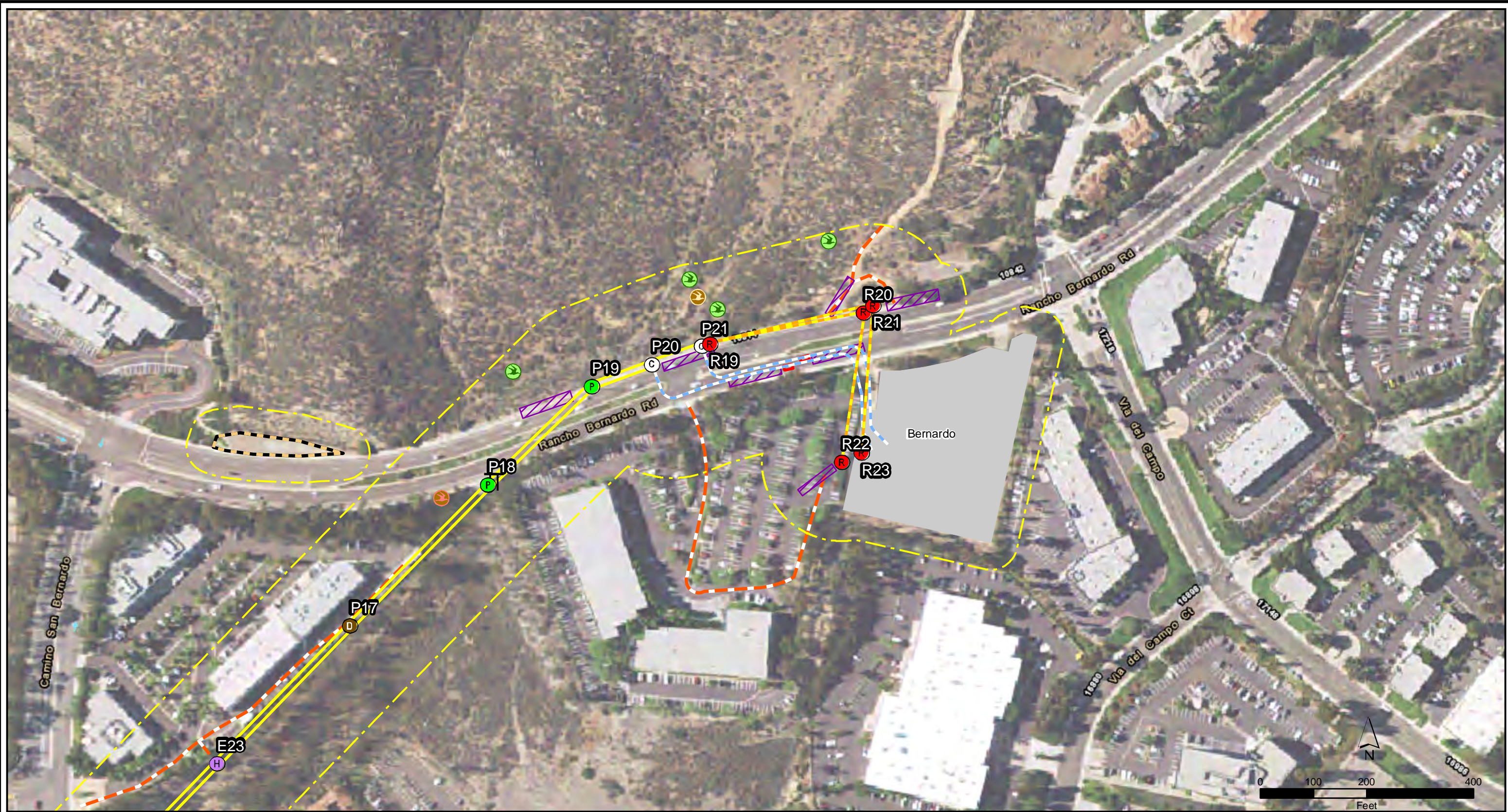
Appendix G
Special-Status Wildlife
Species Detected



- Legend**
- Survey Area
 - Work / Staging Area
 - Access Road



Appendix G
 Special-Status Wildlife
 Species Detected

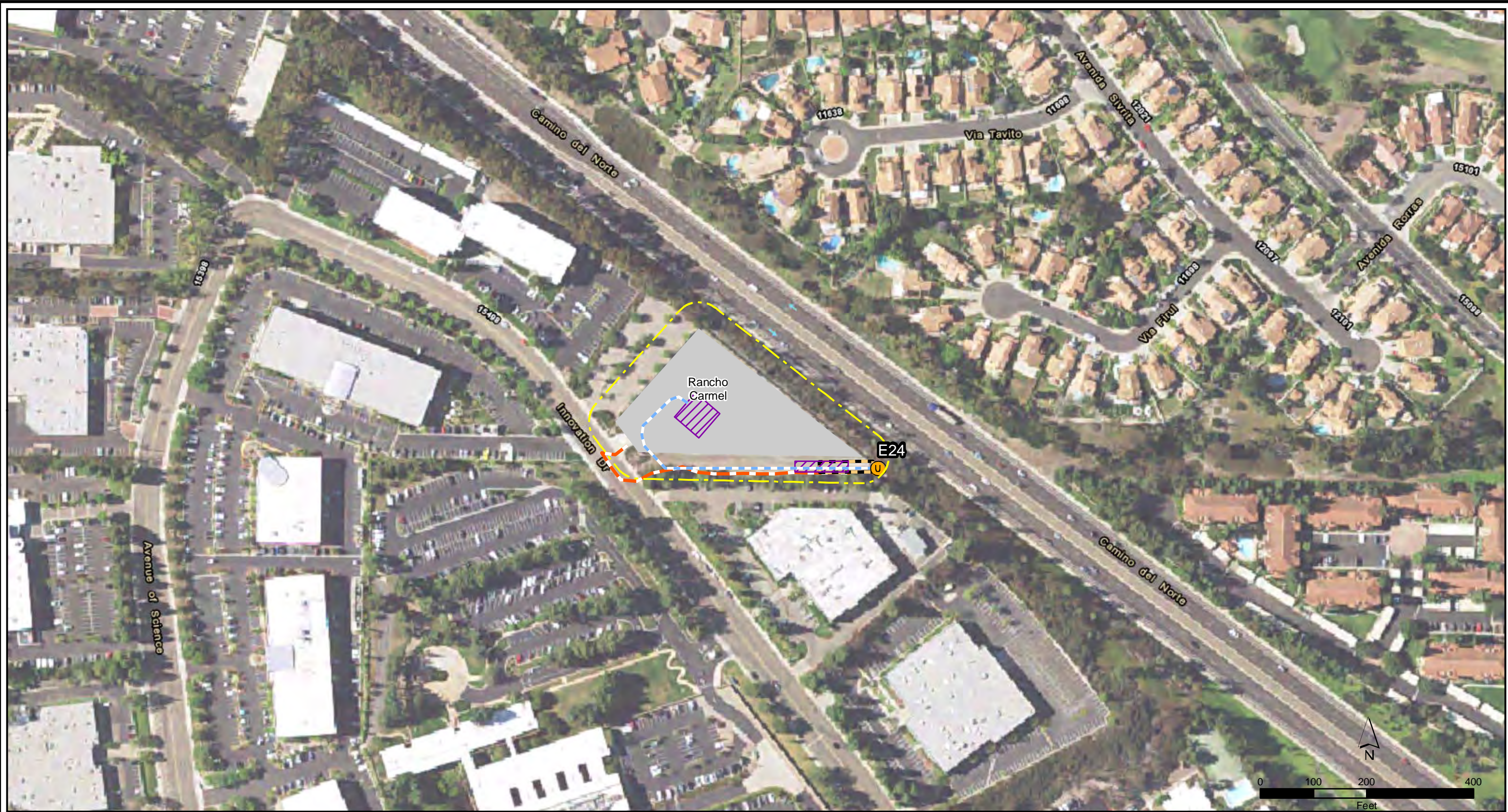


Legend

- | | | | |
|-----------------------|-----------------------------------|------------------------------|------------------|
| Survey Area | Remove from service | Power Line Underground Route | NUWO Observation |
| Foundation cable pole | Guard Structure | Transmission Vault | RCSP Observation |
| Pier Foundation Pole | Overhead Power Line (Reconductor) | Stringing/Pulling Site | |
| Direct bury | Overhead to be Removed | Work / Staging Area | |
| Overhead work | | Access Road | |
| | | CAGN Observation | |



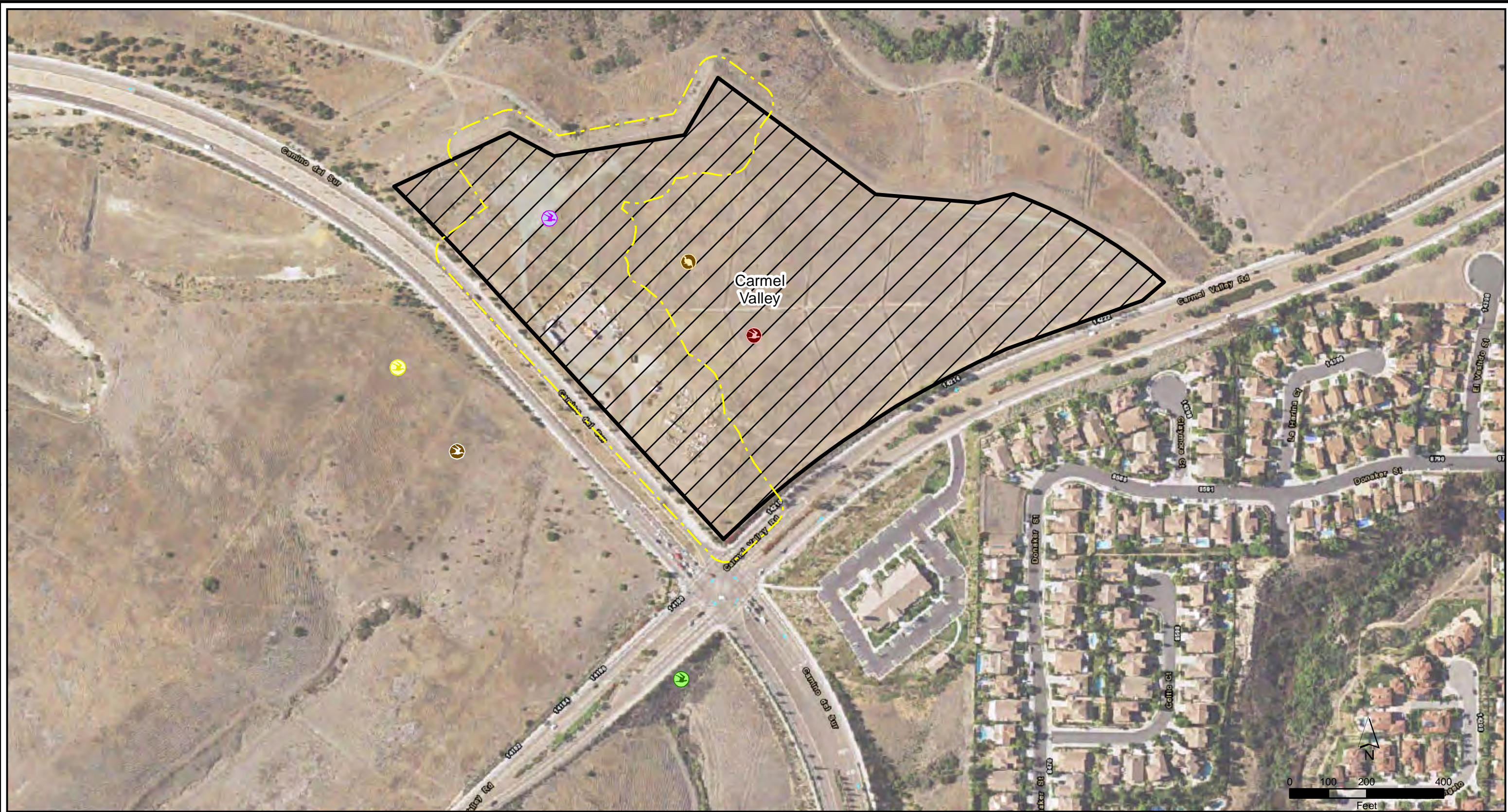
Appendix G
Special-Status Wildlife
Species Detected



- Legend**
- Survey Area
 - Access Road
 - U Overhead work; new UG cable
 - Power Line
 - Underground Route
 - Stringing/Pulling Site
 - Work / Staging Area



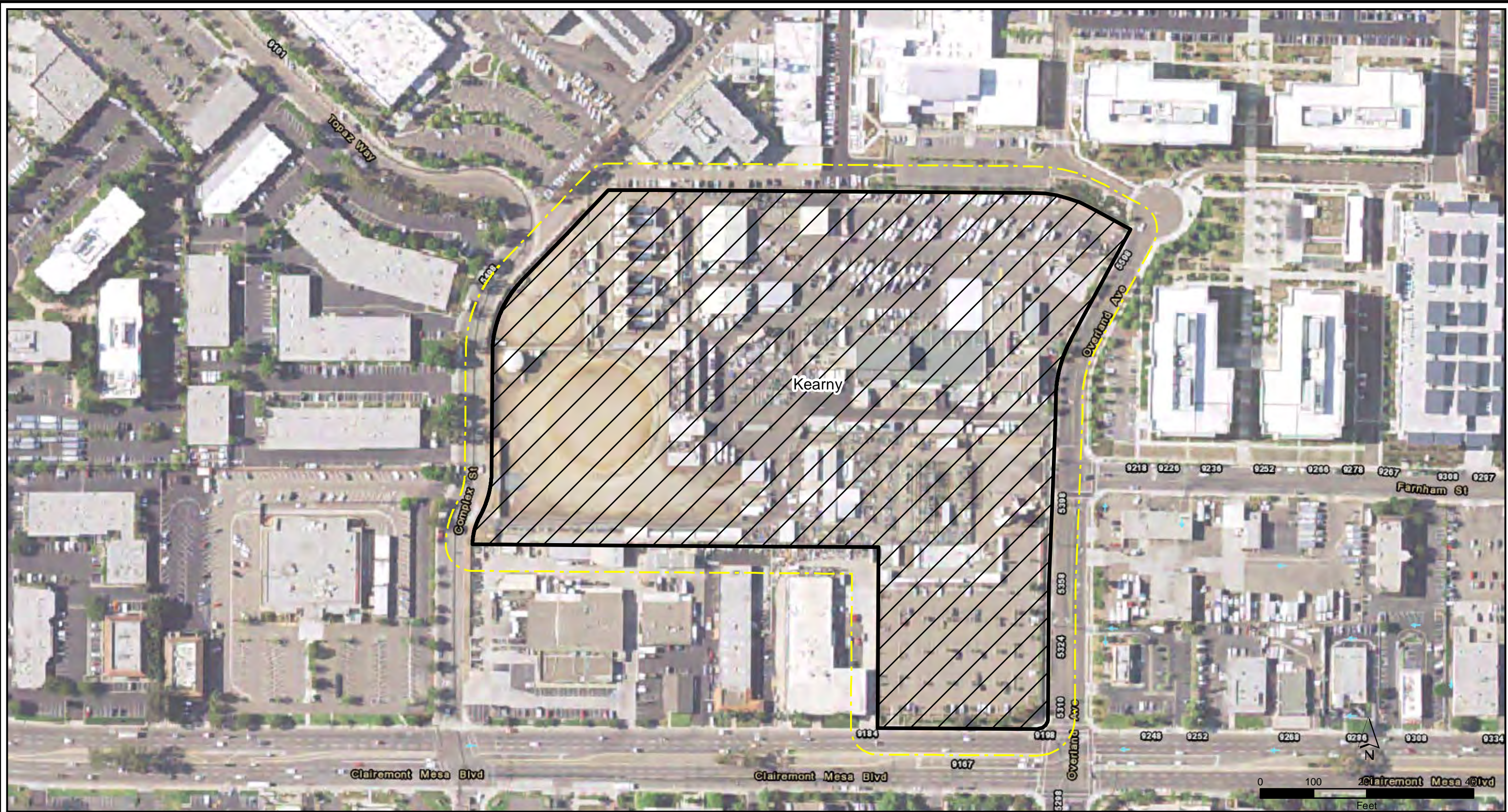
Appendix G
Special-Status Wildlife
Species Detected



- Legend**
- Survey Area
 - Staging Yard
 - BUOW Observation
 - CAGN Observation
 - GRSP Observation
 - ↘ NOHA Observation
 - ↘ San Diego black-tailed jackrabbit
 - ↘ WTKI Observation



Appendix G
Special-Status Wildlife
Species Detected



- Legend**
- Survey Area
 - Staging Yard



Appendix G
 Special-Status Wildlife
 Species Detected



Legend
 [Dashed Yellow Box] Survey Area
 [Hatched Box] Staging Yard



Appendix G
 Special-Status Wildlife
 Species Detected

**APPENDIX H – SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING IN
THE SURVEY AREA TABLE**



*Appendix H: Special Status Wildlife Species Potentially Occurring in the Survey Area for the Artesian Substation Expansion Project
San Diego County, California*

Common Name (<i>Scientific Name</i>)	Status: Federal/State/Other	Habitat and Distribution	Potential for Occurrence (PFO)
CLASS BRANCHIPODA			
San Diego fairy shrimp (<i>Branchinecta sandiegonensis</i>)	Fed: FE State: none	Occurs only in high-quality vernal pools. Lives as a filter feeder, consumes algae, bacteria, and various detritus in water.	This species is presumed absent from the Survey Area. Although there are 5 CNDDDB and 39 USFWS historical occurrences documented within 5 miles of the Proposed Project, the Survey Area lacks suitable habitat (i.e. vernal pools or basins) to support this species.
CLASS INSECTA			
Quino checkerspot butterfly (<i>Euphydryas editha quino</i>)	Fed: FE State: none Other: Covered under the SDG&E low-effect HCP for QCB	Occurs in openings in coastal sage scrub, open chaparral, juniper woodland, native grasslands and forbland habitats at elevations below 4,600 feet below mean sea level in clay or granitic soils. Requires nectar sources and the presence of larval host plants to breed.	This species is presumed absent from the Survey Area based on flight season surveys for QCB conducted in 2016. No QCB were detected during the focused surveys. There are 12 USFWS historical occurrences documented within 5 miles of the Proposed Project; 11 of these occurrences were from 1927-1933, and one was from 1982 near Lake Hodges. The SDG&E mapped Low-Effect QCB HCP for this species occurs within the Survey Area at the northeastern end of the Proposed Project.
CLASS AMPHIBIA			
arroyo toad (<i>Anaxyrus californicus</i>)	Fed: FE State: SSC	Found in washes, streams, and arroyos. Preferred habitats include sandy banks within riparian woodlands such as willow, cottonwood, sycamore, mule fat, and/or coast live oak. Breeds in shallow, sandy or gravelly riverine pools with low silt content, and normally	This species has a low potential to occur within the Survey Area. There are no USFWS or CNDDDB occurrences documented within 5 miles of the Survey Area; the closest USFWS occurrence was documented to the east of Lake Hodges within the San Pasqual Valley, approximately 6 miles from the Proposed Project Survey Area. USFWS critical habitat is located within 4 miles of the Proposed Project Survey Area. There is low quality habitat present along drainages within the Survey Area.

**Appendix H: Special Status Wildlife Species Potentially Occurring in the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name (<i>Scientific Name</i>)	Status: Federal/State/Other	Habitat and Distribution	Potential for Occurrence (PFO)
		disperses onto adjacent uplands after breeding.	
western spadefoot (<i>Spea hammondi</i>)	Fed: none State: SSC	Found in grasslands, floodplains, washes, and playas. Diet consists of invertebrates, beetles, moths, earthworms, crickets, flies, and ants.	This species has a moderate potential to occur with the Survey Area. There are two CNDDDB historical occurrences documented within 5 miles of the Proposed Project. The Survey Area contains moderately suitable habitat to support this species.
CLASS REPTILIA			
western pond turtle (<i>Emys marmorata</i>)	Fed: none State: SSC	Inhabits permanent or nearly permanent bodies of water in ponds, marshes, rivers, and streams that typically have a rocky or muddy bottom and extensive aquatic vegetation along water body margins. Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks for thermoregulation	This species is presumed absent from the Survey Area. There is one CNDDDB historical occurrences documented within 5 miles of the Proposed Project. The Survey Area lacks suitable habitat to support this species to support this species.
coast horned lizard (<i>Phrynosoma coronatum</i>)	Fed: none State: SSC	Occurs in a variety of habitats, such as coastal sage scrub, chaparral, various woodlands, and annual grasslands. Diet consists almost exclusively of ants.	This species has a moderate potential to occur within the Survey Area. There are 18 CNDDDB historical occurrences documented for this species within 5 miles of the Proposed Project and the Survey Area contains suitable habitat to support this species.
orange-throated whiptail (<i>Aspisdoscelis hyperythra</i>)	Fed: none State: SSC	Occurs in coastal sage scrub and chaparral habitats with	This species has a moderate potential to occur within the Survey Area. There are 16 CNDDDB historical

**Appendix H: Special Status Wildlife Species Potentially Occurring in the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name (<i>Scientific Name</i>)	Status: Federal/State/Other	Habitat and Distribution	Potential for Occurrence (PFO)
<i>beldingi</i>)		sandy washes, rocky outcrops, and adequate shading. Diet consists mainly of insects and spiders.	occurrences documented within 5 miles of the Proposed Project and the Survey Area contains suitable habitat to support this species.
Coronado Island skink (<i>Plestiodon skiltonianus interparietalis</i>)	Fed: none State: SSC	Occurs in early successional stages of habitats such as coastal sage scrub, chaparral, open woodland, and conifer forests. Forages through leaf litter small invertebrates.	This species has a low potential to occur within the Survey Area. There are 3 CNDDDB historical occurrences documented within 5 miles of the Proposed Project and the Survey Area contains a limited amount of suitable habitat to support this species.
coast patch-nosed snake (<i>Salvadora hexalepis virgulata</i>)	Fed: none State: SSC	Occurs in California from the northern Carrizo Plains in San Luis Obispo County, south through the coastal zone, south and west of the deserts, and into coastal northern Baja California. This species inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains from 0 to 7,000 feet in elevation.	This species has a low potential to occur within the Survey Area. There is one CNDDDB historical occurrence documented within 5 miles of the Proposed Project and the Survey Area contains a limited amount of suitable habitat to support this species.
red diamond rattlesnake (<i>Crotalus ruber</i>)	Fed: none State: SSC	Found in several habitat types, such as coastal sage scrub, grassland, woodland associated large rocks or boulders. Diet consists mainly of squirrels for adults and lizards for juveniles.	This species has a moderate potential to occur within the Survey Area. There are 4 CNDDDB historical occurrences documented within 5 miles of the Proposed Project and the Survey Area contains good quality suitable habitat to support this species.

**Appendix H: Special Status Wildlife Species Potentially Occurring in the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name (<i>Scientific Name</i>)	Status: Federal/State/Other	Habitat and Distribution	Potential for Occurrence (PFO)
CLASS AVES			
northern harrier (<i>Circus cyaneus</i>)	Fed: none State: SSC	Inhabits wetland habitats including marshy meadows, boglands, pasturelands, wet grasslands, tundra, open riparian woodlands, and freshwater and brackish marshes. It also occurs on dry uplands, including upland prairies, mesic grasslands, drained marshlands, croplands, and cold desert shrub-steppe, especially where these occur next to water bodies.	This species is considered present and has a moderate potential to nest within the Survey Area. This species was detected approximately 0.2 mile north of the Survey Area, north of Proposed Project locations R03 and P03, and 0.3 mile north of the Survey Area, north of Proposed Project locations E5 and E6, during coastal California gnatcatcher focused surveys conducted for the Former Alignment by Chambers Group in 2015. This species was also detected within or adjacent to the Survey Area during burrowing owl surveys conducted for the Former Alignment by Pangea Biological in winter 2014/2015.
white-tailed kite (<i>Elanus leucurus</i>)	Fed: none State: FP	Inhabits low elevation grasslands, agricultural fields, wetlands, oak woodlands, savannahs, chaparral, and riparian habitats adjacent to open lands. It breeds primarily in open areas with scattered trees, usually near water.	This species is considered present and has a moderate potential to nest within the Survey Area. This species was detected in the Carmel Valley Road Survey Area during wintering BUOW surveys in 2015/2016. There are no CNDDDB or USFWS historical occurrences documented within 5 miles of the Survey Area.

**Appendix H: Special Status Wildlife Species Potentially Occurring in the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name (<i>Scientific Name</i>)	Status: Federal/State/Other	Habitat and Distribution	Potential for Occurrence (PFO)
Cooper's hawk (<i>Accipiter cooperii</i>)	Fed: none State: WL	Occurs in open woodlands, mature forests, woodland edges, and river groves. Known to breed in suburban and urban areas with tree structure similar to native habitats.	This species is considered present and has a moderate potential to nest within the Survey Area. This species was detected within the Survey Area south of Proposed Project location E12 during focused coastal California gnatcatcher and least Bell's vireo surveys conducted for the Former Alignment by Chambers Group in 2015. This species was also detected approximately 0.18 mile outside the Survey Area during focused plant surveys for the Proposed Project conducted by RECON in 2014. This species has a low potential to nest within the Survey Area.
Swainson's hawk (<i>Buteo swainsoni</i>)	Fed: BCC State: ST	Swainson's Hawks favor open habitats for foraging including grasslands, but also use sage flats and even swaths of agriculture intermixed with native habitat. Nesting trees include willow, black locust, oak, aspen, cottonwood, and conifers. This species occurs as a migrant and/or resident over most of the United States from southern Canada to northern Mexico.	This species has a low potential to occur within the Survey Area during migration and is not expected to nest. There is one CNDDDB historical occurrence documented within 5 miles of the Proposed Project and the Survey Area contains a limited amount of suitable habitat to support this species.
burrowing owl (<i>Athene cunicularia</i>)	Fed: BCC State: SSC	Occurs in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. A subterranean nester dependent upon burrowing	This species is presumed absent for breeding from the Survey Area. Breeding season (2016) BUOW surveys were conducted within the Carmel Valley Road Staging Yard to investigate the potential use of BUOW for breeding. No BUOW were observed during these surveys; therefore, BUOW are presumed absent from

**Appendix H: Special Status Wildlife Species Potentially Occurring in the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name (<i>Scientific Name</i>)	Status: Federal/State/Other	Habitat and Distribution	Potential for Occurrence (PFO)
		mammals, most notable the California ground squirrel.	the Survey Area for breeding. The BUOW observed during the wintering BUOW surveys of 2015/2016 was determined to be using the area for foraging purposes only. No fresh BUOW sign was observed in 2016.
Allen's hummingbird (<i>Selasphorus sasin</i>)	Fed: BCC State: none	Occurs in scrub habitats, parks, and gardens. Breeds in semi-open habitats, including open oak woods, streamside groves, well-wooded suburbs, city parks. Winters mostly in foothills and mountain forests in Mexico. Migrants also occur in high mountain meadows in late summer.	This species is considered present and has a moderate potential to nest within the Survey Area. This species was observed within the Survey Area, east of Proposed Project location E13, during coastal California gnatcatcher and least Bell's vireo focused surveys conducted by Chambers Group in 2015. There are no CNDDDB or USFWS historical occurrences documented within 5 miles of the Survey Area.
Nuttall's woodpecker (<i>Picoides nuttallii</i>)	Fed: BCC State: None	Occurs in wooded canyons and foothills. Prefers oak trees, especially where oaks meet other trees along rivers, also in pine-oak woods in foothills. In southern California also in riverside cottonwoods, sycamores, willows, even if no oaks present.	This species can be considered present and has a moderate potential to nest within the Survey Area. This species was detected within the Survey Area southwest of Proposed Project location P11 during focused coastal California gnatcatcher and least Bell's vireo surveys conducted by Chambers Group in 2015. In addition, there are two CNDDDB historical occurrences documented within 5 miles of the Project. The Survey Area contains a moderate amount of suitable nesting habitat to support this species.
southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	Fed: FE State: SE	Breeds in a variety of riparian habitats with multi-tiered canopies and surface water, and/or saturated soils along streams. Habitat types may	This species has a low potential to occur while foraging and is not expected to nest within the Survey Area. There is one CNDDDB and 2 USFWS historical occurrences documented within 5 miles of the Proposed Project. The Survey Area contains a limited amount of suitable

**Appendix H: Special Status Wildlife Species Potentially Occurring in the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name (<i>Scientific Name</i>)	Status: Federal/State/Other	Habitat and Distribution	Potential for Occurrence (PFO)
		include a variety of willow, cottonwood, coast live oak, alder, and tamarisk woodlands.	habitat for foraging, and does not contain suitable nesting habitat to support this species.
least Bell's vireo (<i>Vireo bellii pusillus</i>)	Fed: FE State: SE	Occurs in early-successional habitats along rivers with low, dense vegetation. Diet consists of insects and spiders. Requires densely vegetated riparian habitat along streams and rivers for nesting.	This is considered present for foraging and has a moderate potential to nest within the Survey Area. This species was detected singing within the Survey Area, just northeast of Proposed Project location P14, during focused plant surveys conducted for the Proposed Project by RECON in 2014. One lone male LBVI was detected within the Survey Area on June 12, 2016 during the fourth focused survey. This individual was observed singing and foraging between Proposed Project locations E18 and P18, and did not display nesting behavior. No other LBVI have been observed during the 2016 surveys and breeding LBVI within the Survey Area is not anticipated. The final two focused surveys for the current Proposed Project are planned for July 2016. A report of results for the 2016 focused LBVI surveys will be prepared following the conclusion of the surveys.
California horned lark (<i>Eremophila alpestris actia</i>)	Fed: none State: WL	Occurs in open habitats, including bare ground, sparse short grasslands, dry prairies, open fields, deserts, brushy flats, tundra, and developed habitats such as fallow agricultural fields, airports, golf courses, parks, and open residential areas.	This species can be considered present for foraging and has a moderate potential to nest within the Survey Area. This species was detected within the Survey Area during focused plant surveys conducted for the Proposed Project by RECON in 2014. There are no CNDDDB or USFWS historical occurrences documented within 5 miles of the Survey Area. Suitable nesting habitat is located within disturbed areas and annual grassland.

**Appendix H: Special Status Wildlife Species Potentially Occurring in the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name (<i>Scientific Name</i>)	Status: Federal/State/Other	Habitat and Distribution	Potential for Occurrence (PFO)
coastal cactus wren (<i>Campylorhynchus brunneicapillus</i>)	Fed: BCC State: SSC	Occurs in coastal sage scrub interlaced with patches of opuntia. Diet is primarily insectivorous, forages on the ground for prey items such as caterpillars, moths, and grasshoppers	This species has a low potential to occur while foraging and is not expected to nest within the Survey Area. There are 14 CNDDDB historical occurrences documented within 5 miles of the Project but they are all from prior to 2000 with the exception of one in 2001. This species has been extirpated from over half of these occurrence locations. The Survey Area lacks suitable nesting habitat to support this species.
coastal California gnatcatcher (<i>Polioptila californica californica</i>)	Fed: FT State: SSC	An obligate, permanent resident of coastal sage scrub below 2,500 feet in elevation in Southern California. Found in low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	This species is considered present for foraging and is presumed absent for nesting within the Survey Area. There are 54 CNDDDB and 500 USFWS historical occurrences documented of this species within 5 miles of the Proposed Project. A total of 9 individuals have been detected in suitable habitat within and adjacent to the Survey Area near the western and eastern ends of the Proposed Project during focused plant and wildlife surveys conducted by RECON, Pangea, and Chambers Group in 2014 and 2015. In addition, the Survey Area contains a moderate amount of good quality suitable habitat to support this species. Chambers Group conducted focused CAGN surveys in the spring of 2016 in two polygons of suitable habitat that were not covered in 2015: one at the western end and one at the eastern end of the Proposed Project. No additional CAGN were observed at these two locations. No CAGN were observed nesting within the Survey Area.
Cooper's hawk (<i>Accipiter cooperii</i>)	Fed: none State: WL	Occurs in open woodlands, mature forests, woodland edges, and river groves. Known to breed in suburban	This species is considered present and has a moderate potential to nest within the Survey Area. This species was detected within the Survey Area south of Proposed Project location E12 during focused coastal California

**Appendix H: Special Status Wildlife Species Potentially Occurring in the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name (<i>Scientific Name</i>)	Status: Federal/State/Other	Habitat and Distribution	Potential for Occurrence (PFO)
		and urban areas with tree structure similar to native habitats.	gnatcatcher and least Bell's vireo surveys conducted for the Former Alignment by Chambers Group in 2015. This species was also detected approximately 0.18 mile outside the Survey Area during focused plant surveys conducted for the Proposed Project by RECON in 2014.
loggerhead shrike (<i>Lanius ludovicianus</i>)	Fed: BCC State: SSC	Occurs in semi-open habitats, oak savannas, open chaparral, desert washes, juniper woodlands, Joshua tree woodlands with scattered trees, large shrubs, utility poles, and other structures that serve as lookout posts while searching for prey. Prefer to nest in dense, thorny shrubs and trees, brush piles, and tumbleweeds.	This species is considered present has a low potential to nest within the Survey Area. This species was detected within or adjacent to the Survey Area during burrowing owl focused surveys conducted for the Former Alignment by Pangea Biological. This species has a low potential to nest within the Survey Area due to a limited amount of suitable nesting substrate.
yellow warbler (<i>Setophaga petechia</i>)	Fed: BCC State: SSC	Breeding habitats include wet areas, such as riparian woodlands, orchards, gardens, swamp edges, and willow thickets. Most breeding habitats generally contain medium to high-density tree and shrub species with ample early successional understories.	This is considered present for foraging and has a moderate potential to nest within the Survey Area. This species was detected within the Survey Area, between Proposed Project locations E12 and E13, during focused least Bell's vireo surveys conducted for the Former Alignment by Chambers Group in 2015. There are no CNDDDB or USFWS historical occurrences documented within 5 miles of the Survey Area. A moderate amount of suitable habitat is present within the Survey Area.

**Appendix H: Special Status Wildlife Species Potentially Occurring in the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name (<i>Scientific Name</i>)	Status: Federal/State/Other	Habitat and Distribution	Potential for Occurrence (PFO)
yellow-breasted chat (<i>Icteria virens</i>)	Fed: none State: SSC	Habitats include swamplands, riparian willow thickets and other dense riparian brush, often near watercourses. Gleans vegetation for spiders, insects, and berries.	This is considered present for foraging and has a moderate potential to nest within the Survey Area. This species was detected singing during focused plant surveys conducted for the Proposed Project by RECON in 2014. In addition, there is one CNDDDB historical occurrence documented within 5 miles of the Proposed Project from 1991 and a moderate amount of suitable habitat is present within the Survey Area.
southern California rufous-crowned sparrow (<i>Aimophila ruficeps canescens</i>)	Fed: none State: WL	Occurs in coastal sage scrub, chaparral, and rocky brush-laden hillsides. Diet consists primarily of small grass and forb seeds, occasionally will also consume insects.	This species is considered present and has a high potential to nest within the Survey Area. This species was detected within the Survey Area, north of Proposed Project Location P20, during focused coastal California gnatcatcher surveys conducted for the Former Alignment in 2015. There is suitable habitat in scrub habitat, particularly in the eastern section of Survey Area for foraging and nesting. There are 17 CNDDDB historical occurrences documented within 5 miles of the Proposed Project and the Survey Area contains good quality suitable habitat to support this species.
grasshopper sparrow (<i>Ammodramus savannarum</i>)	Fed: none State: SSC	Inhabits grasslands and marshes. Breeds in open grass fields and prairies.	This species is considered present and has a moderate potential to nest within the Survey Area. This species was detected in the Carmel Valley Road Survey Area during wintering BUOW surveys in 2015/2016 and during breeding season BUOW surveys in spring 2016. There are no CNDDDB or USFWS historical occurrences documented within 5 miles of the Survey Area.

**Appendix H: Special Status Wildlife Species Potentially Occurring in the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name (<i>Scientific Name</i>)	Status: Federal/State/Other	Habitat and Distribution	Potential for Occurrence (PFO)
tricolored blackbird (<i>Agelaius tricolor</i>)	Fed: BCC State: Candidate	Forms large breeding colonies in emergent wetlands with tall, dense cattails or tules, and in thickets of willow, blackberry, wild rose, or tall, dense forbs. Requires open, accessible water, protective nesting vegetation, and suitable foraging habitat with insect prey, seeds, and cultivated oats.	This species is presumed absent from the Survey Area for foraging and nesting. There are 2 CNDDDB historical occurrences documented within 5 miles of the Proposed Project from over 80 years ago. The Survey Area lacks suitable habitat to support this species.

CLASS MAMMALIA

western mastiff bat (<i>Eumops perotis</i>)	Fed: none State: SSC Other: WBWG high priority species	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. They roost in crevices in cliff faces, high buildings, trees, and tunnels.	This species has a low potential to occur within the Survey Area. There are 3 CNDDDB historical occurrences documented within 5 miles of the Project. The Survey Area contains low quality roosting habitat to support this species.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	Fed: none State: SSC Other: WBWG high priority species	Found in all habitats, except alpine. Elusive and rare throughout their range. Diet primarily consists of moths.	This species has a low potential to occur within the Survey Area. There is one CNDDDB historical occurrence documented within 5 miles of the Project. The Survey Area contains low quality roosting habitat to support this species.
pocketed free-tailed bat (<i>Nyctinomops femorosaccus</i>)	Fed: none State: SSC Other: WBWG medium-high priority species	Occurs in pinyon-juniper habitats and a wide variety of desert habitats, such as alkali desert scrub, desert succulent scrub, and desert washes. Forages over open	This species has a low potential to occur within the Survey Area. There are 2 CNDDDB historical occurrences documented within 5 miles of the Project. The Survey Area contains low quality roosting habitat to support this species.

**Appendix H: Special Status Wildlife Species Potentially Occurring in the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name (<i>Scientific Name</i>)	Status: Federal/State/Other	Habitat and Distribution	Potential for Occurrence (PFO)
		water for moths, flies, lacewings, and other insects.	
big free-tailed bat (<i>Nyctinomops macrotis</i>)	Fed: none State: SSC Other: WBWG medium-high priority species	Colonial rooster that prefers rugged cliff faces, slopes, and outcrops. Roosts are rarely found in human structures. May be found in various woodland, desert, and scrub associations.	This species has a low potential to occur within the Survey Area. There is one CNDDDB historical occurrence documented within 5 miles of the Project. The Survey Area contains low quality roosting habitat to support this species.
western yellow bat (<i>Lasiurus xanthinus</i>)	Fed: none State: SSC Other: WBWG high priority species	An obligate foliage roosting species that prefers dry, thorny vegetation and palms. Known to occur in a number of palm oases, and may use ornamental palms in landscaping.	This species has a low potential to occur within the Survey Area. There is one CNDDDB historical occurrence documented within 5 miles of the Project. The Survey Area contains low quality roosting habitat to support this species.
Mexican long-tongued bat (<i>Choeronycteris mexicana</i>)	Fed: none State: SSC Other: WBWG high priority species	Occurs in a variety of habitats such as, desert and montane riparian, chaparral, and woodlands. Feeds primarily on nectar, may also consume fruit juices and pollen.	This species has a low potential to occur within the Survey Area. CNDDDB lists one historical occurrences documented within 5 miles of the Project. The Survey Area contains low quality roosting habitat to support this species.
northwestern San Diego pocket mouse (<i>Chaetodipus fallax fallax</i>)	Fed: none State: SSC	Occurs in chaparral, sage scrubs, and grasslands with rocks and coarse gravel. Primarily granivorous, however will also consume green vegetation and insects.	This species has a low potential to occur within the Survey Area. There are two CNDDDB historical occurrences documented within 5 miles of the Project. The Survey Area contains a moderate amount of suitable habitat to support this species.
Dulzura pocket mouse (<i>Chaetodipus californicus femoralis</i>)	Fed: none State: SSC	Occurs in chaparral, sage scrubs, and grasslands with rocks and coarse gravel. Primarily	This species has a low potential to occur within the Survey Area. There are 2 CNDDDB historical occurrences documented within 5 miles of the Proposed Project

**Appendix H: Special Status Wildlife Species Potentially Occurring in the Survey Area for the Artesian Substation Expansion Project
San Diego County, California**

Common Name (<i>Scientific Name</i>)	Status: Federal/State/Other	Habitat and Distribution	Potential for Occurrence (PFO)
		granivorous, however will also consume green vegetation and insects.	from over 20 years ago. The Survey Area contains a limited amount of suitable habitat to support this species.
San Diego desert woodrat (<i>Neotoma lepida intermedia</i>)	Fed: none State: SSC	Occurs in coastal scrub of Southern California from San Diego county to San Luis Obispo county. Moderate to dense canopies are preferred; particularly abundant in rock outcrops and rocky cliffs and slopes.	This species has a low potential to occur within the Survey Area. There 6 CNDDDB historical occurrences documented within 5 miles of the Project between 1993 and 2000. The eastern end of the Survey Area contains limited suitable habitat to support this species.
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	Fed: none State: SSC	Found in intermediate canopy stages of shrub habitats and open shrub/herbaceous and tree/herbaceous edges in coastal sage scrub habitats in Southern California.	This species can be considered present within the Survey Area. This species was detected within the Survey Area during focused plant surveys conducted for the Proposed Project by RECON in 2014. There are 4 CNDDDB historical occurrences documented within 5 miles of the Proposed Project and the Survey area contains a moderate amount of suitable habitat to support this species.

APPENDIX I – WILDLIFE SPECIES DETECTED LIST



*Appendix I – Wildlife Species Detected List for the Artesian Substation Expansion Project
San Diego County, California*

Scientific name	Common Name	Special Status*
Class Insecta	INSECTS	
Family Nymphalidae	Brush-footed butterflies	
<i>Vanessa cardui</i>	painted lady	
Class Reptilia	REPTILES	
Family Phrynosomatidae	Tree, Side-blotched, and horned lizards	
<i>Uta stansburiana</i>	side-blotched lizard	
Class Aves	BIRDS	
PODICIPEDIDAE	GREBES	
<i>Podiceps nigricollis</i>	eared grebe	
ARDEIDAE	HERONS, BITTERNs	
<i>Ardea herodias</i>	great blue heron	
ANATIDAE	DUCKs, GEESE, SWANS	
<i>Anas clypeata</i>	northern shoveler	
<i>Anas platyrhynchos</i>	mallard	
<i>Bucephala albeola</i>	bufflehead	
<i>Oxyura jamaicensis</i>	ruddy duck	
Family Cathartidae	New World Vultures	
<i>Cathartes aura</i>	turkey vulture	
Family Accipitridae	Hawks, Kites, Eagles, and Allies	
<i>Circus cyaneus</i>	northern harrier	SSC
<i>Elanus leucurus</i>	white-tailed kite	FP
<i>Accipiter cooperii</i>	Cooper's hawk	WL
<i>Buteojamaicensis</i>	red-tailed hawk	
<i>Buteo lineatus</i>	red-shouldered hawk	
Family Falconidae	Falcons	
<i>Falco sparverius</i>	American kestrel	
Family Odontophoridae	New World Quail	
<i>Callipepla californica</i>	California quail	
<i>Charadrius vociferus</i>	killdeer	
Family Columbidae	Pigeons and Doves	
<i>Columba livia</i>	rock pigeon	I
<i>Zenaida macroura</i>	mourning dove	
Family Cuculidae	Cuckoos and Roadrunners	
<i>Geococcyx californianus</i>	greater roadrunner	
Family Apodidae	Swifts	
<i>Aeronautes saxatalis</i>	white-throated swift	
Family Trochilidae	Hummingbirds	
<i>Calypte anna</i>	Anna's hummingbird	

**Appendix I – Wildlife Species Detected List for the Artesian Substation Expansion Project
San Diego County, California**

Scientific name	Common Name	Special Status*
<i>Calypte costae</i>	Costa's hummingbird	
<i>Selasphorus sasin</i>	Allen's hummingbird	BCC
Family Picidae	Woodpeckers	
<i>Picoides nuttallii</i>	Nuttall's woodpecker	BCC
Family Tyrannidae	Tyrant Flycatchers	
<i>Empidonax difficilis</i>	Pacific-slope flycatcher	
<i>Sayornis nigricans</i>	black phoebe	
<i>Sayornis saya</i>	Say's phoebe	
<i>Myiarchus cinerascens</i>	ash-throated flycatcher	
<i>Tyrannus vociferans</i>	Cassin's kingbird	
<i>Tyrannus verticalis</i>	western kingbird	
Family Hirundinidae	Swallows	
<i>Stelgidopteryxserripennis</i>	northern rough-winged swallow	
<i>Hirundopyrrhonota</i>	cliff swallow	
Family Corvidae	Crows and Jays	
<i>Apheloco macalifornica</i>	California scrub-jay	
<i>Corvus brachyrhynchos</i>	American crow	
<i>Corvus corax</i>	common raven	
Family Aegithalidae	Bushtits	
<i>Psaltriparusminimus</i>	bushtit	
Family Troglodytidae	Wrens	
<i>Salpinctesobsoletus</i>	rock wren	
<i>Thryomanesbewickii</i>	Bewick's wren	
<i>Troglodytes aedon</i>	house wren	
Family Sylviidae	Gnatcatchers	
<i>Polioptilacaerulea</i>	blue-gray gnatcatcher	
<i>Polioptilacalifornicalifornica</i>	coastal California gnatcatcher	FT, SSC
Family Turdidae	Thrushes	
<i>Catharusguttatus</i>	hermit thrush	
Family Timaliidae	Babblers	
<i>Chamaeafasciata</i>	wrentit	
Family Mimidae	Mockingbirds and Thrashers	
<i>Mimus polyglottos</i>	northern mockingbird	
<i>Toxostoma redivivum</i>	California thrasher	
Family Laniidae	Shrikes	
<i>Lanius ludovicianus</i>	loggerhead shrike	SSC, BCC
Family Sturnidae	Starlings	
<i>Sturnus vulgaris</i>	European starling	I
FamilyParulidae	Wood-Warblers	

**Appendix I – Wildlife Species Detected List for the Artesian Substation Expansion Project
San Diego County, California**

Scientific name	Common Name	Special Status*
<i>Dendroica coronata</i>	yellow-rumped warbler	
<i>Geothlypistrichas</i>	common yellowthroat	
Family Emberizidae	Emberizids	
<i>Pipilomaculatus</i>	spotted towhee	
<i>Pipilocrissalis</i>	California towhee	
<i>Aimophilaruficepsanescens</i>	southern California rufous-crowned sparrow	WL
<i>Ammodramus savannarum</i>	grasshopper sparrow	SSC
<i>Zonotrichialeucophrys</i>	white-crowned sparrow	
Family Cardinalidae	Cardinals and Allies	
<i>Pheucticusmelanocephalus</i>	black-headed grosbeak	
Family Icteridae	Blackbirds	
<i>Agelaius phoeniceus</i>	red-winged blackbird	
<i>Sturnellaneglecta</i>	western meadowlark	
<i>Euphaguscyanocephalus</i>	Brewer's blackbird	
<i>Molothrusater</i>	brown-headed cowbird	
<i>Icterus cucullatus</i>	hooded oriole	
Family Fringillidae	Finches and Allies	
<i>Carpodacusmexicanus</i>	house finch	
<i>Carduelispsaltria</i>	lesser goldfinch	
ESTRILDIDAE	ESTRILDID FINCHES	
<i>Lonchura punctulata</i>	scaly-breasted munia	
Class Mammalia	MAMMALS	
Family Sciuridae	Squirrels	
<i>Spermophilus beecheyi</i>	California ground squirrel	
LEPORIDAE	HARES & RABBITS	
<i>Sylvilagus audubonii</i>	desert cottontail	
CANIDAE	WOLVES & FOXES	
<i>Canis familiaris</i>	domestic dog	

*I= Introduced Species

FT= Federally Threatened

SSC= CDFW Species of Special Concern

BCC= USFWS Bird of Conservation Concern

WL= CDFW List of Taxa to Watch

FP= CDFW Fully Protected

APPENDIX J – 2015 RARE PLANTS SURVEY REPORT



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An Employee-Owned Company

August 5, 2014

Mr. Todd Easley
Environmental Specialist — Biological Resources
San Diego Gas & Electric
571 Enterprise Street – SD1460
Escondido, CA 92029-1244

Reference: Rare Plants Survey for the Artesian Substation Expansion and Tie Line 6939 Project (RECON Number 7528)

Dear Mr. Easley:

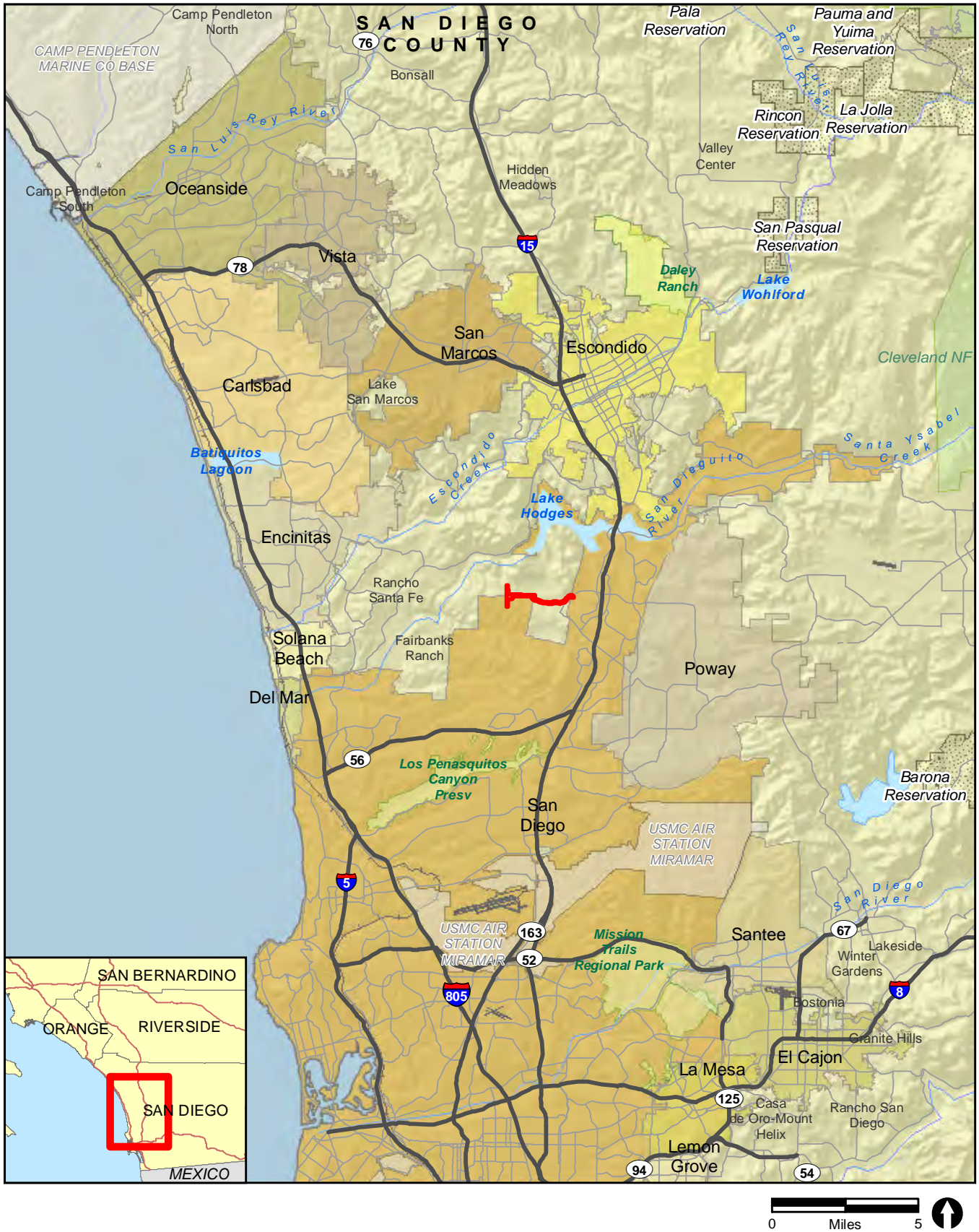
Per San Diego Gas & Electric's (SDG&E) request, RECON Environmental, Inc. (RECON) biologists conducted focused surveys for rare plant species within the Artesian Substation Expansion and Tie Line (TL) 6939 Project survey area located in the community of Black Mountain Ranch in the city of San Diego and an unincorporated area of San Diego County, California (Figures 1, 2, and 3). The survey area encompasses the project area (Artesian Substation and approximately 3.0 miles of TL 6939) and the surrounding 150-foot buffer. The survey area is linear in shape and roughly parallels east–west portions of Camino Del Sur and Rancho Bernardo Road, with linear areas extending north and south at the west end of the survey area. A wetland delineation report is being prepared by RECON in conjunction with this rare plant report (RECON 2014).

Methods

Prior to conducting the field survey, information on potentially occurring rare plant species, habitat preferences, soil types, vegetation maps, and known rare plant species' phenologies was compiled and used to plan survey efforts. Soils maps were also reviewed to focus survey efforts in areas with higher probability of supporting rare plant species.

For purposes of this survey, plant species are considered rare if they are federally or state listed as endangered or threatened; are covered species under SDG&E's Natural Community Conservation Plan (NCCP); or, using the California Native Plant Society's (CNPS) California Rare Plant Ranking System, are ranked as 1B (considered rare, threatened, or endangered throughout their range), 2B (considered rare, threatened, or endangered in California, but more common elsewhere), or 4 (plants of limited distribution; CNPS 2014). CNPS also includes a Threat Rank, which is represented as an extension to the California Rare Plant Rank and designates the levels of threat by a 1 to 3 ranking, as follows: 0.1 — Seriously threatened in California, 0.2 — Moderately threatened in California, 0.3 — Not very threatened in California (CNPS 2014).

RECON botanists JR Sundberg and Andrew Smisek conducted one rare plant survey on June 17, 2014. All portions of the survey area were traversed on foot via meandering paths to map rare plant species occurrences. Surveyors recorded the location of all target rare plant species when encountered using a sub-meter accuracy handheld Trimble® GeoXH. In addition, a species list of all plants observed was compiled during the course of the survey.




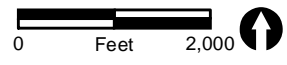
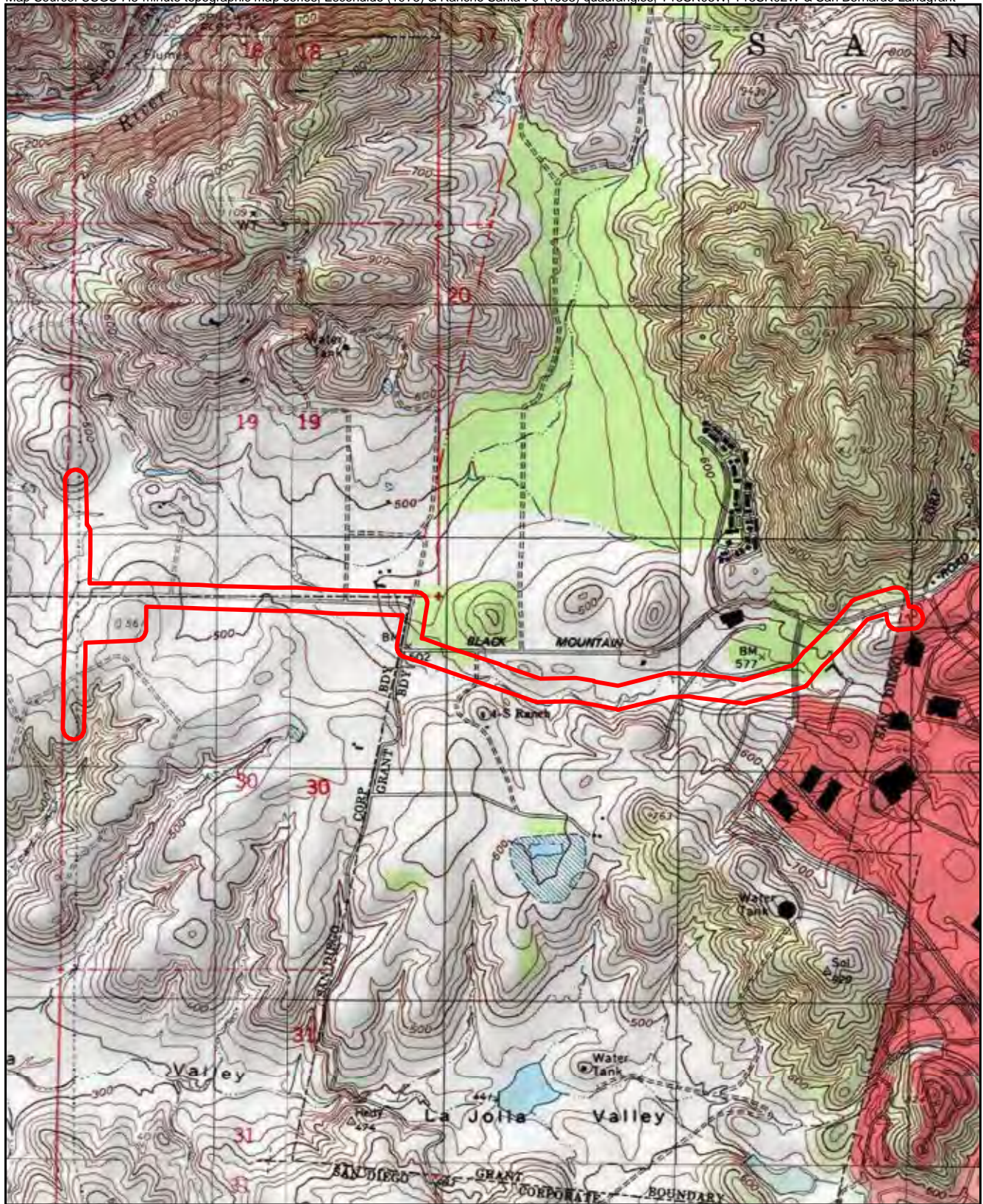
 Survey Area

FIGURE 1
 Artesian Substation Expansion and
 Tie Line 6939 Project Regional Location




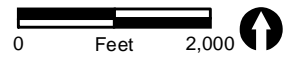
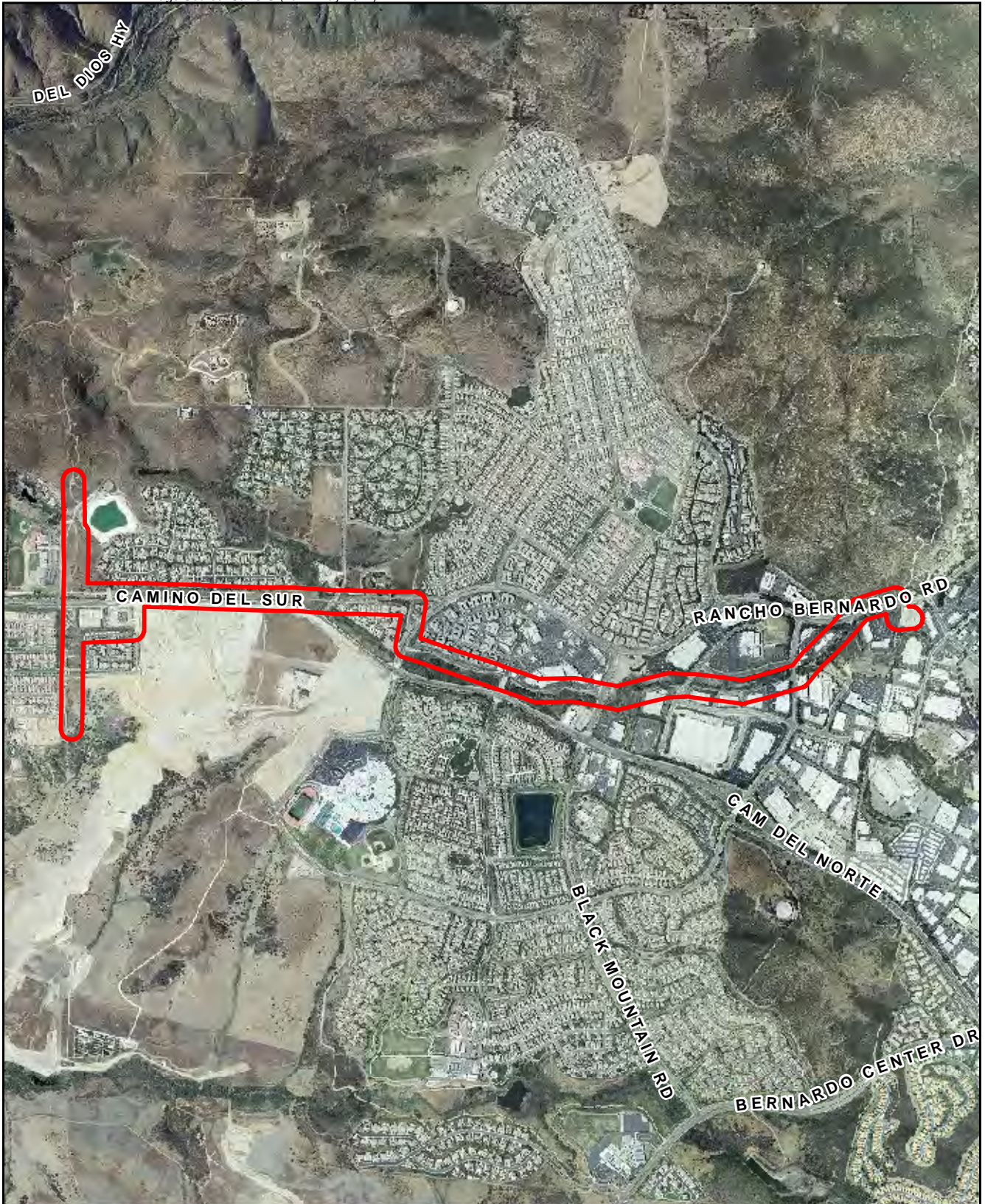
 Survey Area

FIGURE 2

Artesian Substation Expansion and Tie Line 6939
Project Survey Area Location on USGS Map




 Survey Area

FIGURE 3

Artesian Substation Expansion and Tie Line 6939
Project Survey Area Location on Aerial Photograph

The focused rare plant survey was initiated following receipt of authorization from SDG&E, which occurred on June 9, 2014. It should be noted that the survey was not conducted during the optimal period for detection of most annual plant species. In addition, the San Diego region is experiencing extended drought conditions (NDMC-UNL 2014), possibly resulting in decreased expression of many annual species. Due to the dry conditions of the vegetation at the time of the survey, it was determined that a second focused survey was not likely to result in increased detection of rare plant species.

Existing Conditions

Vegetation Communities/Land Cover Types

Vegetation communities and land cover types within the survey area include southern riparian scrub, disturbed riparian scrub, southern willow scrub, coastal and valley freshwater marsh, emergent wetland, disturbed wetland, Diegan coastal sage scrub (undisturbed, disturbed, and restored), chamise chaparral, non-native grassland, eucalyptus woodland, disturbed habitat, disturbed habitat (bare ground), urban/developed, and urban/developed (landscaped), as mapped by RECON in June 2014. Large areas of Diegan coastal sage scrub, disturbed habitat, and non-native grassland occur in the western portions of the survey area, with smaller patches of Diegan coastal sage scrub occurring throughout the survey area and at the eastern end. The central portions of the survey area are composed mainly of developed land with narrow stands of southern willow scrub, eucalyptus woodland, marsh, and wetland habitats occurring along a drainage, which roughly parallels the survey area. A small patch of chamise chaparral occurs at the eastern end of the survey area.

Soils

Characteristics of the soils found within the survey area are summarized below from the Soil Survey of San Diego Area, California (U.S. Department of Agriculture 1973).

The following 10 soil types are mapped in the survey area:

- Cieneba rocky coarse sandy loam, 9 to 30 percent slopes, eroded (CmE2) and very rocky coarse sandy loam, 30 to 75 percent slopes (CmrG),
- Diablo clay, 2 to 9 percent slopes (DaC), Diablo clay, 9 to 15 percent slopes (DaD),
- Diablo-Olivenhain complex, 9 to 30 percent slopes (DoE),
- Huerhuero loam, 2 to 9 percent slopes (HrC),
- Olivenhain cobbly loam, 2 to 9 percent slopes (OhC),
- Placentia sandy loam, thick surface, 0 to 2 percent slopes (PfA),
- Salinas clay loam, 2 to 9 percent slopes (SbC),
- San Miguel rocky silt loam, 9 to 30 percent slopes (SmE),
- San Miguel-Exchequer rocky silt loams, 9 to 70 percent slopes (SnG), and
- Vista coarse sandy loam, 5 to 9 percent slopes (VsC).

Three Diablo series mapping units occur throughout the survey area. This series consists of well-drained moderately deep to deep clays derived from soft, calcareous sandstone and shale. Diablo clay, 9 to 15 percent slopes (DaD), occurs toward the west end of the survey area and mostly underlies developed areas, but is also present within mapped non-native grassland, Diegan coastal sage scrub, restored Diegan coastal sage scrub, and disturbed Diegan coastal sage scrub. Diablo clay, 2 to 9 percent slopes (DaD), occurs in small patches within the survey area but only in developed areas. Diablo-Olivenhain complex, 9 to 30 percent slopes (DoE), occurs as a patch underlying mostly developed areas in a central portion of the survey area and as a patch in the southwestern portion of the survey area, which underlies Diegan and disturbed Diegan coastal sage scrub. The vegetated areas within this soil series have the potential to support rare plant species that prefer clay soil types, such as: small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*), Palmer's grapplinghook (*Harpagonella palmeri*), small-flowered morning glory

(*Convolvulus simulans*), round-leaved filaree (*California macrophylla*), long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*), and San Diego goldenstar (*Bloomeria clevelandii*).

One soil type in the Salinas series, Salinas clay loam, 2 to 9 percent slopes (SbC), occurs as a small patch within a central portion of the survey area. Although this soil type has also potential to support those rare plant species listed above that prefer clay soils, this soil type only underlies disturbed habitat and developed land within the survey area, where these species are not expected to occur.

Five soil types have potential to support vernal pools and vernal pool associated rare plant species: Diablo clay, 2 to 9 percent slopes (DaC); Huerhuero loam, 2 to 9 percent slopes (HrC); Olivenhain cobbly loam, 2 to 9 percent slopes (OhC); Placentia sandy loam, thick surface, 0 to 2 percent slopes (PfA); and Salinas clay loam, 2 to 9 percent slopes (SbC). However, these soil types mostly underlie disturbed habitat and developed land, and no signs of vernal pools or vernal pool associated plant species were observed within the survey area.

The remaining soils types occur as patches throughout the survey area and underlie a variety of habitat types as well as developed land.

Rare Plant Survey Results

The following seven rare plant species were observed during the survey: ashy spike-moss (*Selaginella cinerascens*), San Diego marsh-elder (*Iva hayesiana*), San Diego barrel cactus (*Ferocactus viridescens*), Nuttall's scrub oak (*Quercus dumosa*), Engelmann oak (*Quercus engelmannii*), California adolphia (*Adolphia californica*), and southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*; Table 1 and Figure 4). One of these species, San Diego barrel cactus, is covered by SDG&E's NCCP, under which it is considered a Regionally Sensitive Species (RSS). None of these species are federally or state listed. Descriptions of the rare plant species observed on-site are presented below. A complete list of all plant species observed within the survey area is provided as Attachment 1.

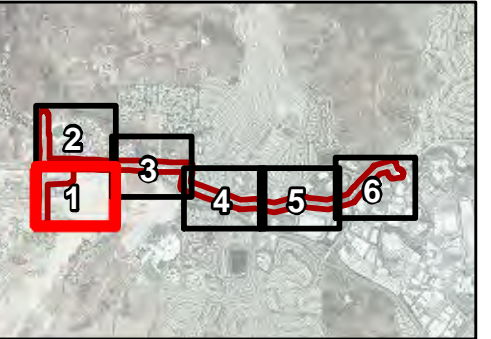
**TABLE 1
RARE PLANT SPECIES OBSERVED**

Scientific Name	Common Name	CNPS Rank	SDG&E NCCP	Number of Individuals Observed
<i>Selaginella cinerascens</i>	ashy spike-moss	4.1	–	200 square feet*
<i>Iva hayesiana</i>	San Diego marsh-elder	2B.2	–	200*
<i>Ferocactus viridescens</i>	San Diego barrel cactus	2B.1	RSS, NCCP	1
<i>Quercus dumosa</i>	Nuttall's scrub oak	1B.1	–	12
<i>Quercus engelmannii</i>	Engelmann oak	4.2	–	30†
<i>Adolphia californica</i>	California adolphia	2B.1	–	250*
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	southwestern spiny rush	4.2	–	375*

* Numbers are approximate.

† Individuals were planted as ornamentals and are not naturally occurring.

Ashy spike-moss (*Selaginella cinerascens*). Ashy spike-moss is a CNPS Rank 4.1 species (CNPS 2014). This plant is a perennial, rhizomatous herb composed of a loose tangle of prostrate runners pale green in color and aging tan to white. This species is distributed mostly in San Diego County and northern Baja California below 1,800 feet in elevation (Baldwin et al. 2012). It is found at many sites in San Diego County, primarily south of Highway 78, on the periphery of the city of San Diego, and in the Marine Corps Air Station (MCAS) Miramar, where it can be the dominant ground cover (Reiser 2001). It occurs in sunny spots or under shrubs within chaparral and coastal sage scrub (Baldwin et al. 2012; CNPS 2014), and on many soil types (Reiser 2001). This species is a good indicator of site degradation, as it rarely inhabits disturbed soils.



- Survey Area
- Rare Plant Observations**
- California Adolphia
- 2 Number of Individuals

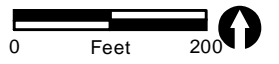
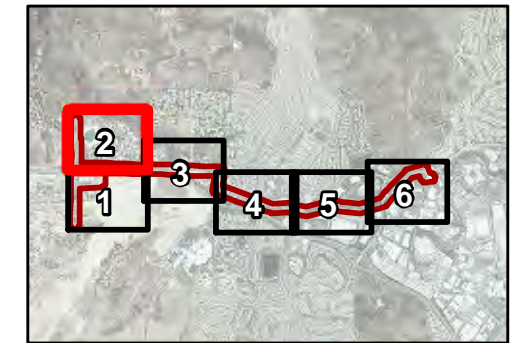


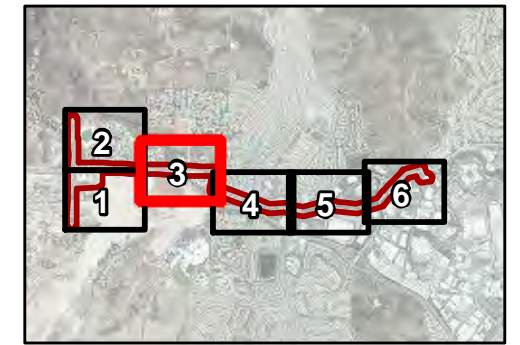
FIGURE 4-1
Rare Plant Species within the Artesian Substation Expansion and Tie Line 6939 Project Survey Area



- Survey Area
- Rare Plant Observations**
- Ashy Spike-moss
- California Adolphia
- Engelmann Oak (planted as ornamental)
- Suitable Habitat**
- High Potential for Robinson's Peppergass
- 2 Number of Individuals



FIGURE 4-2
Rare Plant Species within the Artesian Substation Expansion and Tie Line 6939 Project Survey Area



- Survey Area
- Rare Plant Observations**
- Engelmann Oak (planted as ornamental)
- San Diego Marsh-elder
- Southwestern Spiny Rush
- 2** Number of Individuals

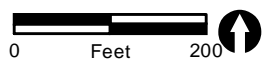
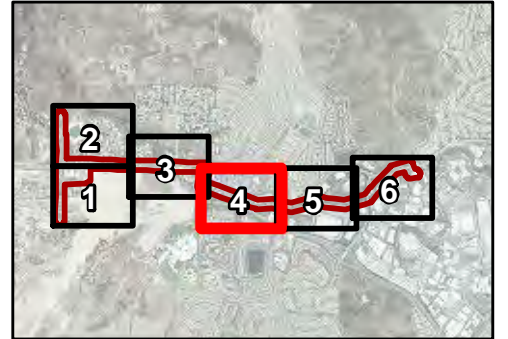


FIGURE 4-3
Rare Plant Species within the Artesian Substation Expansion and Tie Line 6939 Project Survey Area



- Survey Area
- Rare Plant Observations**
- San Diego Marsh-elder
- Southwestern Spiny Rush
- Southwestern Spiny Rush
- 2** Number of Individuals

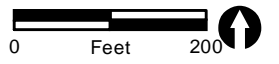
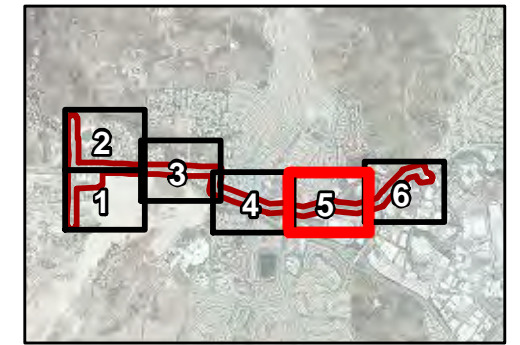


FIGURE 4-4
Rare Plant Species within the Artesian Substation Expansion and Tie Line 6939 Project Survey Area



- Survey Area
- Rare Plant Observations**
- Nuttall's Scrub Oak
- San Diego Marsh-elder
- Southwestern Spiny Rush
- Southwestern Spiny Rush
- 2** Number of Individuals

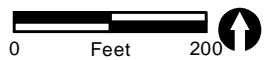
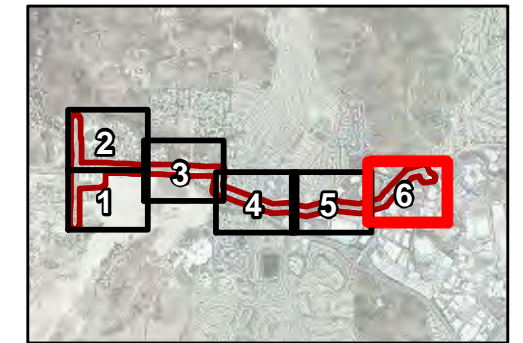


FIGURE 4-5
Rare Plant Species within the Artesian Substation Expansion and Tie Line 6939 Project Survey Area



- Survey Area
- Rare Plant Observations**
- Ashy Spike-moss
- San Diego Barrel Cactus
- 2 Number of Individuals

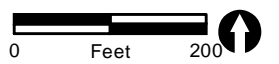


FIGURE 4-6
Rare Plant Species within the Artesian Substation Expansion and Tie Line 6939 Project Survey Area

Populations of ashy spike-moss were observed in coastal sage scrub at the northwestern and eastern ends of the survey area (Figures 4-2 and 4-6). Given that populations of this species form a continuous series of prostrate runners, it is not possible to provide an accurate population estimate. However, total ground cover occupied by this species can be estimated. Each mapped location shown on Figures 4-2 and 4-6 represents an area approximately 100 square feet in size. As this species was observed having a cover between 20 and 50 percent within each area, the total estimated cover is 200 square feet for this species within the survey area.

San Diego marsh-elder (*Iva hayesiana*). San Diego marsh elder is a CNPS Rank 2B.2 species (CNPS 2014). This plant is a subshrub with multiple stems and relatively fleshy leaves that grows to three feet tall and produces nodding clusters of inconspicuous flowers between April and September (Munz 1974). This species is distributed in San Diego County and northern Baja California below 1,700 feet in elevation. Its habitat is identified as marshes, swamps, and playas (CNPS 2014); alkaline sinks and flats (Munz 1974; Baldwin et al. 2012); and creeks of intermittent streambeds (Reiser 2001). In San Diego County, it has been reported from the Tijuana Estuary to near Lake Hodges, with populations becoming smaller and more localized in the northern part of its range. San Diego marsh-elder is found on sandy alluvial embankments with cobbles on Riverwash, San Miguel-Exchequer, or Huerhuero loam soils (Reiser 2001).

Approximately 200 individuals of San Diego marsh-elder were observed along a drainage within central portions of the survey area, in restored Diegan coastal sage scrub, southern willow scrub, and emergent wetland (Figures 4-3, 4-4, and 4-5).

San Diego barrel cactus (*Ferocactus viridescens*). San Diego barrel cactus is a CNPS Rank 2B.1 species (CNPS 2014). This globular succulent in the cactus family (Cactaceae) grows up to eight inches tall and flowers in May and June (Baldwin et al. 2012). It is found only in coastal San Diego County and Baja California, Mexico. Although found coastally as far north as Oceanside and inland as far east as Poway, the largest populations of San Diego barrel cactus occur in Otay Mesa and Otay Valley, Point Loma, and MCAS Miramar (Reiser 2001). This species generally occurs in sandy, rocky, or dry hills of coastal sage scrub, grassland, chaparral, and vernal pool habitats below 500 feet in elevation (Baldwin 2012, Munz 1974). It is typically found in soil types such as San Miguel-Exchequer rocky silt loams and Redding gravelly loams, and is associated with species such as variegated dudleya (*Dudleya variegata*), foothill needlegrass (*Stipa lepida*), and California sagebrush (*Artemisia californica*) (Reiser 2001). It is the only barrel cactus found in coastal areas.

One individual San Diego barrel cactus was observed in chamise chaparral within the eastern end of the survey area north of Rancho Bernardo Road (see Figure 4-6).

Nuttall's scrub oak (*Quercus dumosa*). Nuttall's scrub oak is a CNPS Rank 1B.1 species (CNPS 2014). This evergreen shrub in the oak family (Fagaceae) grows less than 10 feet tall and blooms from February to April. This species is found near the coast in Santa Barbara, Orange, and San Diego counties and in Baja California, Mexico, at elevations below 1,300 feet. It grows in chaparral, coastal sage scrub, and closed-cone coniferous forest habitats (CNPS 2014), preferring coastal chaparral with a relatively open canopy in flat areas, but also found growing in dense stands on north-facing slopes (Reiser 2001). In San Diego County it is known to grow as far inland as Camp Elliott and Otay Mesa (Reiser 2001), being replaced by the similar scrub oak (*Q. berberidifolia*) in higher, drier locations (Baldwin et al. 2012). Nuttall's scrub oak can be distinguished from the scrub oak, with which it may hybridize, by its acorn, which is less than 0.4 inch wide, moderately tubercled, and has a thin cup (Baldwin et al. 2012), and by its leaves, which tend to be smaller, spinier, more undulated (Reiser 2001), and have densely matted gray hairs (Roberts 1995).

Twelve individuals of Nuttall's scrub oak were observed in coastal sage scrub in the central portion of the survey area near Dove Canyon Road (see Figure 4-5).

Engelmann oak (*Quercus engelmannii*). Engelmann oak is a CNPS Rank 4.2 species (CNPS 2014). This spreading, semi-deciduous tree in the oak family (Fagaceae) grows from 15 to 60 feet tall, with a rounded top and bluish-green leaves (Roberts 1995). The range of this species is from Los Angeles, Orange, Riverside, and San Diego counties to northern Baja California, at elevations from 400 to 4,000 feet (CNPS 2014). It occurs in southern oak woodland, oak savannah, and chaparral habitats, on alluvial fans, in interior valleys, and on slopes (Roberts 1995). Engelmann oak may hybridize with valley oak (*Q. lobata*), scrub oak, and Muller's oak (*Q. cornrelii-mulleri*).

Thirty individuals of Engelmann oak were observed within the survey area along a housing development north of Camino Del Sur in disturbed coastal sage scrub, non-native grassland, and landscaped areas (see Figures 4-2 and 4-3). These individuals appear to have been planted for an ornamental purpose and are not considered naturally occurring. Although naturally occurring populations have been recorded near the survey area, such as around Lake Hodges, this species is more common in the foothills at elevations greater than that found in the survey area.

California adolphia (*Adolphia californica*). California adolphia is a CNPS Rank 2B.1 species (CNPS 2014). This small shrub in the buckthorn family (Rhamnaceae) flowers from December to April and loses its leaves in late summer and fall, making it difficult to find; however, its spiny stems are identifiable at close range year-round. This species generally occurs in Diegan coastal sage scrub, near the edge of chaparral, and particularly in dry canyons or washes. It is associated with San Miguel and Friant soils (Reiser 2001). Its range is limited to San Diego County and northern Baja California, Mexico, at elevations below 1,000 feet. In San Diego County, it is found from the Carlsbad area south into the Proctor Valley and the Otay area (Beauchamp 1986).

Approximately 250 individuals of California adolphia were observed within coastal sage scrub in the western portion of the survey area (see Figures 4-1 and 4-2).

Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*). Southwestern spiny rush is a CNPS Rank 4.2 species (CNPS 2014). This perennial herb in the rush family (Juncaceae) has basal leaves and stout stems that form large tufts up to five feet tall, blooming in May and June (Munz 1974). Southwestern spiny rush grows in coastal salt marshes and dunes from San Luis Obispo County south to Baja California, and in meadows and alkaline seeps in Imperial County and Arizona (CNPS 2014). It may also grow along riparian drainages, in palm oases, or "[w]herever water can pond along substantial seasonal drainages" (Reiser 2001).

Approximately 375 individuals of southwestern spiny rush were observed within emergent wetland, disturbed wetland, southern riparian scrub, coastal and valley freshwater marsh, southern willow scrub, and disturbed habitat in the central portion of the survey area (see Figures 4-3, 4-4, and 4-5).

Rare Plants with High Potential to Occur

One additional rare plant species, Robinson's peppergrass (*Lepidium virginicum* ssp. *menziesii*), has high potential to occur within the Diegan coastal sage scrub in the northwestern portion of the survey area (see Figure 4-2). This portion of the survey area is connected to a large expanse of Diegan coastal sage scrub in which a population of this species was mapped in 2008 within approximately 0.5 mile of the survey area (State of California 2014). Another population was mapped in 2005 within approximately 0.2 mile of the survey area (Consortium of California Herbaria 2014). Although recent housing development may have eliminated this recorded population, the surrounding habitat, including this northwestern portion of the survey area, provides suitable habitat and may contain remnants of the seed bank. This species may have been fairly inconspicuous at the time of the survey, as the survey was conducted toward the end of its blooming period.

Mr. Todd Easley
Page 6
August 5, 2014

If you have any questions concerning the contents of this letter, please contact me via telephone at (619) 308-9333, ext. 187, or e-mail asmisek@reconenvironmental.com.

Sincerely,



Andrew Smisek
Biologist

cc: Vanessa Shoblock, Environmental Specialist, SDG&E

AKS:sgj

Attachment

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Mr. Todd Easley
Page 7
August 5, 2014

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ATTACHMENT 1

Plant Species Observed in the Artesian Substation Expansion and Tie Line 6939 Project Survey Area

**ATTACHMENT 1
PLANT SPECIES OBSERVED**

Scientific Name	Common Name	Habitat	Origin
LYCOPODS			
SELAGINELLACEAE <i>Selaginella cinerascens</i> A.A. Eaton	SPIKE-MOSS FAMILY ashy spike-moss	CSS	N
GYMNOSPERMS			
PINACEAE <i>Pinus</i> sp.	PINE FAMILY pine	UDL, EWO	I
PODOCARPACEAE <i>Podocarpus</i> sp.	FERN PINE FAMILY plum pine	UDL	I
ANGIOSPERMS: MAGNOLIIDS-PIPERALES			
SAURURACEAE <i>Anemopsis californica</i> (Nutt.) Hook. & Arn.	LIZARD'S TAIL FAMILY yerba mansa	FWM, SWS	N
ANGIOSPERMS: MONOCOTS			
AGAVACEAE <i>Agave attenuata</i> Salm.	AGAVE FAMILY lion's tail, foxtail, swan's neck	UDL	I
AMARYLLIDACEAE <i>Agapanthus africanus</i>	AMARYLLIS FAMILY African lily	SRS	I
ARECACEAE <i>Phoenix canariensis</i> Chabaud <i>Washingtonia robusta</i> H. Wendl.	PALM FAMILY Canary Island palm Mexican fan palm	UDL CSS, DH, UDL, SWS	I I
ASPHODELACEAE <i>Asphodelus fistulosus</i> L.	ASPHODEL FAMILY hollow-stem asphodel	UD, CSS	I
CYPERACEAE <i>Carex spissa</i> L.H. Bailey <i>Cyperus eragrostis</i> Lam.	SEDGE FAMILY San Diego sedge tall flatsedge	SWS SRS, DW, DH, EMW	N N
<i>Cyperus involucratus</i> [= <i>Cyperus alternifolius</i>] Rottb. <i>Schoenoplectus</i> [= <i>Scirpus</i>] <i>californicus</i> (C.A. Mey.) Soják	African umbrella plant southern bulrush	DW FWM	I N
IRIDACEAE <i>Iris</i> sp. <i>Sisyrinchium bellum</i> S. Watson	IRIS FAMILY iris western blue-eyed-grass	UDL CSS, UDL	I N

ATTACHMENT 1
PLANT SPECIES OBSERVED
(continued)

Scientific Name	Common Name	Habitat	Origin
JUNCACEAE	RUSH FAMILY		
<i>Juncus acutus</i> L. ssp. <i>leopoldii</i> (Parl.) Snogerup	southwestern spiny rush	EMW, DW, SRS, FWM, SWS, DH	N
POACEAE (GRAMINEAE)	GRASS FAMILY		
<i>Avena barbata</i> Pott ex Link	slender wild oat	CSS, DCSS, NNG, DH, SRS, SWS	I
<i>Bothriochloa barbinodis</i> (Lag.) Herter	cane bluestem	DH	N
<i>Brachypodium distachyon</i> (L.) P. Beauv.	purple falsebrome	CSS, NNG, DH, DCSS, SRS, UDL, SWS	I
<i>Bromus diandrus</i> Roth	ripgut grass	CSS, NNG, DCSS, DH	I
<i>Bromus hordeaceus</i> L.	soft chess	CSS, DCSS, DH	I
<i>Bromus madritensis</i> L. ssp. <i>rubens</i> (L.) Husn.	red brome	CSS, DH, NNG, DCSS	I
<i>Cortaderia selloana</i> (Schult. & Schult. f.) Asch. & Graebn.	pampas grass	CSS, DCSS, FWM, EMW	I
<i>Cynodon dactylon</i> (L.) Pers.	Bermuda grass	UDL, NNG, DCSS, SRS, EMW, EWO, SWS	I
<i>Distichlis spicata</i> (L.) Greene	salt grass	SWS, EMW, CSS, FWM, EWO	N
<i>Echinochloa crus-galli</i> (L.) P. Beauv.	common barnyard grass	DH	I
<i>Elymus glaucus</i> Buckley	blue or western wild rye	SRS	N
<i>Festuca perennis</i> (L.) Columbus & J.P. Sm. [= <i>Lolium multiflorum</i> and <i>Lolium perenne</i>]	rye grass	CSS, NNG, DH	I
<i>Hordeum murinum</i> L.	wall barley	NNG, DH, DCSS	I
<i>Melinis</i> [= <i>Rhyncholytrum</i>] <i>repens</i> (Willd.) Zizka	natal grass	DH	I
<i>Muhlenbergia rigens</i> (Benth.) Hitchc.	deer grass	UDL	N
<i>Paspalum dilatatum</i> Poir.	dallis grass	EWO	I
<i>Pennisetum</i> sp.		DH	I
<i>Pennisetum setaceum</i> (Forssk.) Chiov.	crimson fountain grass	NNG, UDL, DH	I
<i>Polypogon monspeliensis</i> (L.) Desf.	annual beard grass, rabbitfoot grass	EMW	I
<i>Stipa</i> [= <i>Nassella</i>] sp.	needlegrass	CSS	N

**ATTACHMENT 1
PLANT SPECIES OBSERVED
(continued)**

Scientific Name	Common Name	Habitat	Origin
<i>Stipa</i> [= <i>Nassella</i>] <i>cernua</i> Stebbins & Love	nodding needle grass	CSS	N
<i>Stipa</i> [= <i>Nassella</i>] <i>pulchra</i> Hitchc.	purple needle grass	CSS, NNG, SRS, SWS, UDL	N
<i>Stipa tenuissima</i>	Mexican feather grass	UDL	I
TYPHACEAE	CATTAIL FAMILY		
<i>Typha domingensis</i> Pers.	southern cattail	FWM	N
<i>Typha latifolia</i> L.	broad-leaved cattail	FWM, DW, EMW	N
XANTHORRHOEACEAE			
<i>Aloe</i> sp.	Aloe	UDL	I
ANGIOSPERMS: DICOTS			
ADOXACEAE	ADOXA FAMILY		
<i>Sambucus nigra</i> L. ssp. <i>caerulea</i> (Raf.) Bolli [= <i>Sambucus mexicana</i>]	blue elderberry	RCSS	N
AIZOACEAE	FIG-MARIGOLD FAMILY		
<i>Aptenia cordifolia</i> (L. f.) Schwantes	baby sun-rose	UDL, DCSS, CSS	I
<i>Carpobrotus edulis</i> (L.) N.E. Br.	freeway iceplant	SWS, UDL	I
AMARANTHACEAE	AMARANTH FAMILY		
<i>Amaranthus albus</i> L.	tumbleweed	DH, DHBG, DCSS	I
ANACARDIACEAE	SUMAC OR CASHEW FAMILY		
<i>Malosma laurina</i> Nutt. ex Abrams	laurel sumac	CSS, NNG, DCSS, SWS, EWO, FWM	N
<i>Rhus integrifolia</i> (Nutt.) Benth. & Hook. f. ex Rothr.	lemonade berry	CSS, DCSS, SWS, UDL, EWO, CC	N
<i>Rhus lancea</i>	African sumac	UDL	I
<i>Rhus ovata</i> S. Watson	sugar bush	RCSS	N
<i>Schinus molle</i> L.	Peruvian pepper tree	DCSS, UDL, FWM	I
<i>Schinus terebinthifolius</i> Raddi	Brazilian pepper tree	UDL, EWO, FWM, DH	I
APIACEAE (UMBELLIFERAE)	CARROT FAMILY		
<i>Apium graveolens</i> L.	celery	FWM	I
<i>Foeniculum vulgare</i> Mill.	fennel	CSS, NNG, DH, SWS, UDL, EWO	I

ATTACHMENT 1
PLANT SPECIES OBSERVED
(continued)

Scientific Name	Common Name	Habitat	Origin
APOCYNACEAE	DOGBANE FAMILY		
<i>Carissa macrocarpa</i>	Natal plum	UDL	I
<i>Nerium oleander</i> L.	common oleander	UDL, CSS, SRS	I
ARALIACEAE	GINSENG FAMILY		
<i>Hedera helix</i> L.	English ivy	UDL	I
ASTERACEAE	SUNFLOWER FAMILY		
<i>Achillea millefolium</i> L.	yarrow, milfoil	DRS, UDL	N
<i>Ambrosia psilostachya</i> DC.	western ragweed	NNG, DCSS, SRS, DRS, SWS, DH, UDL	N
<i>Anthemis cotula</i> L.	mayweed, stinkweed, dog-fennel	DH	I
<i>Artemisia californica</i> Less.	California sagebrush	CSS, DCSS, RCSS, SWS, DH, EWO	N
<i>Artemisia douglasiana</i> Besser	mugwort	SRS, SWS, CSS, DRS, UDL, EWO	N
<i>Baccharis pilularis</i> DC.	chaparral broom, coyote brush	CSS, NNG, DCSS, DH, SWS, EWO	N
<i>Baccharis salicifolia</i> (Ruiz & Pav.) Pers. ssp. <i>salicifolia</i>	mule fat, seep-willow	NNG, CSS, DH, SRS, SWS, FWM, DRS, UDL	N
<i>Baccharis sarothroides</i> A. Gray	broom baccharis	DCSS, CSS, RCSS, SRS, SWS, FWM, EMW	N
<i>Carduus pycnocephalus</i> L.	Italian thistle	CSS	I
<i>Centaurea melitensis</i> L.	tocalote, Maltese star-thistle	CSS, DH, DCSS	I
<i>Cynara cardunculus</i> L.	cardoon, artichoke thistle	CSS, NNG, DH, DCSS, SWS	I
<i>Deinandra</i> [=Hemizonia] <i>fasciculata</i> (DC.) Greene	fascicled tarweed, golden tarplant	CSS, DHBG, DH	N
<i>Dimorphotheca fruticosa</i> [=Osteospermum <i>fruticosum</i>] (L.) DC.	trailing African daisy	DH	I
<i>Dimorphotheca sinuata</i> DC.	Namaqualand daisy	DH, UDL	I
<i>Dittrichia graveolens</i> (L.) Greuter	stinkwort	DHBG, DCSS, DH	I
<i>Encelia californica</i> Nutt.	California encelia	CSS, UDL, DH, DCSS, RCSS	N

**ATTACHMENT 1
PLANT SPECIES OBSERVED
(continued)**

Scientific Name	Common Name	Habitat	Origin
<i>Erigeron</i> sp.	horseweed	UDL, CSS, DCSS, RCSS, DH, DHBG	N/I
<i>Erigeron</i> [= <i>Conyza</i>] <i>canadensis</i> L.	horseweed		N
<i>Gazania linearis</i> (Thunb.) Druce	treasure flower	DCSS, CSS, UDL	I
<i>Glebionis coronaria</i> (L.) Spach [= <i>Chrysanthemum coronarium</i>]	garland, crown daisy	NNG, DH, UDL, DHBG	I
<i>Hedypnois cretica</i> (L.) Dum. Cours.	crete weed	CSS, NNG, DCSS, DH, SRS	I
<i>Helminthotheca</i> [= <i>Picris</i>] <i>echioides</i> (L.) Holub	bristly ox-tongue	CSS, DH, SRS, UDL, SWS	I
<i>Heterotheca grandiflora</i> Nutt.	telegraph weed	CSS, DCSS, DH	N
<i>Isocoma menziesii</i> (Hook. & Arn.) G.L. Nesom	coastal goldenbush	NNG, DCSS, CSS, RCSS, DH, DHBG, FWM, EWO, SWS, UDL	N
<i>Iva hayesiana</i> A. Gray	San Diego marsh-elder	RCSS, SWS, EMW	N
<i>Lactuca serriola</i> L.	prickly lettuce	DCSS, DH, DHBG, NNG	I
<i>Pluchea odorata</i> (L.) Cass.	salt marsh fleabane	SWS	N
<i>Pluchea sericea</i> (Nutt.) Coville	arrow-weed	SWS	N
<i>Pseudognaphalium</i> [= <i>Gnaphalium</i>] <i>californicum</i> (DC.) Anderb.	California everlasting, green everlasting	CSS	N
<i>Pseudognaphalium</i> [= <i>Gnaphalium</i>] <i>luteoalbum</i> (L.) Hilliard & B. L. Burt	everlasting cudweed	UDL	I
<i>Senecio serpens</i>	blue chalksticks	UDL	I
<i>Senecio vulgaris</i> L.	common groundsel	DH	I
<i>Sonchus asper</i> (L.) Hill ssp. <i>asper</i>	prickly sow thistle	CSS, UDL, DCSS, DHBG, DH	I
<i>Sonchus oleraceus</i> L.	common sow thistle	DCSS, CSS, DH, DHBG	I
<i>Stephanomeria diegensis</i> Gottlieb	San Diego wreath-plant	DH, DCSS	N
<i>Xanthium strumarium</i> L.	cocklebur	DH, DHBG, DCSS	N
BETULACEAE	BIRCH FAMILY		
<i>Alnus rhombifolia</i> Nutt.	white alder	SRS	N
BIGNONIACEAE	BIGNONIA FAMILY		
<i>Jacaranda mimosifolia</i> D. Don	blue jacaranda	UDL	I

**ATTACHMENT 1
PLANT SPECIES OBSERVED
(continued)**

Scientific Name	Common Name	Habitat	Origin
BORAGINACEAE	BORAGE FAMILY		
<i>Cryptantha</i> sp.	cryptantha	DCSS	N
<i>Echium candicans</i> L. f.	pride of Madeira	RCSS, UDL, CSS, SWS	I
<i>Heliotropium curassavicum</i> L. var. <i>oculatum</i> (A. Heller) I. M. Johnst. ex Tidestr.	seaside heliotrope, alkali heliotrope	CSS, DHBG	N
<i>Phacelia cicutaria</i> Greene var. <i>hispida</i> (A. Gray) J.T. Howell	caterpillar phacelia	DCSS	N
BRASSICACEAE (CRUCIFERAE)	MUSTARD FAMILY		
<i>Brassica nigra</i> (L.) W.D.J. Koch	black mustard	CSS, NNG, DH	I
<i>Hirschfeldia incana</i> (L.) Lagr.-Fossat	short-pod mustard	CSS, DCSS, DH, DHBG	I
<i>Lepidium nitidum</i> Nutt.	shining peppergrass	CSS	N
<i>Nasturtium officinale</i> [= <i>Rorippa nasturtium-aquaticum</i>] W.T. Aiton	water cress	EMW	N
CACTACEAE	CACTUS FAMILY		
<i>Ferocactus viridescens</i> (Torr. & A. Gray) Britton & Rose	San Diego barrel cactus	CC	N
<i>Opuntia ficus-indica</i> (L.) Mill.	mission prickly-pear, Indian fig	EWO	I
<i>Opuntia littoralis</i> (Engelm.) Cockerell.	coast prickly-pear, shore cactus	CSS, EWO, EMW	N
CAPRIFOLIACEAE	HONEYSUCKLE FAMILY		
<i>Lonicera subspicata</i> Hook. & Arn.	southern honeysuckle	CSS	N
CHENOPODIACEAE	GOOSEFOOT FAMILY		
<i>Atriplex semibaccata</i> R. Br.	Australian saltbush	CSS, NNG, DH, SWS, EMW, EWO	I
<i>Chenopodium album</i> L.	lamb's quarters, pigweed	CSS, NNG, DH, SWS	I
<i>Chenopodium murale</i> L.	nettle-leaf goosefoot	DH	I
<i>Salsola tragus</i> L.	Russian thistle, tumbleweed	CSS, DCSS, DHBG, NNG, UDL, DH, SWS	I
CISTACEAE	ROCK-ROSE FAMILY		
<i>Cistus incanus</i> [= <i>Cistus creticus</i>] L.	purple rock-rose	RCSS, SWS, DRS, EMW, EWO, UDL	I

**ATTACHMENT 1
PLANT SPECIES OBSERVED
(continued)**

Scientific Name	Common Name	Habitat	Origin
CONVOLVULACEAE	MORNING-GLORY FAMILY		
<i>Calystegia macrostegia</i> (Greene) Brummitt	morning-glory	CSS, DCSS, UDL, SWS	N
<i>Convolvulus arvensis</i> L.	bindweed, orchard morning-glory	NNG, SRS, UDL, CSS	I
ERICACEAE	HEATH FAMILY		
<i>Arbutus unedo</i>	strawberry tree	UDL	I
EUPHORBIACEAE	SPURGE FAMILY		
<i>Croton</i> [= <i>Eremocarpus</i>] <i>setiger</i> Hook.	turkey-mullein, dove weed	CSS, DH, DCSS	N
<i>Euphorbia</i> sp.	prostrate spurge	CSS	N/I
<i>Euphorbia tirucalli</i>	pencil tree	UDL	I
<i>Ricinus communis</i> L.	castor bean	DCSS	I
FABACEAE (LEGUMINOSAE)	LEGUME FAMILY		
<i>Acacia cyclops</i> A. Cunn. ex G. Don	western coastal wattle	DH, UDL	I
<i>Acacia longifolia</i> (Andrews) Willd.	Sydney golden wattle	SWS, DRS, UDL, EWO	I
<i>Acmispon glaber</i> (Vogel) Brouillet [= <i>Lotus scoparius</i>]	deerweed, California broom	CSS, DCSS, DH, SRS	N
<i>Acmispon micranthus</i> (Torr. & A. Gray) Brouillet [= <i>Lotus hamatus</i>]	grab lotus	DCSS, DH, UDL, SWS, EMW	N
<i>Cytisus striatus</i>	Portuguese broom	SRS	I
<i>Lotus corniculata</i>	bird's foot trefoil	DH	I
<i>Medicago polymorpha</i> L.	California burclover	NNG	I
<i>Melilotus albus</i> Medik.	white sweetclover	DHBG, UDL	I
<i>Melilotus indicus</i> (L.) All.	sourclover	DCSS, DH, DHBG, FWM, SWS	I
FAGACEAE	OAK FAMILY		
<i>Quercus agrifolia</i> Née	coast live oak, encina	RCSS, DCSS, UDL, NNG	N
<i>Quercus berberidifolia</i> Liebm.	scrub oak	CSS	N
<i>Quercus dumosa</i> Nutt.	Nuttall's scrub oak	CSS	N
<i>Quercus engelmannii</i> Greene	Engelmann oak, mesa oak	U/D(L)	N
<i>Quercus suber</i>	cork oak	UDL	I

**ATTACHMENT 1
PLANT SPECIES OBSERVED
(continued)**

Scientific Name	Common Name	Habitat	Origin
GERANIACEAE	GERANIUM FAMILY		
<i>Erodium botrys</i> (Cav.) Bertol.	long-beak filaree	CSS, DH, DCSS	I
<i>Erodium cicutarium</i> (L.) L'Hér. ex Aiton	redstem filaree	DCSS, DH, DHBG	I
GROSSULARIACEAE	GOOSEBERRY FAMILY		
<i>Ribes speciosum</i> Pursh	fuchsia-flowered gooseberry	SWS	N
LAMIACEAE	MINT FAMILY		
<i>Lavandula angustifolia</i>	English lavender	UDL	I
<i>Lavandula dentata</i>	fringed lavender	UDL	I
<i>Lavandula stoechas</i>	French lavender	UDL	I
<i>Rosmarinus officinalis</i>	rosemary	CSS, DCSS, UDL	I
<i>Salvia sp</i> (hybrid ornamental)		RCSS	I
<i>Salvia apiana</i> Jeps.	white sage	CSS, RCSS	N
<i>Salvia clevelandii</i> (A. Gray) Greene	Cleveland sage, fragrant sage	DCSS	N
<i>Salvia mellifera</i> Greene	black sage	CSS, RCSS, CC	N
LYTHRACEAE	LOOSESTRIFE FAMILY		
<i>Lythrum hyssopifolia</i> L.	grass poly, hyssop loosestrife	DHBG	I
MALVACEAE	MALLOW FAMILY		
<i>Malacothamnus fasciculatus</i> (Nutt. ex Torr. & A. Gray) Greene	chaparral mallow	CSS	N
<i>Malva parviflora</i> L.	cheeseweed, little mallow	DH, DHBG, NNG	I
MYRTACEAE	MYRTLE FAMILY		
<i>Callistemon viminalis</i>	weeping bottlebrush	UDL	I
<i>Eucalyptus camaldulensis</i> Dehnh.	red gum, river red gum	EWO, SWS, DRS	I
<i>Eucalyptus globulus</i> Labill.	blue gum	DH, SWS, EWO	I
<i>Melaleuca viminalis</i> (Sol. ex Gaertn.) Bymes	weeping bottlebrush	UDL	I
MYRSINACEAE	MYRSINE FAMILY		
<i>Anagallis arvensis</i> L.	scarlet pimpernel, poor-man's weatherglass	DCSS, CSS, SWS	I
NYCTAGINACEAE	FOUR O'CLOCK FAMILY		
<i>Bougainvillea sp.</i>	bougainvillea	UDL	I
<i>Mirabilis laevis</i> [= <i>Mirabilis californica</i>] (Benth.) Curran var. <i>crassifolia</i> (Choisy) Spellenb.	wishbone bush	CSS, DCSS	N

ATTACHMENT 1
PLANT SPECIES OBSERVED
(continued)

Scientific Name	Common Name	Habitat	Origin
OLEACEAE	OLIVE FAMILY		
<i>Olea europaea</i> L.	olive	UDL	I
ONAGRACEAE	EVENING-PRIMROSE FAMILY		
<i>Camissoniopsis</i> [= <i>Camissonia</i>] <i>bistorta</i> (Torr. & A. Gray) W.L. Wagner & Hoch	California sun cup	CSS, UDL, DH, DHBG	N
<i>Epilobium canum</i> (Greene) P.H. Raven ssp. <i>canum</i>	California fuchsia, zauschneria	UDL	N
<i>Epilobium ciliatum</i> Raf. ssp. <i>ciliatum</i>	willow herb	EMW	N
<i>Oenothera elata</i> Kunth ssp. <i>hirsutissima</i> (S. Watson) W. Dietr.	great marsh evening-primrose	SRS, DW, FWM, UDL, DH, EMW	N
PAPAVERACEAE	POPPY FAMILY		
<i>Eschscholzia californica</i> Cham.	California poppy	DHBG, UDL	N
PHRYMACEAE [=SCROPHULARIACEAE]	HOPSEED FAMILY		
<i>Mimulus aurantiacus</i> Curtis	bush monkey-flower	RCSS, CSS	N
PLANTAGINACEAE	PLANTAIN FAMILY		
<i>Keckiella ternata</i> (Torr. ex A. Gray) Straw var. <i>ternata</i>	summer bush penstemon	UDL	N
<i>Plantago</i> sp.	plantain	DHBG	N/I
<i>Plantago major</i> L.	common plantain	EMW	I
PLATANACEAE	PLANE TREE OR SYCAMORE FAMILY		
<i>Platanus racemosa</i> Nutt.	western sycamore	UDL, RCSS, SRS	N
PLUMBAGINACEAE	LEADWORT FAMILY		
<i>Ceratostigma plumbaginoides</i>	blue leadwort	UDL	I
<i>Limonium perezii</i> (Stapf) F.T. Hubb.	Perez's marsh-rosemary	CSS, UDL, DH	I
<i>Limonium ramosissimum</i> (Poir.) Maire	Algerian sealavender	SWS, UDL EWO	I
<i>Plumbago auriculata</i> Waif	cape leadwort	UDL	I
POLEMONIACEAE	PHLOX FAMILY		
<i>Eriastrum sapphirinum</i> (Eastw.) H. Mason.	sapphire woolly-star	CSS	N
POLYGONACEAE	BUCKWHEAT FAMILY		
<i>Eriogonum fasciculatum</i> Benth. var. <i>fasciculatum</i>	coast California buckwheat	CSS, SWS, EWO	N
<i>Eriogonum giganteum</i> S. Watson	St. Catherine's lace	UDL, DCSS	I
<i>Polygonum aviculare</i> L. ssp. <i>depressum</i> [= <i>Polygonum arenastrum</i>] (Meisn.) Arcang.	common knotweed, doorweed	DH	I

**ATTACHMENT 1
PLANT SPECIES OBSERVED
(continued)**

Scientific Name	Common Name	Habitat	Origin
<i>Rumex crispus</i> L.	curly dock	CSS, DCSS, FWM, SRS, UDL, SWS, DH, DW, EMW	I
RHAMNACEAE	BUCKTHORN FAMILY		
<i>Adolphia californica</i> S. Watson	California adolphia, spineshrub	CSS, DCSS	N
<i>Ceanothus tomentosus</i> Parry	Ramona lilac	CSS	N
<i>Rhamnus crocea</i> Nutt.	spiny redberry	DCSS	N
ROSACEAE	ROSE FAMILY		
<i>Adenostoma fasciculatum</i> Hook. & Arn.	chamise, greasewood	CC	N
<i>Eriobotrya japonica</i>	loquat	UDL	I
<i>Heteromeles arbutifolia</i> (Lindl.) M. Roem.	toyon, Christmas berry	DCSS, SWS	N
<i>Pyracantha</i> sp.	firethorn	DH	I
<i>Rhaphiolepis indica</i>	India hawthorn	UDL	I
<i>Rosa</i> sp.	rose	UDL	I
<i>Rosa californica</i> Cham. & Schtdl.	California rose	SWS	N
<i>Rubus ursinus</i> Cham. & Schtdl.	California blackberry	SWS	N
SALICACEAE	WILLOW FAMILY		
<i>Populus fremontii</i> S. Watson ssp. <i>fremontii</i>	Fremont cottonwood, alamo	SWS, DH	N
<i>Salix exigua</i> Nutt.	narrow-leaf willow	SRS, FWM, DW, EMW, SWS	N
<i>Salix gooddingii</i> C.R. Ball.	Goodding's black willow	SWS, FWM, EMW, DW, SRS, DCSS	N
<i>Salix laevigata</i> Bebb	red willow	SWS	N
<i>Salix lasiolepis</i> Benth.	arroyo willow	SWS, SRS, FWM, DH, DW, EMW	N
SAPINDACEAE	SOAPBERRY FAMILY		
<i>Cupaniopsis anacardioides</i>	carrotwood	UDL	I
SCROPHULARIACEAE	FIGWORT FAMILY		
<i>Gambelia speciosa</i>	showy island snapdragon	UDL	I
<i>Myoporum parvifolium</i> R. Br.	slender myoporum	UDL	I
SOLANACEAE	NIGHTSHADE FAMILY		
<i>Nicotiana glauca</i> Graham	tree tobacco	DH, DHBG, DCSS	I
<i>Solanum americanum</i> Mill.	white nightshade	DH, SRS	N

**ATTACHMENT 1
PLANT SPECIES OBSERVED
(continued)**

Scientific Name	Common Name	Habitat	Origin
<i>Solanum elaeagnifolium</i> Cav.	white horse-nettle	DCSS	I
TAMARICACEAE	TAMARISK FAMILY		
<i>Tamarix ramosissima</i> Ledeb.	saltcedar	DH, CSS, SRS, DHBG, FWM, SWS, EWO	I
ULMACEAE	ELM FAMILY		
<i>Ulmus parvifolia</i> Jacq.	Chinese elm, lacebark elm	RCSS	I
VERBENACEAE	VERVAIN FAMILY		
<i>Lantana camara</i> L.	lantana	SRS, RCSS	I
<i>Lantana montevidensis</i> (Spreng.) Briq.	trailing lantana	UDL, SRS	I
<i>Lantana</i> x hybrid		UDL	I
VITACEAE	GRAPE FAMILY		
<i>Vitis girdiana</i> Munson	desert wild grape	UDL	N

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ATTACHMENT 1
PLANT SPECIES OBSERVED
(continued)

HABITATS

CC = Chamise Chaparral
CSS = Diegan Coastal Sage Scrub (Undisturbed)
DCSS = Disturbed Diegan Coastal Sage Scrub
RCSS = Restored Diegan Coastal Sage Scrub
DH = Disturbed Habitat
DHBG = Disturbed Habitat (Bare Ground)
DRS = Disturbed Riparian Scrub
DW = Disturbed Wetland
EMW = Emergent Wetland
EWO = Eucalyptus Woodland
FWM = Coastal and Valley Freshwater Marsh
NNG = Non-Native Grassland
SRS = Southern Riparian Scrub
SWS = Southern Willow Scrub
UD = Urban/Developed
UDL = Urban/Developed (Landscaped)

ORIGIN

N = Native to locality
I = Introduced species from outside locality

APPENDIX K – 2015 WESTERN BURROWING OWL SURVEY REPORT





March 31, 2015

San Diego Gas & Electric Company
Todd Easley, Senior Environmental Specialist
571 Enterprise Street - SD1460
Escondido, CA 92029-1244

SUBJECT: 2015 Western Burrowing Owl (*Athene cunicularia hypugaea*) Survey Report for San Diego Gas & Electric Company's (SDG&E) ETS 27584 Artesian Sub Expansion and Reconductor Project – 4S Ranch

Dear Todd:

This letter report summarizes the methodology and findings of protocol-level surveys for the western burrowing owl (burrowing owl) conducted by Paula Potenza, Hiram Herrera, and Ely Loveless of Pangea Biological (Pangea) for SDG&E's 27584 Artesian Sub Expansion and Reconductor project. Surveys were conducted in December 2014 and January 2015, to determine the presence/absence of burrowing owls in and in the vicinity of the project area. The project area is located in San Diego County, in the unincorporated area known as 4S Ranch (see Figure 1).

SURVEY LOCATION

Habitat evaluation and protocol surveys were conducted in the project area and within 500 feet of proposed project impact areas. Protocol surveys were conducted only in those areas determined by the biologists as being potential suitable burrowing owl habitat (see Figure 2). Elevation in the survey areas ranges from approximately 510 to 675 feet above sea level.

The project site is located from approximately 415 feet west of the intersection of Rancho Bernardo Road and Via Del Campo to approximately 410 feet west of the intersection of Camino Del Sur and Bernardo Lakes Drive, west of Interstate 15 in San Diego County. It is located within Township T13S, and Range R2W of the U.S. Geological Survey (USGS) Rancho Santa Fe 7.5-minute quadrangle. The project is approximately 3.3 miles in length, and runs through and is adjacent to coastal sage scrub, grassland, disturbed grassland, disturbed, riparian, and wetland habitats as well as eucalyptus woodlands, landscape/ornamental vegetation, and developed areas.

HISTORICAL OCCURRENCES

Burrowing owl is not known to historically or currently nest or winter in the general project area, with the closest recorded nesting occurring before 1997 in the Lake Hodges area approximately 1 to 5 miles northeast of the survey area and in Poway approximately 3.5 miles east of the project area (Unitt, 2004). According to the California Natural Diversity Database (CNDDDB), the closest burrowing owl sighting documented in their database is approximately 4.8 miles southwest of the survey area and occurred in March 1999 in a disturbed field with non-native grassland (CNDDDB, 1999). The next two closest documented occurrences in the CNDDDB include a sighting in May 1924 approximately 7.2 miles northeast of survey area in Escondido (currently developed) and a December 2006 occurrence approximately 13 miles northeast of survey area in coastal sage scrub and non-native grassland habitats north of the Ramona Airport (CNDDDB, 1924, 2006). Three closer burrowing owl observations were documented in eBird, an online public self-reporting bird reporting database, and include a burrowing owl sighting reported in June 2011 within approximately 1,000 feet south of the project alignment and survey area in a graded lot, south of Camino Del Sur and east of Babcock Street and in two reported sightings in December 2006 and July 2011 approximately 3.7 miles northeast of the survey area in a natural area south of Lake Hodges and east of Interstate 8 (eBird Checklist, 2006, 2011).

PLANT COMMUNITIES

Plant communities surveyed include coastal sage scrub habitat, disturbed coastal sage scrub habitat, non-native grassland, disturbed habitat, and landscape/ornamental vegetation. Dominant plant species observed within coastal sage scrub habitat include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), spineshrub (*Adolphia californica*), black sage (*Salvia mellifera*), wishbone bush (*Mirabilis californica*), wild-cucumber (*Marah macrocarpus* var. *macrocarpus*), amole (*Chlorogalum parviflorum*), coastal goldenbush (*Isocoma menziesii*), California encelia (*Encelia californica*), lemonadeberry (*Rhus integrifolia*), and coastal deerweed (*Lotus scoparius* var. *scoparius*).

Dominant plant species observed within disturbed coastal sage scrub habitat include coyote brush (*Baccharis pilularis*), brome grasses (*Bromus* spp.), mustard (*Brassica* sp.), California encelia, toyon (*Heteromeles arbutifolia*), tree tobacco (*Nicotiana glauca*), Russian-thistle (*Salsola kali* ssp. *pontica*), oxalis (*Oxalis* sp.), coastal goldenbush, and landscape/ornamental trees and shrubs.

Dominant plant species observed within non-native grassland habitat include brome grasses, mustard, oxalis, and filaree (*Erodium* sp.).

Dominant plant species observed within disturbed habitat include filaree, Russian-thistle, brome grasses, mustard, coastal goldenbush, lemonadeberry, coyote brush, California sagebrush, artichoke thistle (*Cynara cardunculus*), and tree tobacco.

Dominant plant species observed within landscape/ornamental vegetation include landscape/ornamental trees and shrubs.

METHODOLOGY

The burrowing owl burrow and focused burrowing owl surveys were conducted in accordance with the California Burrowing Owl Consortium's Burrowing Owl Survey Protocol and Mitigation Guidelines (CBOC, 1997) and the California Department of Fish and Game Staff Report on Burrowing Owl Mitigation, Appendix D - Breeding and Non-breeding Season Surveys and Reports (CDFG, 2012). Surveys were conducted in two phases during the burrowing owl non-breeding season. Phase 1 included a survey for burrows potentially suitable for burrowing owl. Phase 2 included focused surveys for burrowing owls within the areas that potentially suitable burrows had been identified during Phase 1.

During Phase 1, biologists assessed the habitat within the project site and 500-foot buffer around the project impact areas, and walked transects within observed suitable burrowing owl habitat to identify burrowing owls or suitable burrows, including natural burrows and man-made structures. The transects were spaced approximately 23 to 66 feet apart, adjusting for vegetation height and density when needed in order to allow for 100 percent visual coverage of the area. At the start of each transect and at least every 330 feet, the entire visible project area was scanned for burrowing owls using binoculars. Potential burrows observed during the survey were noted, mapped, and its geographic coordinates were recorded (see attached Photodocument).

During Phase 2 focused burrowing owl surveys were conducted in the areas where suitable burrows were observed during the Phase 1 survey and included four surveys, covering all areas with suitable burrows during each survey. Two separate surveys were conducted in the morning, and two separate surveys were conducted in the evening. The focused surveys were conducted between morning civil twilight and 10:00 a.m. and two hours before sunset until evening civil twilight. Upon arrival of each survey location, biologists scanned the potential habitat, the location of the observed burrows, and potential perching locations for burrowing owl presence. Burrowing owl presence is determined by the presence of one or more of the following: burrowing owls, pellets, prey remains, whitewash, or decoration. The biologists then walked through the area containing suitable burrows in a manner that allowed for 100 percent visual coverage of the area in order identify any burrowing owl presence. The areas adjacent to the survey areas were also scanned with binoculars to identify any potential burrowing owl presence. The surveys were conducted in December 2014 and January 2015. Table 1 below provides the dates and surveyors of the surveys.

Table 1: Burrowing Owl Survey Schedule

Survey Date	Surveyor	Survey Type
December 10, 2014	Paula Potenza, Hiram Herrera	Phase 1 Burrow Survey
December 15, 2014	Paula Potenza, Eliysha Loveless	Phase 2 Survey #1; Evening
December 29, 2015	Paula Potenza, Hiram Herrera	Phase 2 Survey # 2; Morning
January 12, 2015	Paula Potenza, Hiram Herrera	Phase 2 Survey # 3; Evening
January 26, 2015	Paula Potenza, Hiram Herrera	Phase 2 Survey # 4; Morning

The Phase 1 burrow survey was conducted between 8:30 a.m. and 4:45 p.m. with weather conditions consisting of temperatures from 54 to 65 degrees Fahrenheit, winds from 0 to 2 miles per hour, and cloud cover from 5 to 75 percent.

The Phase 2 evening focused surveys were conducted between 3:03 and 5:05 p.m., and Phase 2 morning focused surveys were conducted between 6:45 and 8:50 a.m. Weather conditions during Phase 2 surveys consisted of temperatures from 44 to 66 degrees Fahrenheit, winds from 0 to 5 miles per hour, and cloud cover from 0 to 100 percent.

RESULTS

No burrowing owls or sign (i.e. whitewash, feathers, prey remains, or pellets) of burrowing owls were observed during the non-breeding focused burrowing owl surveys. Several suitable active and inactive ground squirrel burrows (see attached Photodocument), open culverts, and exposed PVC pipes were observed and documented during the burrow survey, however, none of these burrows were observed to be occupied or active for burrowing owl.

One sensitive species was observed during the burrowing owl surveys. Coastal California gnatcatcher (*Polioptila californica californica*; federally listed threatened and an SDG&E's Subregional Natural Communities Conservation Plan (NCCP)-covered species) was observed and the observed locations are included on Figure 2. A full list of observed wildlife species is included below.

Bird species observed during the surveys include American crow (*Corvus brachyrhynchos*), American kestrel (*Falco sparverius*), Anna's hummingbird (*Calypte anna*), Bewick's wren (*Thryomanes bewickii*), black phoebe (*Sayornis nigricans*), blue-gray gnatcatcher (*Polioptila caerulea*), bufflehead (*Bucephala albeola*), bushtit (*Psaltriparus minimus*), California towhee (*Pipilo crissalis*), Cassin's kingbird (*Tyrannus vociferans*), coastal California gnatcatcher (*Polioptila californica californica*, an NCCP-covered species), common raven (*Corvus corax*), eared grebe (*Podiceps nigricollis*), European starling (*Sturnus vulgaris*), greater roadrunner (*Geococcyx californianus*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), house wren (*Troglodytes aedon*), killdeer (*Charadrius vociferus*), loggerhead shrike (*Lanius ludovicianus*), mallard (*Anas platyrhynchos*), mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), northern shoveler (*Anas clypeata*), Nuttall's woodpecker (*Picoides nuttallii*), red-tailed hawk (*Buteo jamaicensis*), rock wren (*Salpinctes obsoletus*), ruddy duck (*Oxyura jamaicensis*), Say's phoebe (*Sayornis saya*), spotted towhee (*Pipilo maculatus*), western meadowlark (*Sturnella neglecta*), white-crowned sparrow (*Zonotrichia leucophrys*), and yellow-rumped warbler (*Dendroica coronata*). Invertebrate species observed during the surveys include harvester ant (*Pogonomyrmex* sp.), and painted lady (*Vanessa cardui*). Reptile species observed during the surveys include western side-blotched lizard (*Uta stansburiana*). Mammal species observed during the survey include California ground squirrel (*Spermophilus beecheyi nudipes*).

CONCLUSION

Lack of recent data for burrowing owl in the project area does not necessarily preclude the presence of burrowing owl. Non-breeding burrowing owl surveys are generally not considered a substitute for breeding season surveys, since non-breeding surveys can be inconclusive and burrowing owls are typically more detectable during breeding season surveys (CDFG, 2012). The open coastal sage scrub and non-native grassland habitats location on the west end of the project alignment and the presence of ground squirrels and ground squirrel burrows could potentially support a small number of wintering or nesting burrowing owls. However, due to the rapid development and human activity in the project area, the lack of historical or current data for nesting burrowing owls, no recent sightings of burrowing owl in the project area, combined with the low number of suitable burrows and no burrowing owls or sign observed during the non-breeding season burrowing owl survey, it is unlikely that burrowing owls

currently nest within the project area. In addition, since burrowing owl is covered as a narrow endemic species under SDG&E's NCCP, and SDG&E will be utilizing their NCCP for this project, preconstruction surveys will be conducted, as needed, to determine if burrowing owl are present in the project area prior to construction activities (personal communication with T. Easley, SDG&E).

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Todd Easley
March 31, 2015
Page 6

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Please contact me at (760) 723-3231 if you have any questions or comments regarding this letter.

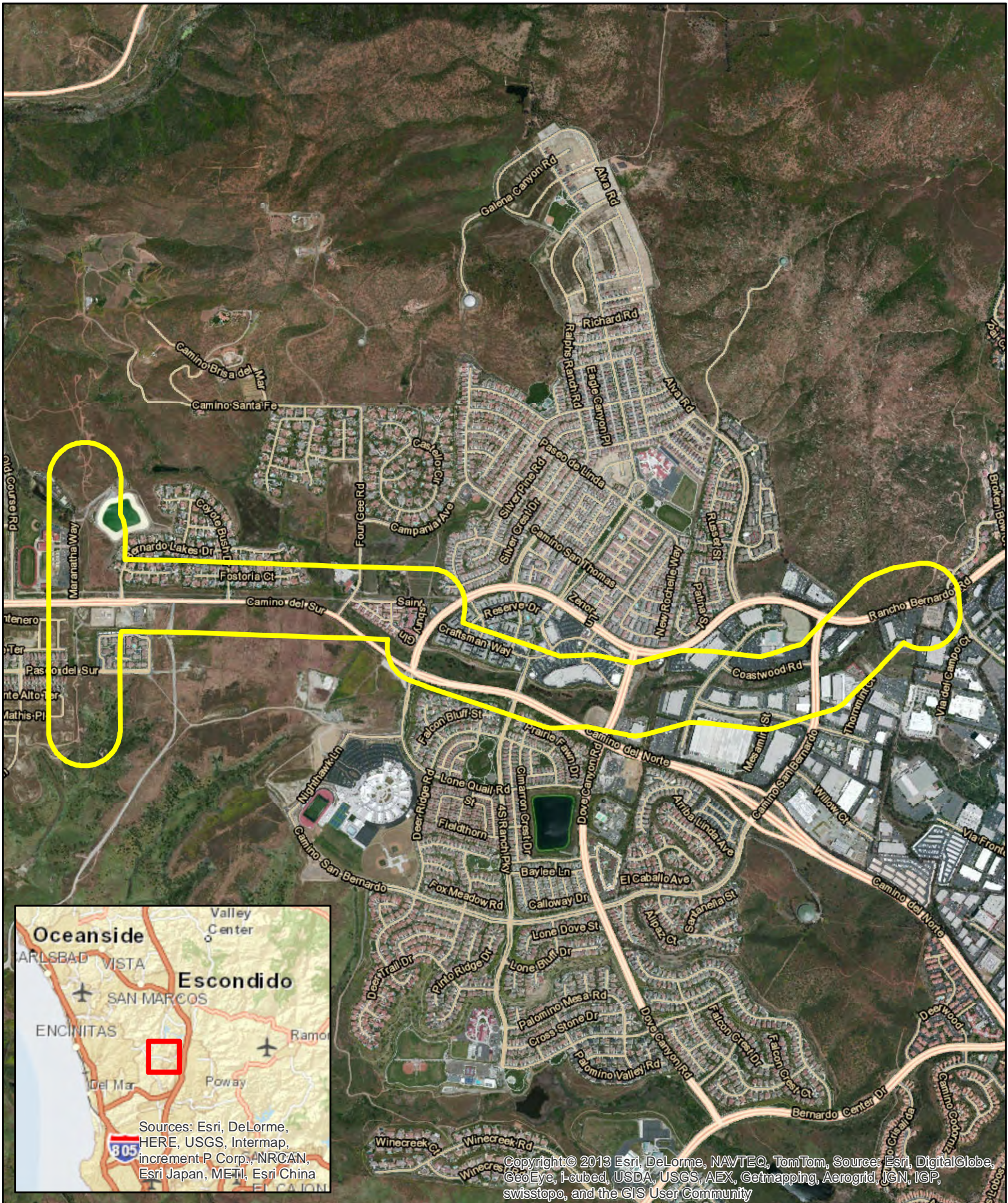
Sincerely,
Paula Potenza (via email)
Senior Biologist

Attachments

Figure 1: Project Overview

Figure 2: Potential Burrowing Owl Burrows and Sensitive Species Locations
Photodocument


ATTACHMENTS



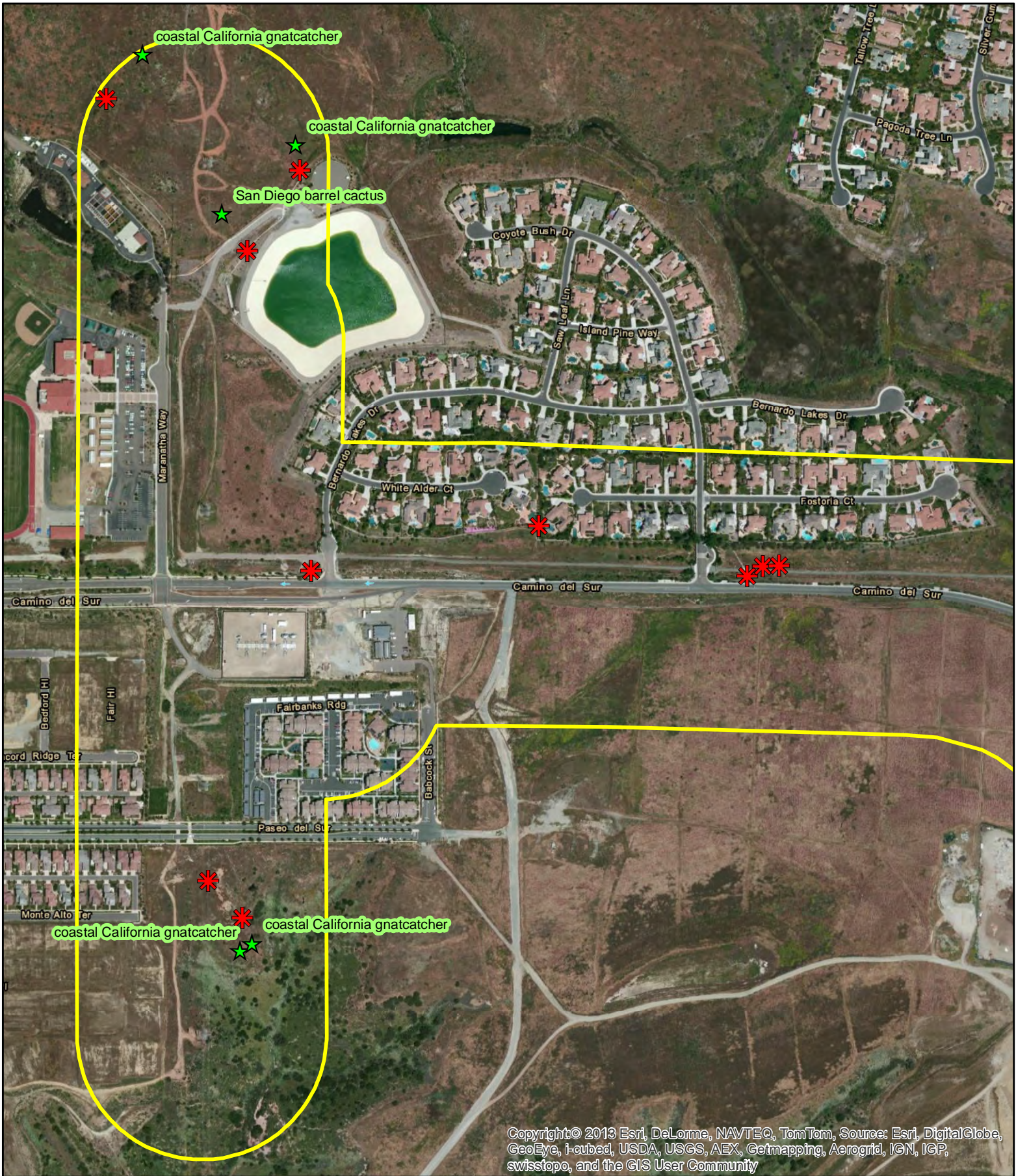
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Created by Pangea Biological, February 2015
 Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
 Projection: Lambert Conformal Conic
 Datum: North American 1983


27584 Artesian Sub Expansion and Reconstructor
Figure 1: Project Overview


 Survey Area





Copyright © 2013 Esri, DeLorme, NAVTEQ, TomTom, Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

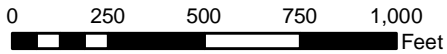
 Burrow Location

 Survey Area

27584 Artesian Sub Expansion and Reconstructor
 Figure 2: Potential Burrowing Owl Burrows
 and Sensitive Species Locations

1 inch = 500 feet

Created by Pangea Biological, February 2015
 Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
 Projection: Lambert Conformal Conic
 Datum: North American 1983





Representative photo of potential burrowing owl burrow in open coastal sage scrub habitat. View northeast.



Representative photo of potential burrowing owl burrow in non-native grassland habitat. View east.

APPENDIX L – 2015 LEAST BELL'S VIREO SURVEY REPORT





June 15, 2015

Stacey Love
Recovery Permit Coordination
United States Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

Subject: Request to Conclude Focused Surveys for Least Bell's Vireo Following Completion of Five Survey Passes for the San Diego Gas & Electric Artesian Substation Expansion Project

Chambers Group, Inc. (Chambers Group) is pleased to submit this request on behalf of San Diego Gas & Electric (SDG&E) to conclude focused protocol level surveys for least Bell's vireo (*Vireo bellii pusillus*; LBVI) prior to completion of a total of eight survey passes. The purpose of this report is to;

1. Summarize the results to-date of the protocol LBVI surveys conducted by Chambers Group during the 2015 breeding in support of the San Diego Gas & Electric (SDG&E) Artesian Substation Expansion Project (Proposed Project; Project) Proponent Environmental Assessment (PEA), and;
2. Request concurrence from the United States Fish and Wildlife Service (USFWS) to accept results of the 2015 surveys conducted to-date as a full and complete survey effort for the purposes of determining presence or absence of LBVI within the Proposed Project area during the 2015 nesting season.

Project Description

The Proposed Project will include operations and maintenance along SDG&E's Tie-Line (TL) 6939 and TL 616 transmission line to improve system reliability. The Proposed Project will also include the expansion of the existing 69/12 kilavolt (kV) Artesian Substation to a 230/69/16 kV substation and undergrounding of existing transmission lines. The Proposed Project is located in the cities of Rancho Santa Fe and Escondido (Figure 1). The purpose of focused LBVI surveys was to determine the presence or absence of LBVI and suitable LBVI habitat in order to provide guidance in Project design to avoid "take" of the species during Project construction, pursuant to the Endangered Species Act (ESA). Proposed operations and maintenance work would include the reconductoring and undergrounding of approximately 3 miles of existing TL 6939 and 616 transmission lines. The Project site is located within the United States Geological Survey (USGS) Escondido and Rancho Santa Fe Quadrangle maps, Section 30, Township 13, Range 02W (Figure 1), from existing poles and Artesian Substation near Babcock Street, east along Camino Del Sur and Camino Del Norte to Rancho Bernardo Road, with isolated Project features occurring in the vicinity of Rancho Bernardo Road to the east and north, and Camino Del Sur (Figure 2).

Methods

Survey Area

The Proposed Project survey area has included suitable habitat within the Proposed Project right-of-way (ROW) and within 150 feet of the Right-of-Way (ROW) centerline. For facilities (i.e. stringing sites, hand holes, staging yards, etc.) that exist outside this buffer, a 50-foot-wide buffer around the facility was surveyed. For access roads outside the buffer, the access road plus a 20-foot-wide buffer on either side of the edges of the access road was surveyed (Survey Area). Because the majority of the riparian habitat suitable for breeding by the target species lay outside the Survey Area, habitat adjacent to the survey area was opportunistically surveyed where feasible in order to increase the chance of detecting target LBVI near the Proposed Project that may disperse within the Survey Area.

Literature Review

Prior to conducting surveys, Chambers Group performed a literature review of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB), United States Fish and Wildlife Service (USFWS) species occurrence data, and Critical Habitat to summarize information available for wildlife species with a potential to occur within the proposed Project area and up to a five mile radius from the Project.

LBVI Surveys

The initial habitat assessment for LBVI was conducted during vegetation mapping effort performed by qualified avian/LBVI biologist Ian Maunsell. Subsequent surveys were conducted in all areas that contained riparian habitat suitable for nesting of the target species.

Qualified avian/LBVI biologist Alicia Hill conducted focused LBVI surveys in accordance with USFWS approved guidelines (USFWS 2001) to determine the presence/absence of LBVI within suitable habitat along the Proposed Project route. Surveys were conducted during periods of suitable weather conditions between dawn and 11:00 am, and were not performed during periods of excessive heat, wind, cold, rain, or other inclement weather. A summary of survey dates and conditions is provided in Table 1 below.

Table 1: Survey Conditions Summary

Date	Personnel	Time	Temp. (°F)	Wind (mph)	Sky
					(% Cloud)
Least Bell's Vireo Round 1					
4/16/2015	Alicia Hill	0745-1000	67-74	1-3	0-0
Least Bell's Vireo Round 2					
4/28/2015	Alicia Hill	0710-1100*	67-86	1-3	0-0
Least Bell's Vireo Round 3					
5/14/2015	Alicia Hill	0815-1000	61-69	1-5	98-70
Least Bell's Vireo Round 4					
5/26/2015	Alicia Hill	0815-1015	63-67	0-2	100-100
Least Bell's Vireo Round 5					

Table 1: Survey Conditions Summary

Date	Personnel	Time	Temp. (°F)	Wind (mph)	Sky
					(% Cloud)
6/6/2015	Alicia Hill	0800-0945	64-74	0-1	100-20

*Additional opportunistic survey efforts continued through approximately 1145

Results

Literature Review

Prior to initiating surveys, Chambers Group conducted a review of CNDDDB, the USFWS species occurrence data, and Critical Habitat. The nearest record of LBVI documented in the CNDDDB occurred in 2012 approximately 1 mile north of the Proposed Project. The most recent occurrence of LBVI within 5 miles of the Project was recorded in the USFWS species occurrences and occurred in 2013 approximately 1.2 miles south of the Proposed Project.

Habitat

The structure of the riparian habitat adjacent to the Proposed Project ROW was well suited for LBVI; however, this habitat occurs mostly outside the Survey Area. Suitable LBVI habitat within the Survey Area is best characterized as Arroyo Willow - Mulefat Woodland (*Salix lasiolepis*-*Baccharis salicifolia* Woodland Alliance) and mulefat thickets (*Baccharis salicifolia* Shrubland Alliance).

Arroyo willow-mulefat woodland is dominated by a primary canopy of tall arroyo willow species that creates an intermittent to open canopy with a shrub layer dominated by mulefat. The vegetation community may be seasonally flooded or saturated with fresh water along flood-plain, low gradient depositions along river or streams. Within the Project black willow (*Salix gooddingii*) was also present periodically throughout the area along with tamarisk sp. (*Tamarix spp.*).

Mulefat thickets are dominated largely by mulefat within a continuous two tiered shrub layer between 2 meters (6.56 feet) and (16.4 feet) in height). Riparian trees may be present at low cover and the herbaceous layer is sparse. This community can be found within canyon bottoms, floodplains, irrigation ditches, lake margins, and stream channels. Soils are mixed alluvium. Natural riparian scrub communities within the Project area were observed most commonly associated with drainages. These riparian communities were dominated by shrub species such as mule fat and interspersed broom baccharis (*Baccharis sarothroides*), coyote bush (*Baccharis pilularis*), or sandbar willow (*Salix exigua*), and an herbaceous understory of San Diego marsh elder (*Iva hayesiana*), mugwort (*Artemisia douglasiana*), and ragweed (*Ambrosia psilostachya*). Occasional willow species occur within this community infrequently, such as black willow or arroyo willow, providing limited canopy cover.

Two distinct patches of LBVI suitable habitat (LBVI Habitat 1 and LBVI Habitat 2; Figure 2) were observed to occur within the Survey Area. Suitable habitat within these patches accounted for a total of 15,246 sq. ft. (0.35 acre) of habitat. Additional habitat also occurs north of the proposed underground route along Camino Del Norte.

LBVI Surveys

No LBVI have been detected during the first five surveys of the 2015 focused survey effort.

Discussion

The LBVI is a small, indistinctly marked songbird characterized by its drab, olive-gray plumage and husky, musical song. This species is dependent upon riparian habitat during the breeding season and prefers willow-dominated woodland or scrub that exists along streams and rivers (Kus 2002). Habitat characteristics that appear to be essential for LBVI occupation include dense cover from 3 to 6 feet in height for nesting and foraging and a stratified canopy providing both foraging habitat and song perches for territorial advertisement (Unitt 2004; USFWS 1998).

Endemic to California and Baja California, this highly migratory species arrives in California in mid-March and departs by late September when it flies southward to wintering grounds near the tip of Baja California. The species typically constructs the nest over approximately 5 days (Ehrlich, Dobkin, and Wheye 1988). Four eggs are typically laid by the female over consecutive days, and the female and male exchange incubating duties for approximately 14 days. The nestling period for this species typically extends from 11 to 12 days with young leaving the nest after a total of approximately 25 to 26 days (Ehrlich, Dobkin, and Wheye 1988). In San Diego County, the LBVI nesting season typically extends from late April through early July, with egg laying typically peaking in late April (Unitt 2004). Egg laying for the species rarely extends into July (Unitt 2004). Consistent with this information, the USFWS survey guidelines state that surveys conducted after July 15 will generally reflect to a broader extent the riparian habitat of the area and adjacent habitats that the LBVI uses during the later parts of the breeding season (USFWS 2001).

To-date, Chambers Group has conducted a total of five survey passes of the eight recommended by the USFWS survey guidelines. Given the temporal understanding of the LBVI migratory and nesting periods, arriving in San Diego County in March and April, the surveys conducted to date within the small and limited habitat of the Survey Area would likely have detected the species if present. Surveys have currently extended through the peak egg laying period and, with an average LBVI nest cycle of approximately 35 days (to account for nest building, egg laying, incubation, and nestling periods), arrival, pairing, and completion of a full nesting cycle by LBVI at this stage of the breeding season would extend beyond currently documented late breeding records (Unitt 2004). As a result, it is unlikely that LBVI will occupy habitat within the Project Survey Area during the 2015 breeding season.

Chambers Group, requests USFWS concurrence that surveys may be concluded during the 2015 breeding season after five survey passes and that habitat be considered unoccupied for breeding during the 2015 season. It is understood that although LBVI have not been detected during the 2015 season, this species distribution is currently expanding within its historic range throughout San Diego County (Unitt 2004), and suitable habitat may become occupied during subsequent breeding season.

Reporting

Following completion of the LBVI survey effort or concurrence from USFWS to conclude surveys early, Chambers Group will complete a 45-day report compiling the survey data in accordance with USFWS

guidelines. The report would contain recommendations for avoidance of LBVI habitat to be incorporated into the final Project design, as well as recommended avoidance measures for indirect impacts to LBVI potentially occurring during subsequent breeding seasons to avoid “take” and ensure that Project-related impacts remain less than significant.

We appreciate your review of this request. Please contact me on my by phone at 206-920-3266 (cell) or 858-541-2800 x7136 (office), or by email at imaunsell@chambersgroupinc.com to discuss if you have any questions or concerns.

Sincerely,

Ian Maunsell

A handwritten signature in black ink, appearing to read 'Ian Maunsell', with a stylized flourish at the end.

Project Biologist, Project Manager

Figures

Figure 1 – Project Location

Figure 2 – Survey Results

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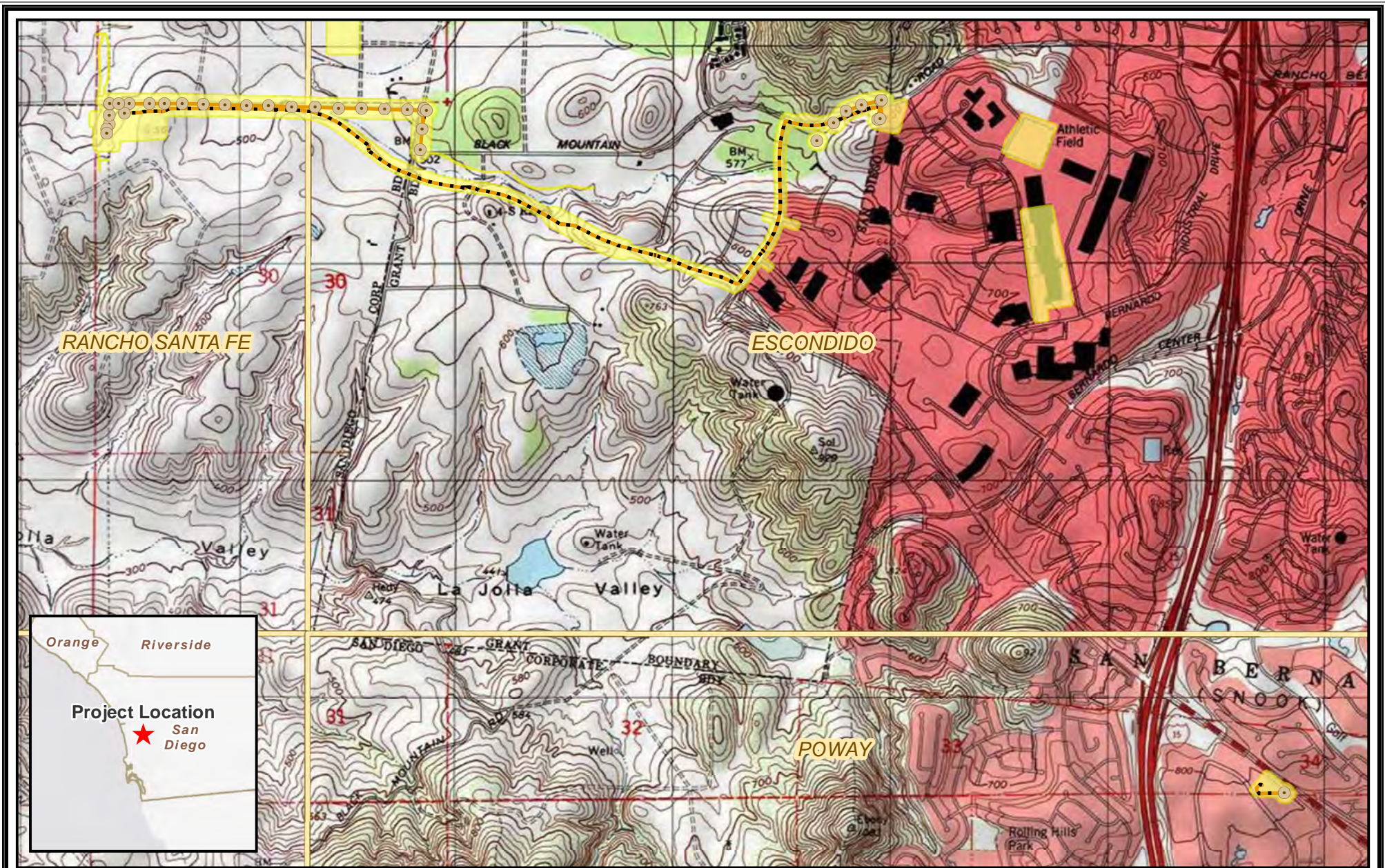
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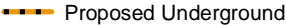

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Legend

-  Existing Pole
-  USGS 7.5-min Quadrangle
-  Project Centerline
-  Proposed Underground
-  Survey Corridor

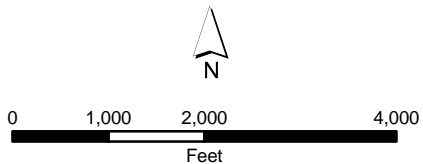
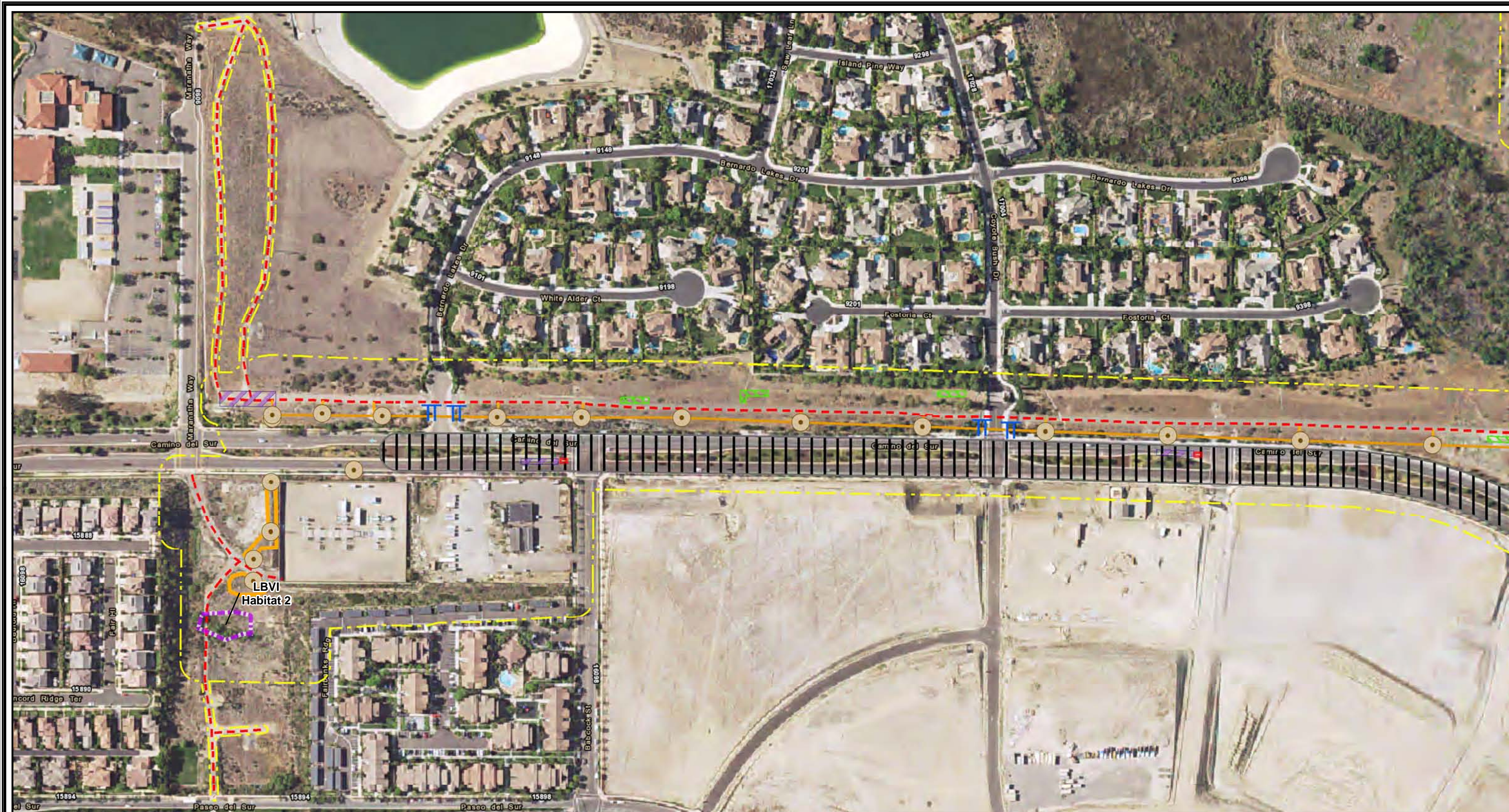


Figure 1
Project Location Map



- Legend**
- Project Structure
 - Overland Travel
 - LBVI - Suitable Habitat
 - Guard Structures
 - Work area
 - Stringing/Pulling Site
 - Project Overhead Route
 - Proposed Laydown Area
 - Project Underground Route
 - Proposed Transmission Vault
 - Access Road
 - Survey Corridor

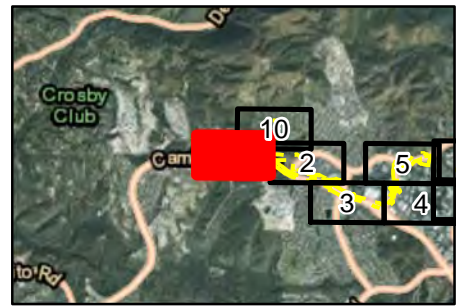
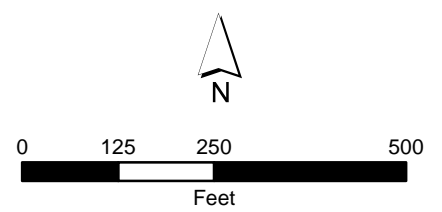


Figure 2
Least Bell's Vireo
Survey Results Map



- Legend**
- Project Structure
 - Guard Structures
 - Project Overhead Route
 - Project Underground Route
 - Existing Non-TCM Access Road
 - Access Road
 - Overland Travel
 - Stringing/Pulling Site
 - Proposed Laydown Area
 - Proposed Transmission Vault
 - Survey Corridor
 - LBVI - Suitable Habitat

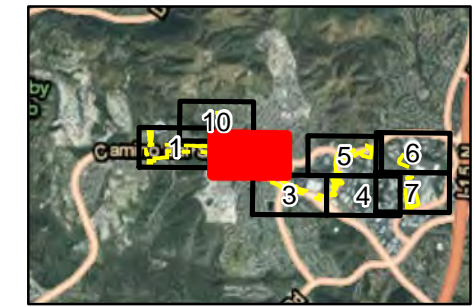
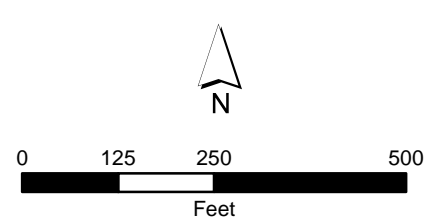
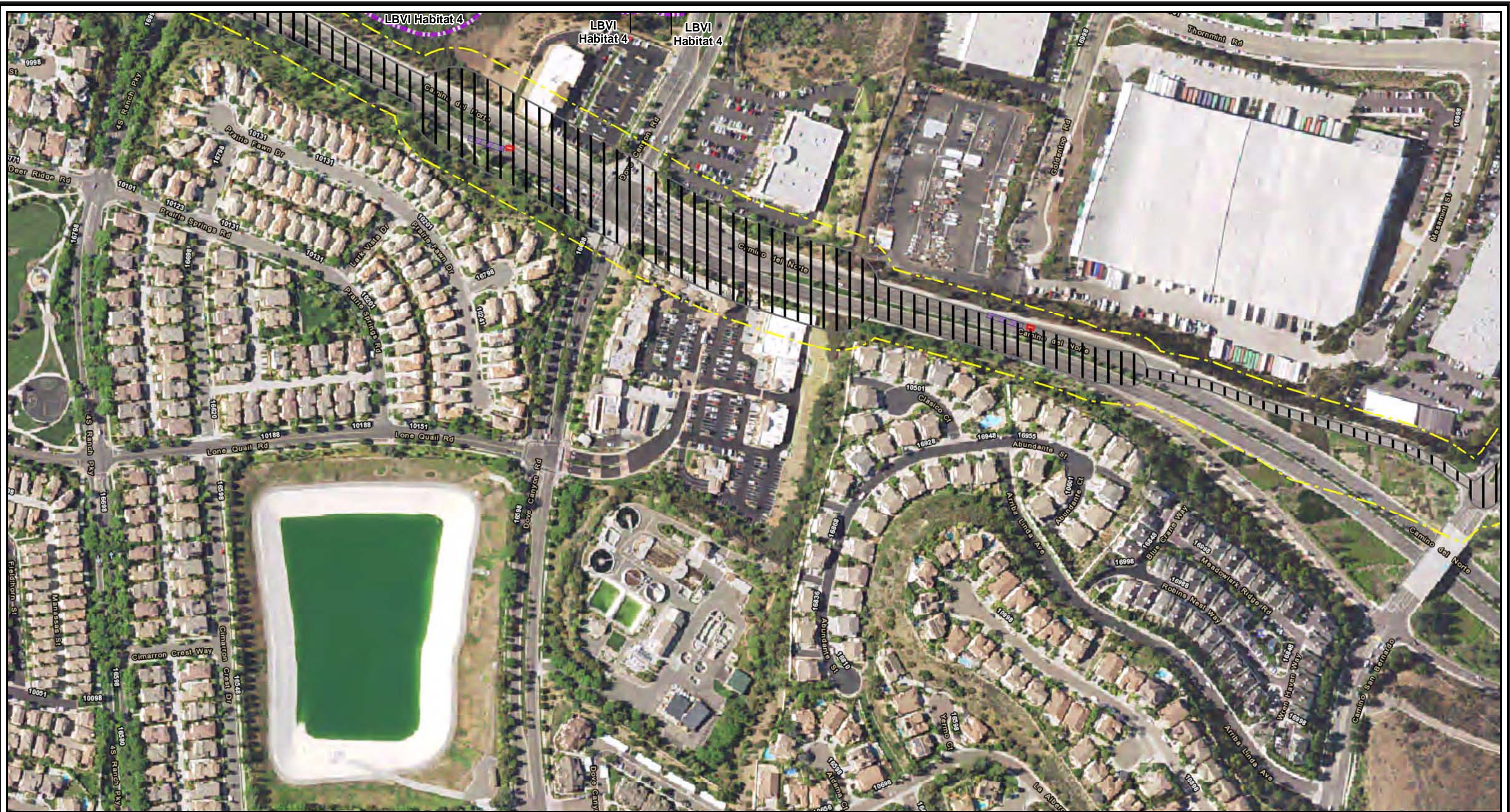







Figure 2
Least Bell's Vireo
Survey Results Map



- Legend**
-  Project Underground Route
 -  Stringing/Pulling Site
 -  Proposed Transmission Vault
 -  Survey Corridor
 -  LBVI - Suitable Habitat

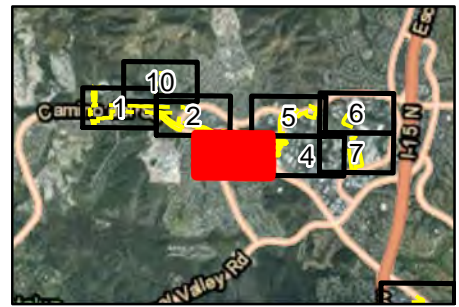






Figure 2
Least Bell's Vireo
Survey Results Map



- Legend**
-  Project Underground Route
 -  Stringing/Pulling Site
 -  Proposed Transmission Vault
 -  Survey Corridor

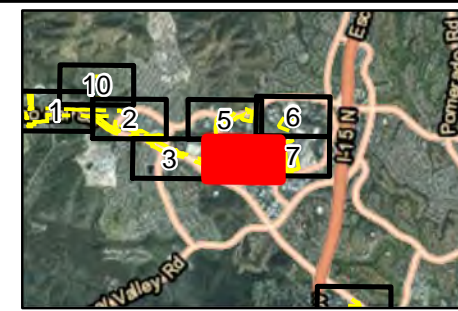
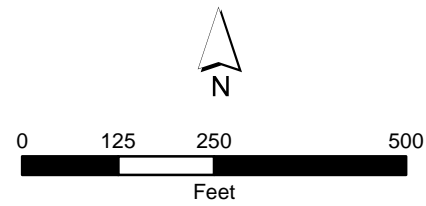
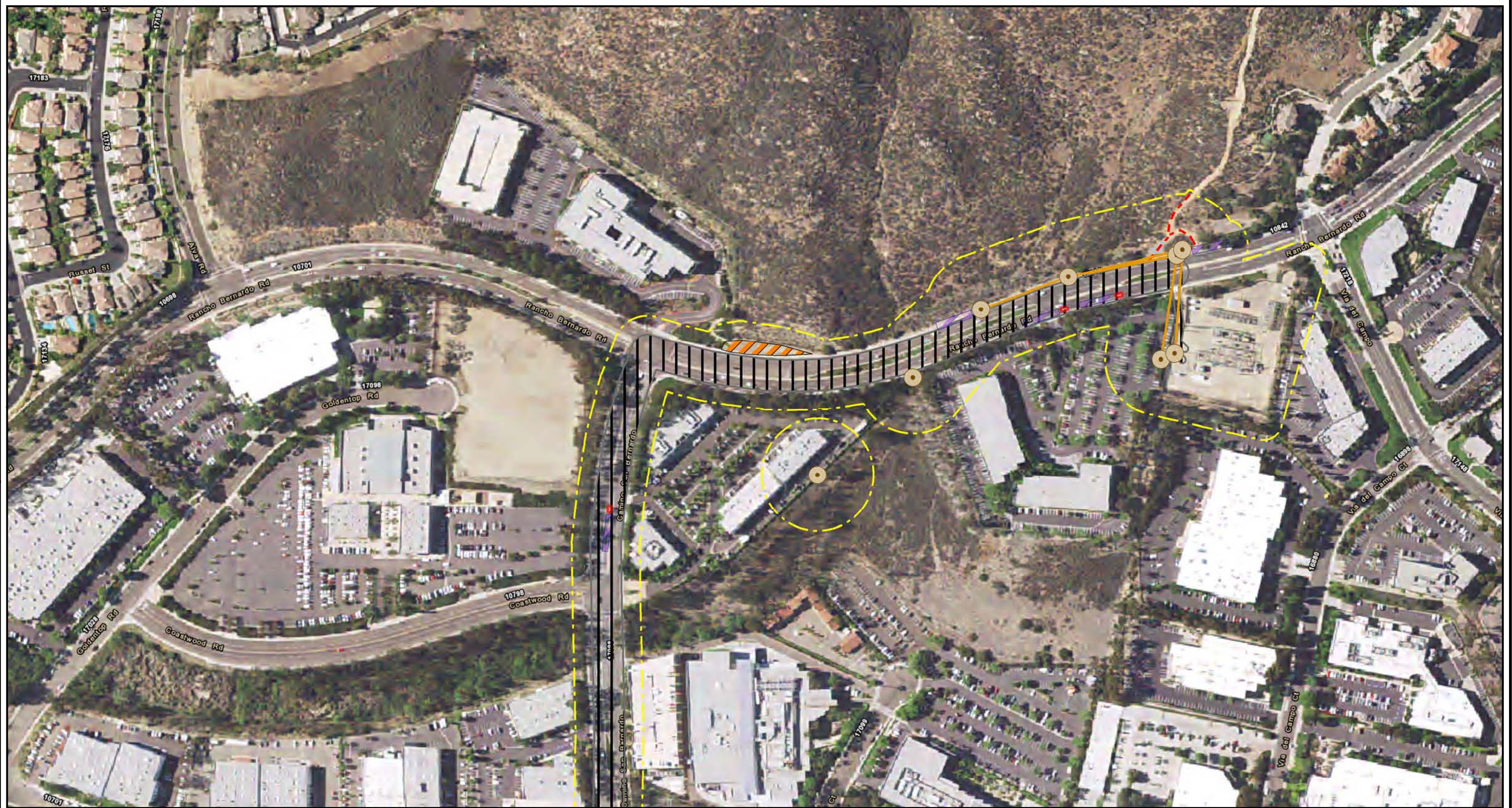


Figure 2
Least Bell's Vireo
Survey Results Map



- Legend**
- Project Structure
 - Project Overhead Route
 - Project Underground Route
 - Access Road
 - Staging Area
 - Stringing/Pulling Site
 - Proposed Transmission Vault
 - Survey Corridor

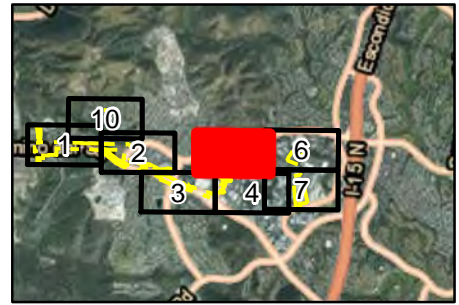
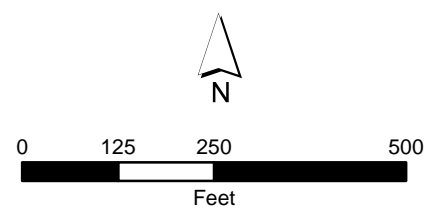
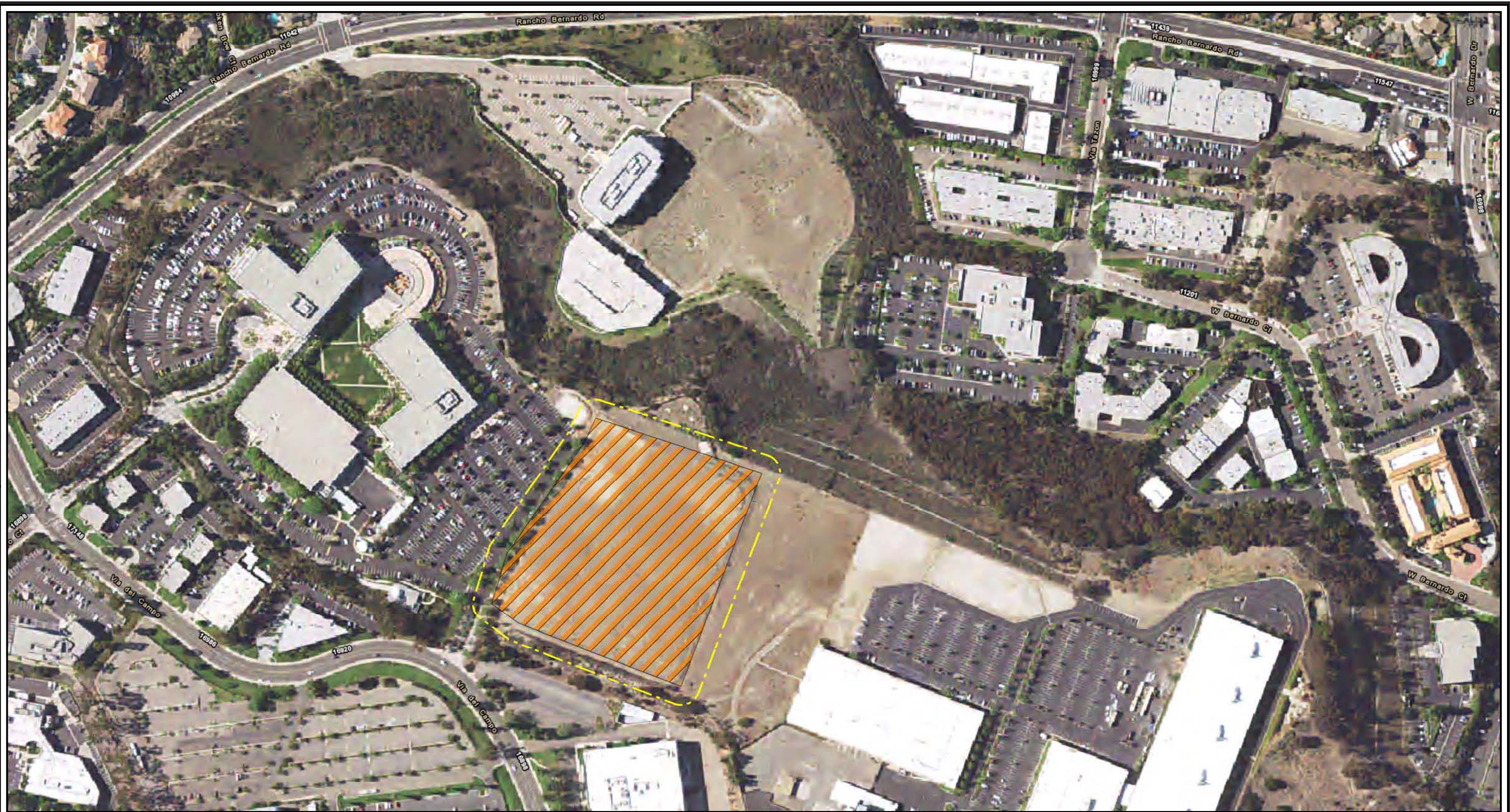




Figure 2
Least Bell's Vireo
Survey Results Map



Legend
 Staging Area
 Survey Corridor

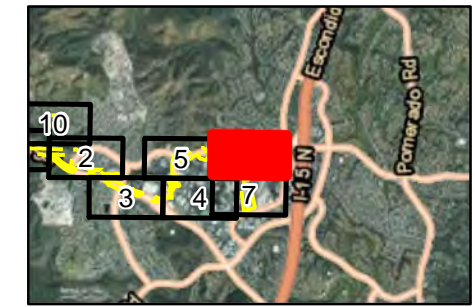
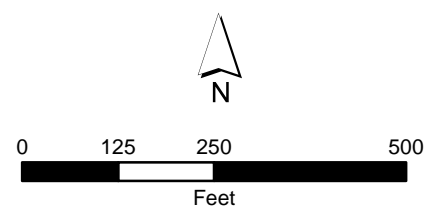


Figure 2
 Least Bell's Vireo
 Survey Results Map



Legend

- Staging Area
- Survey Corridor

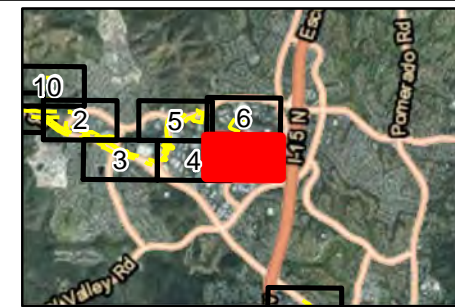
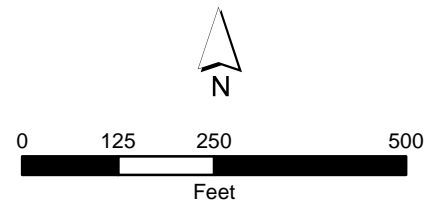
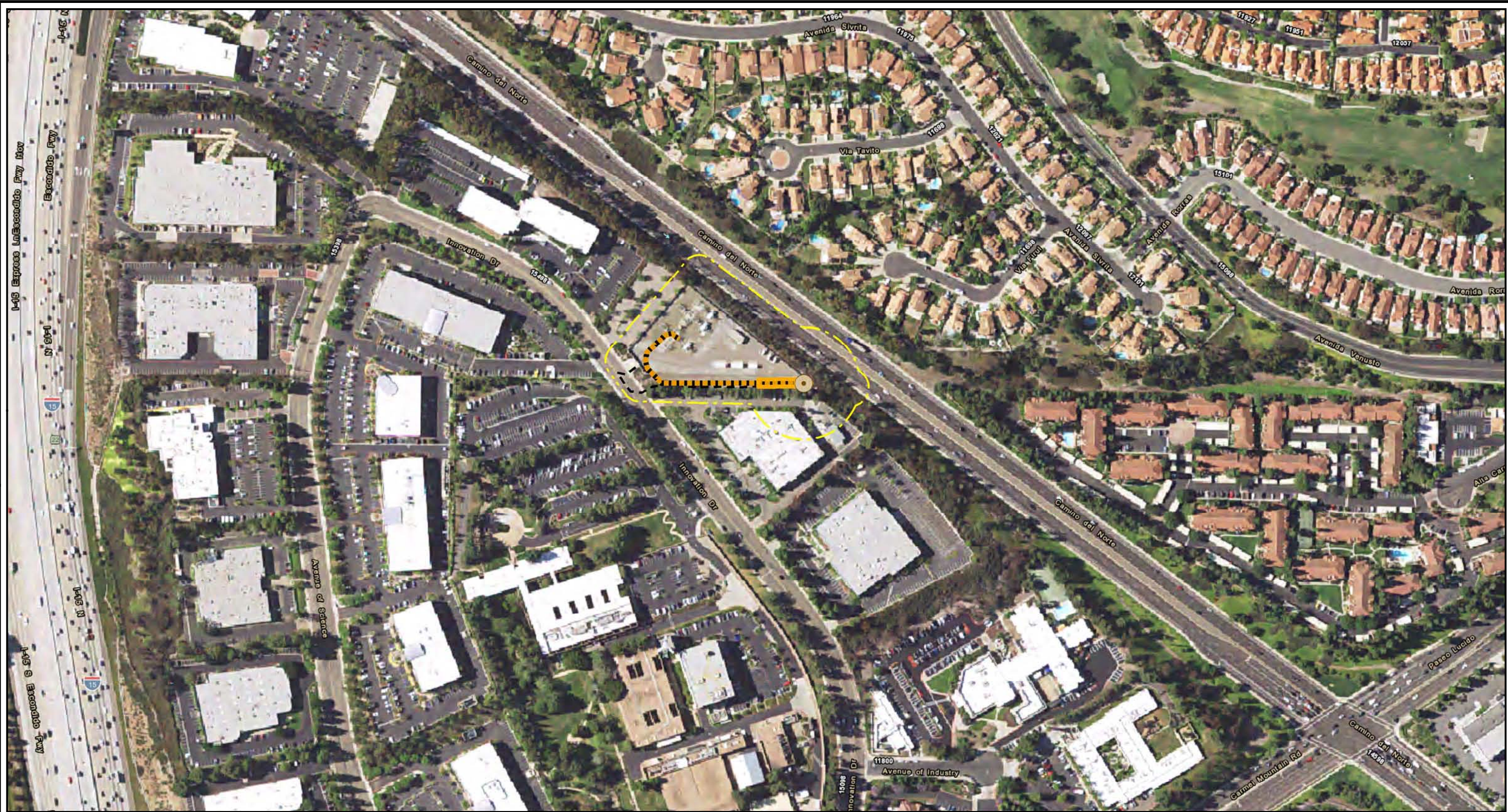







Figure 2
Least Bell's Vireo
Survey Results Map



- Legend**
-  Project Structure
 -  Project Underground Route
 -  Navigational
 -  Work area
 -  Survey Corridor

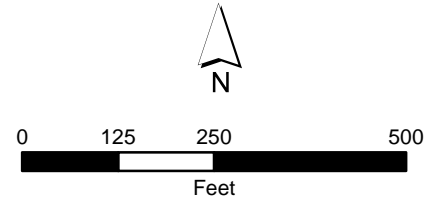


Figure 2
Least Bell's Vireo
Survey Results Map



Legend

- Staging Area
- Survey Corridor

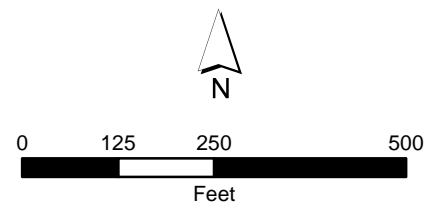




Figure 2
Least Bell's Vireo
Survey Results Map



Legend

-  Staging Area
-  Survey Corridor

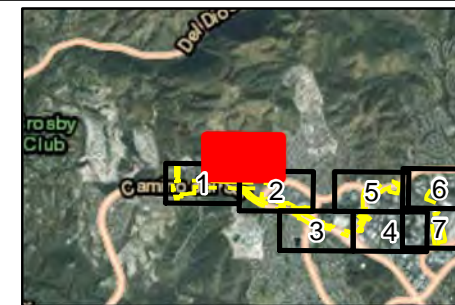
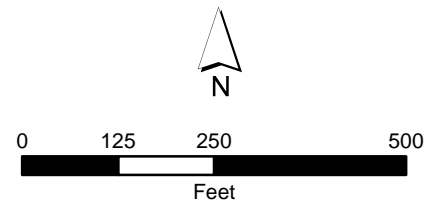


Figure 2
Least Bell's Vireo
Survey Results Map

APPENDIX M – 2015 COASTAL CALIFORNIA GNATCATCHER SURVEY REPORT



**2015
ARTESIAN SUBSTATION EXPANSION
PROJECT
CALIFORNIA GNATCATCHER
SURVEY REPORT**

Prepared for:

UNITED STATES FISH AND WILDLIFE SERVICE

Attn: Stacey Love
Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Prepared by:

CHAMBERS GROUP, INC.
9620 Chesapeake Drive, Suite 202
San Diego, California 92123

July 2015

**ARTESIAN SUBSTATION EXPANSION
PROJECT**

**2015 CALIFORNIA GNATCATCHER SURVEY
REPORT**

Biologist Signature Page

June 2015

The undersigned certify this report to be a complete and accurate account of the findings and conclusions of focused surveys for California Gnatcatcher and Coastal Cactus Wren conducted during the breeding bird season of year 2015, within suitable habitat on the San Diego Gas & Electric Artesian Substation Expansion Project, San Diego County, California



Alicia Hill
FWS Permit # TE 15264B-0

26 June 2015
Date

TABLE OF CONTENTS

SECTION 1.0 – INTRODUCTION1
 1.1 PROJECT DESCRIPTION..... 1
 1.2 CALIFORNIA GNATCATCHER..... 1

SECTION 2.0 – METHODOLOGY.....2
 2.1 SURVEY AREA 2
 2.2 HABITAT ASSESSMENT 2
 2.3 FOCUSED SURVEYS..... 2

SECTION 3.0 – RESULTS4
 3.1 CALIFORNIA GNATCATCHER..... 4

SECTION 4.0 – DISCUSSION AND RECOMMENDATIONS5

SECTION 5.0 – REFERENCES6

LIST OF APPENDICES

Appendix A: Avian Species Observed

LIST OF TABLES

Table 1: Survey Conditions Summary **Error! Bookmark not defined.**
Table 2: California Gnatcatcher Observations **Error! Bookmark not defined.**

LIST OF FIGURES

Figure 1: Project Location Overview Map..... 7
Figure 2: CAGN Survey Results..... 8

EXECUTIVE SUMMARY

Chambers Group, Inc. (Chambers Group) Staff Biologist Alicia Hill (TE 15264B-0) conducted protocol coastal California gnatcatcher (*Polioptila californica californica*; CAGN) surveys for the San Diego Gas & Electric (SDG&E) Company proposed Artesian Substation Expansion Project (Proposed Project) in an effort to improve system reliability in SDG&E's service territory. The Proposed Project will include operations and maintenance along SDG&E's Tie-Line (TL) 6939 and TL 616 transmission line to improve system reliability.

The areas surveyed (Survey Area) consisted of a 150-foot buffer around each pole centerline. For other Project features, the Survey Area included a 50-foot buffer around Project facilities (substations, staging yards, stringing sites, etc.), and a 20-foot buffer around Project access roads. The additional buffer was surveyed to include potential additional work space that may be required during normal construction activities.

A total of 4.4 acres of suitable CAGN habitat were identified and two CAGN detected within the Survey Area during the survey effort. No CAGN breeding or potential nesting activity was observed during the survey effort.

SECTION 1.0 – INTRODUCTION

1.1 PROJECT DESCRIPTION

SDG&E proposes the Artesian Substation Expansion Project in an effort to improve system reliability in SDG&E's service territory. The Proposed Project will include operations and maintenance along SDG&E's Tie-Line (TL) 6939 and TL 616 transmission line to improve system reliability. The Proposed Project will also include the expansion of the existing 69/12 kilavolt (kV) Artesian Substation to a 230/69/16 kV substation and undergrounding of existing transmission lines. The Proposed Project is located in the cities of Rancho Santa Fe and Escondido (Figure 1). Proposed operations and maintenance work would include the reconductoring and undergrounding of approximately 3 miles of existing TL 6939 and 616 transmission lines. The Project site is located within the United States Geological Survey (USGS) Escondido and Rancho Santa Fe Quadrangle maps, Section 30, Township 13, Range 02W (Figure 1), from existing poles and Artesian Substation near Babcock Street, east along Camino Del Sur and Camino Del Norte to Rancho Bernardo Road, with isolated Project features occurring in the vicinity of Rancho Bernardo Road to the east and north, and Camino Del Sur (Figure 1).

1.2 CALIFORNIA GNATCATCHER

The CAGN is a federally listed threatened species and a California Species of Special Concern (SSC). The historic range of this species extended from the coast and foothills of Ventura County, south through Los Angeles, southwestern San Bernardino, western Riverside, Orange, and San Diego counties of California into northwestern Baja California, Mexico. Populations have since become increasingly fragmented. This species is a permanent resident of Diegan, Riversidian, and Venturan sage scrub sub-associations found from sea level to 2,500 feet in elevation. Within its range, it associates strongly with California sagebrush (*Artemisia californica*) dominant habitats and also occurs in mixed scrub habitats with lesser percentages of this favored shrub. Other plant species important for the nesting and foraging of this species include California buckwheat (*Eriogonum fasciculatum*), white sage (*Salvia apiana*), black sage (*Salvia mellifera*), and chaparral broom (*Baccharis sarothroides*). Chamise (*Adenostoma fasciculatum*) habitats may also support breeding pairs, especially where coastal sage scrub occurs nearby or forms a component (Bontrager 1991).

The CAGN is a small, secretive songbird with grayish coloration and faint white outer tail margins. Males of this species exhibit a black cap during the breeding season. The breeding season extends from about February 15 through August 31, with peak nesting activity occurring from mid-March to mid-May. The incubation period is approximately 14 days, and the young fledge at 8 to 13 days but may be dependent upon their parents for at least three weeks and may stay associated with their parents for several months.

Although observed declines in numbers and distribution of the CAGN have resulted from numerous factors, habitat destruction, fragmentation, and adverse modification are the principal reasons for the CAGN's current threatened status (USFWS 1993). The amount of coastal sage scrub available to CAGN has continued to decrease during the period after the listing of the species. It is estimated that up to 90 percent of coastal sage scrub vegetation has been lost as a result of development and land conversion (Barbour and Major 1977), and coastal sage scrub is considered to be one of the most depleted habitat types in the United States (Kirkpatrick and Hutchinson 1977; Axelrod 1978; Klopatek et al. 1979; Westman 1987; O'Leary 1990).

SECTION 2.0 – METHODOLOGY

2.1 SURVEY AREA

The survey area included suitable habitat within the Proposed Project right-of-way (ROW) and within 150 feet of the ROW centerline (Figure 1). For facilities (i.e. stringing sites, staging yards, etc.) proposed outside this buffer, a 50-foot wide buffer around the facility was surveyed. For access roads outside the buffer, the access road plus a 20-foot-wide buffer on either side of the edges of the access road was surveyed.

2.2 LITERATURE REVIEW

Prior to conducting the field surveys, existing documentation relevant to the Survey Area was reviewed. The most recent records of the CDFW California Natural Diversity Database (CNDDDB 2014) and USFWS species occurrence data were reviewed; a three-mile radius surrounding the Proposed Project was reviewed. CNDDDB contains records of reported occurrences of federal or State listed species, proposed endangered or threatened species, Federal Birds of Conservation Concern, California Species of Special Concern (SSC), or otherwise sensitive species or habitats that may occur within or in the vicinity of the Survey Area. USFWS species occurrence data includes federally listed threatened or endangered species. This database and literature review was used to provide details on areas where CAGN may be expected to occur within the Survey Area prior to conducting focused survey efforts.

2.3 HABITAT ASSESSMENT

The initial CAGN habitat assessment was conducted during vegetation mapping effort performed for the Project. Subsequent surveys were conducted in all areas that contained coastal sage scrub habitat suitable for nesting of the target species. Patches of suitable habitat were further refined and updated during the initial survey effort.

In order to track and identify potentially occupied habitat, each habitat patch was assigned a unique identifying number. Furthermore, habitat patches were assigned a designation of anticipated quality of low, medium, or high, based on site specific factors including dominant vegetation composition, vegetation height, vegetation density, slope and orientation, observed anthropogenic disturbances, and patch size.

2.4 FOCUSED SURVEYS

All CAGN focused surveys were conducted by a biologist holding the necessary federal Endangered Species Act (ESA) section 10(a)(1)(A) survey permit. Surveys were conducted according to the USFWS presence or absence survey guidelines (USFWS 1997).

A total of six surveys were conducted pursuant to USFWS presence or absence guidelines (USFWS 1997). Periods of excessive or abnormal heat, wind, fog, and other inclement weather were avoided, and no more than 80 acres (32 hectares) were surveyed per biologist per day. Habitat adjacent to the Survey Area was opportunistically surveyed where feasible in order to increase the chance of detecting CAGN near the Proposed Project that may disperse within the Survey Area.

Surveys were conducted by the biologist slowly walking transects within suitable habitat within the survey areas and using binoculars to achieve 100 percent visual coverage. Taped vocalizations were used only to initially locate individual CAGN, and tapes were not used frequently or to further elicit behaviors from any previously detected individuals. Information was recorded on the survey methods performed, including surveyor per day, start and stop times of survey, and weather conditions (**Error! Reference source not found.**), and survey routes delineated on maps (Figures 1 and 2).

Table 1: Survey Conditions Summary

Date	Personnel	Time		Temp. (°F)	Wind (mph)	Sky
						(% Cloud)
Round 1						
3/21/2015	A. Hill	Start	0830	60	0-1	100
		End	1015	67	0-1	70
Round 2						
3/28/2015	A. Hill	Start	0730	57	1-3	2
		End	0910	68	1-2	0
Round 3						
4/7/2015	A. Hill	Start	0815	53	0-3	2
		End	1000	66	1-3	40
Round 4						
4/16/2015	A. Hill	Start	0745	67	1-3	0
		End	1000	74	1-2	0
Round 5						
4/28/2015	A. Hill	Start	0710	67	1-3	0
		End	1045	86	1-3	0
Round 6						
5/14/2015	A. Hill	Start	0815	61	1-3	98
		End	1000	69	1-5	70

Data was collected on the number, approximate age, sex, and color band information (if any was observed). All CAGN detections (e.g., vocalization, foraging behavior, nesting behavior, etc.) were recorded using hand-held Global Positioning Systems (GPS) units and photo documented when possible. Data was also collected for incidental observation of brown-headed cowbirds (*Molothrus ater*; BHCO)

SECTION 3.0 – RESULTS

3.1 CALIFORNIA GNATCATCHER

Two patches of suitable habitat were identified within the Survey Area; CAGN Habitat 1 and CAGN Habitat 2 (Figure 2). CAGN Habitat 1 includes 3.6 acres, and occurs at the eastern portion of the Proposed Project, north of Rancho Bernardo Road and is considered high quality suitable habitat CAGN based on vegetation composition and patch size. Coastal sage scrub habitat within CAGN Habitat 1 is dominated by black sage, California buckwheat, and laurel sumac (*Malosma laurina*) with sporadic California sagebrush (*Artemisia californica*) located throughout the Survey Area. The vegetation ranges between 3-5 feet in height and is relatively dense with small open patches due to animal trails and rocky outcrops. This patch of habitat interfaces with large open space preserve areas of the region, including the San Dieguito River Park to the north.

CAGN Habitat 2 includes 0.8 acres, and occurs adjacent to and immediately south of the Artesian Substation. It is considered low quality CAGN habitat, largely due to the fragmented nature of the patch. Coastal sage scrub habitat within CAGN Habitat 2 consists of a restored and hydroseeded cut/fill slope with interspersed non-native landscaped vegetation. Habitat within this patch is dominated by black sage, California sagebrush, coyote brush (*Baccharis pilularis*) with interspersed non-native *Tamarix* sp. and landscaped trees. The dense shrub vegetation averages 4 feet in height except for the low lying vegetated or bare ground area immediately surrounding the existing concrete v-ditch that runs almost the entire length within Habitat 2.

Two individual CAGN were detected during separate survey rounds, each observed once within CAGN Habitat 1. One unpaired male CAGN was detected during the second survey round displaying territorial behavior towards a nesting pair of blue-grey gnatcatchers and calling profusely throughout the northern edge of the Survey Area moving from east to west. It appeared he was moving through the Survey Area attempting to locate a potential mate for the breeding season. During the fifth survey round, one likely dispersing juvenile was detected foraging and vocalizing within the Survey Area. The locations of both individuals and suitable habitat are shown in Figure 2: CAGN Survey Results. For a complete list of all CAGN observations see **Error! Reference source not found.**

Table 2: California Gnatcatcher Observations

Date	Observer	Species	Number	Notes	Latitude	Longitude
3/28/2015	A Hill	CAGN	1	calling male	33.022493	-117.097053
4/28/2015	A Hill	CAGN	1	dispersing juvenile	33.022134	-117.097723

3.2 BROWN-HEADED COWBIRD

At least one BHCO was heard in the vicinity of Habitat 2 during the survey rounds. The birds were not seen foraging or calling within the Survey Area; however, they were detected vocalizing from within the adjacent housing development to the south. No additional BHCO were detected.

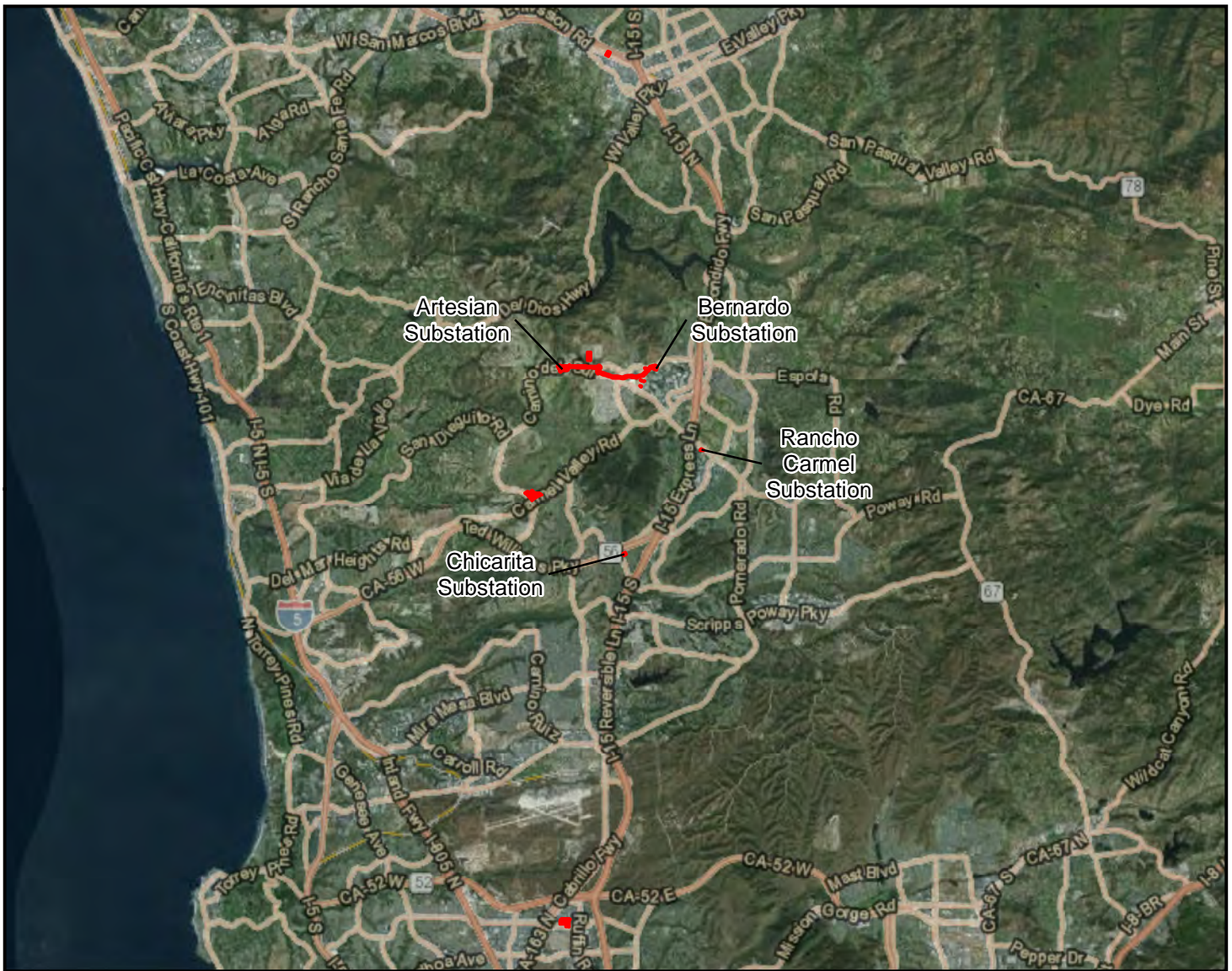
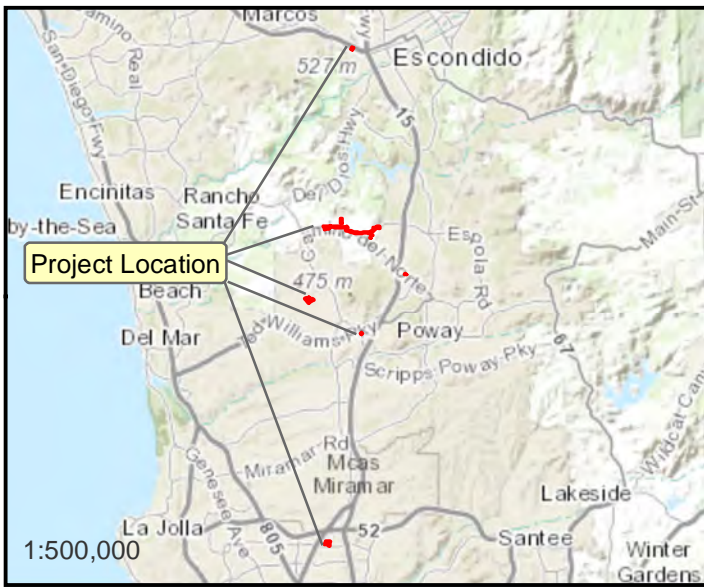
SECTION 4.0 – DISCUSSION AND RECOMMENDATIONS

Adult and juvenile CAGN from adjacent habitat detected during the 2015 surveys may form a breeding territory within CAGN Habitat 1 in future nesting seasons. The habitat within this area should be maintained to the greatest extent possible during construction activities. No CAGN were observed within CAGN Habitat 2 during the survey effort and this patch is considered unoccupied for the 2015 breeding season. Due to the fragmented nature and low-quality of habitat within this patch, it is unlikely that CAGN will breed within this area during future breeding seasons. The following measures should be implemented to ensure potential impacts to CAGN as a result of construction activities are avoided and/or minimized:

- Vegetation trimming and removal should be conducted outside of the CAGN breeding season (February 15 through July 1) to the greatest extent feasible.
- If Project-related work, including vegetation trimming or removal, is required during the CAGN breeding season (February 15 through July 1), focused CAGN nesting surveys should be conducted by a qualified biologist within suitable habitat within 100 feet of proposed construction activities in order to avoid impacts to nesting CAGN and to verify breeding territories.
- If active CAGN nests are observed within 100 feet of construction-related work activities and a qualified biologist determines that the nest may be impacted by construction-related work, a qualified biologist should monitor construction within 100-feet of the nest and provide recommendations for adaptive mitigation such as installing sound walls around noise epicenters in order to reduce impacts to nesting CAGN.

SECTION 5.0 – REFERENCES

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1993 Threatened coastal California gnatcatcher; final rule and proposed special rule. Federal Register 58, number 59.
1997 Presence/absence survey protocol for the Coastal California gnatcatcher. July 28, 1997.



Legend

 Project Location

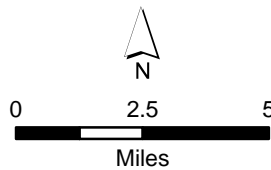


Figure 1
Project Location Map



- Legend**
- Project Structure
 - Guard Structures
 - Project Overhead Route
 - Project Underground Route
 - Access Road
 - Overland Travel
 - Work area
 - Stringing/Pulling Site
 - Proposed Laydown Area
 - Proposed Transmission Vault
 - Survey Corridor
 - CAGN Occurrence (USFWS)
 - CAGN Suitable Habitat (Low Quality)

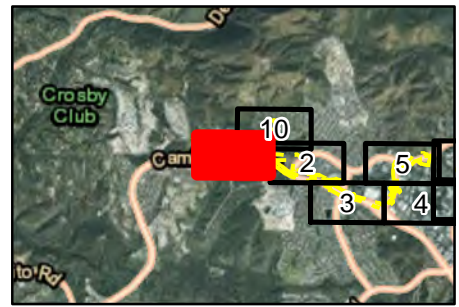
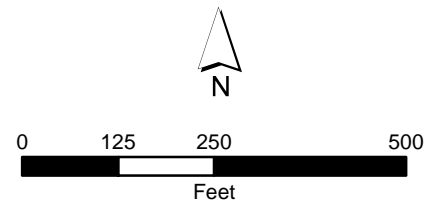
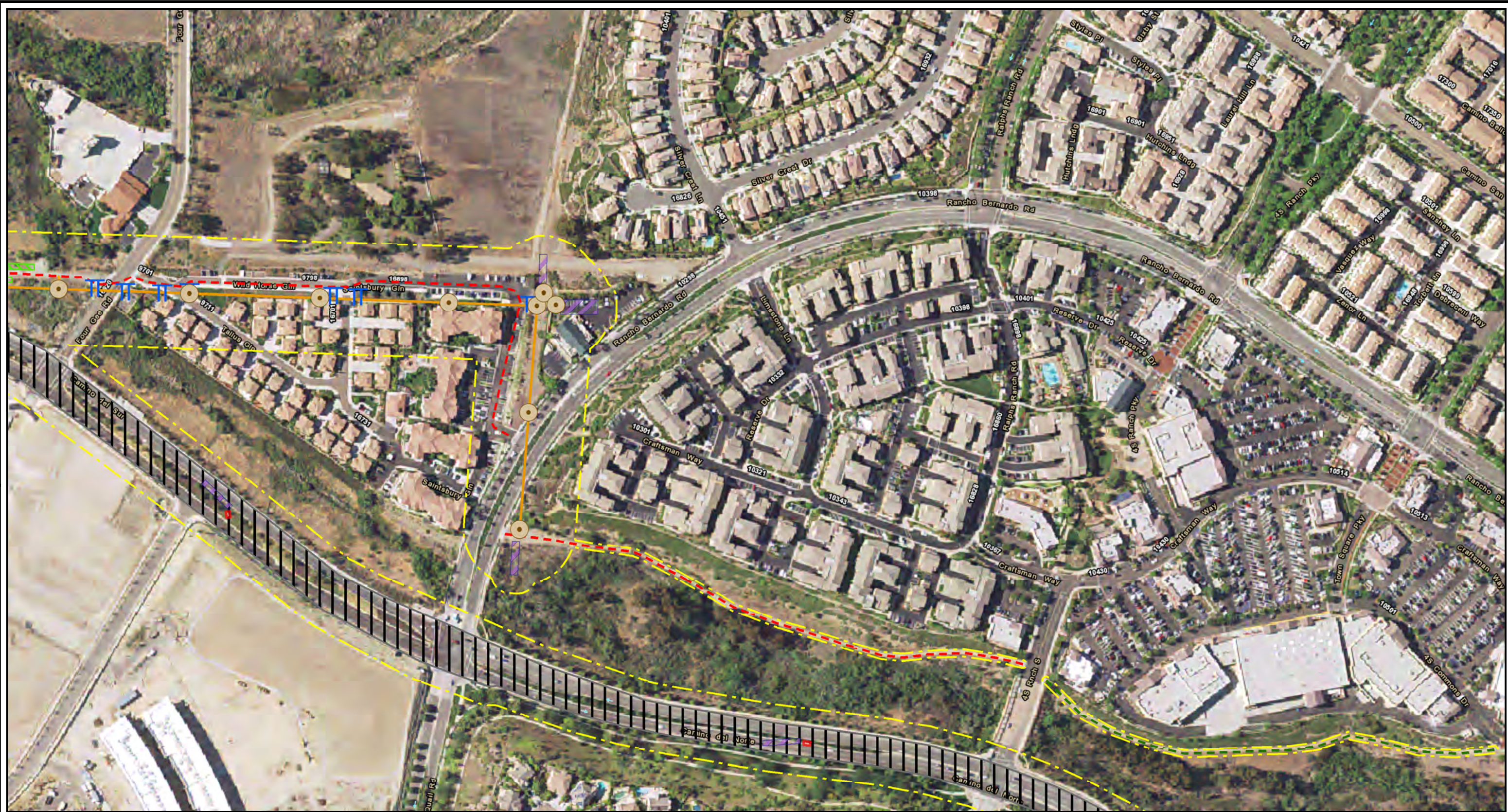


Figure 2
California Gnatcatcher
Survey Results Map





- Legend**
- Project Structure
 - Guard Structures
 - Project Overhead Route
 - Project Underground Route
 - Existing Non-TCM Access Road
 - Access Road
 - Overland Travel
 - Stringing/Pulling Site
 - Proposed Laydown Area
 - Proposed Transmission Vault
 - Survey Corridor

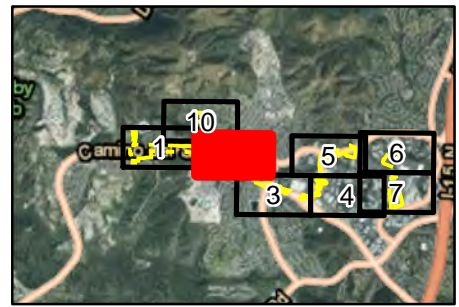
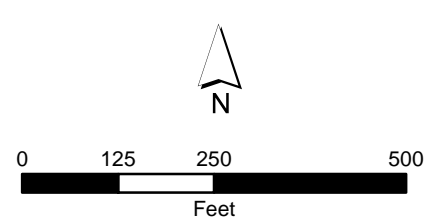


Figure 2
California Gnatcatcher
Survey Results Map



- Legend**
- Project Underground Route
 - Stringing/Pulling Site
 - Proposed Transmission Vault
 - Survey Corridor
 - CAGN Occurrence (CDFW)

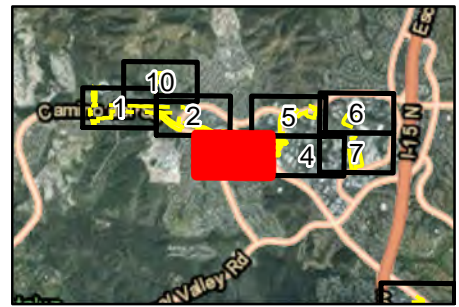
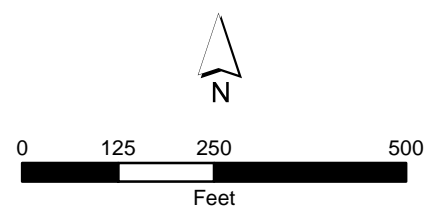


Figure 2
California Gnatcatcher
Survey Results Map



- Legend**
- Project Underground Route
 - Stringing/Pulling Site
 - Proposed Transmission Vault
 - Survey Corridor
 - CAGN Occurrence (CDFW)

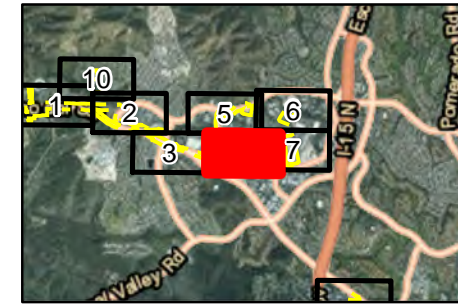
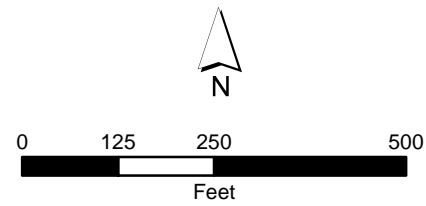


Figure 2
California Gnatcatcher
Survey Results Map



- Legend**
- Project Structure
 - Project Overhead Route
 - Project Underground Route
 - Access Road
 - Staging Area
 - Stringing/Pulling Site
 - Proposed Transmission Vault
 - Survey Corridor
 - CAGN Occurrence (CDFW)
 - CAGN Suitable Habitat (High Quality)
- CAGN Observations**
- Calling Male
 - Dispersing Juvenile

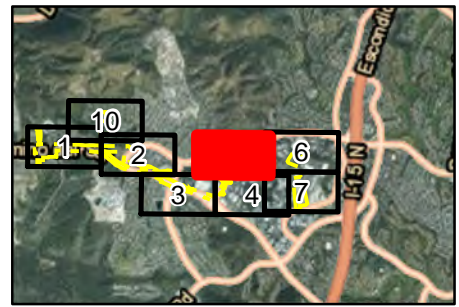
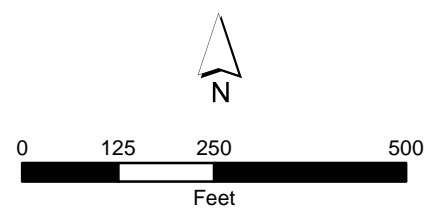
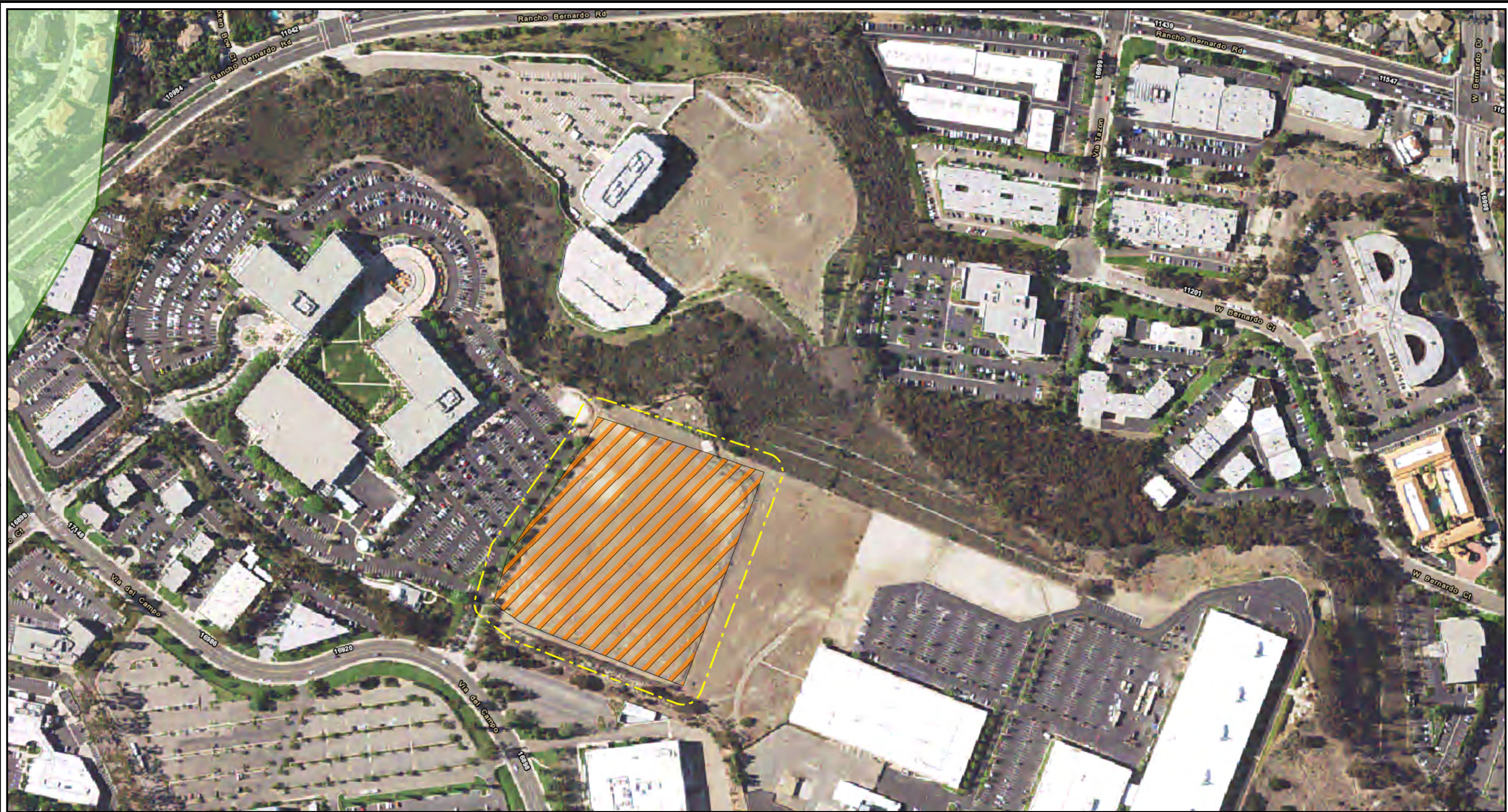





Figure 2
California Gnatcatcher
Survey Results Map



- Legend**
-  Staging Area
 -  Survey Corridor
 -  CAGN Occurrence (CDFW)

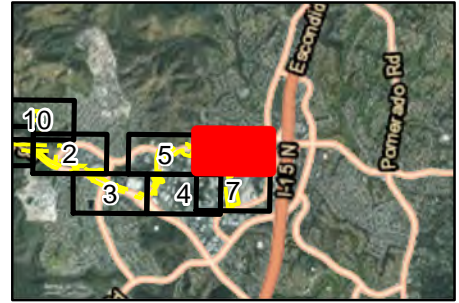
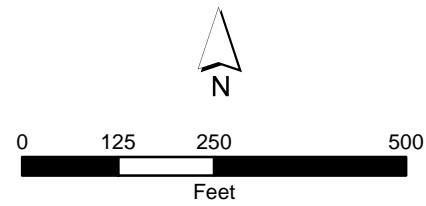


Figure 2
California Gnatcatcher
Survey Results Map



Legend

- Staging Area
- Survey Corridor

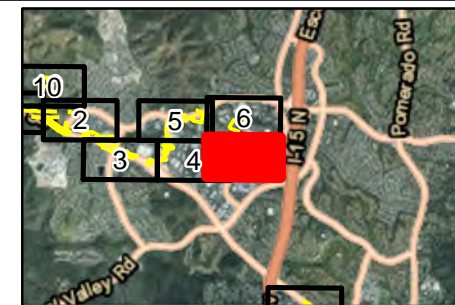
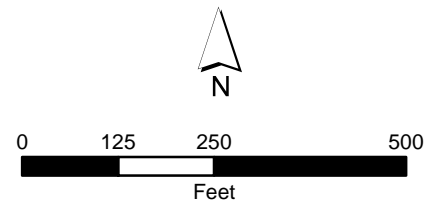
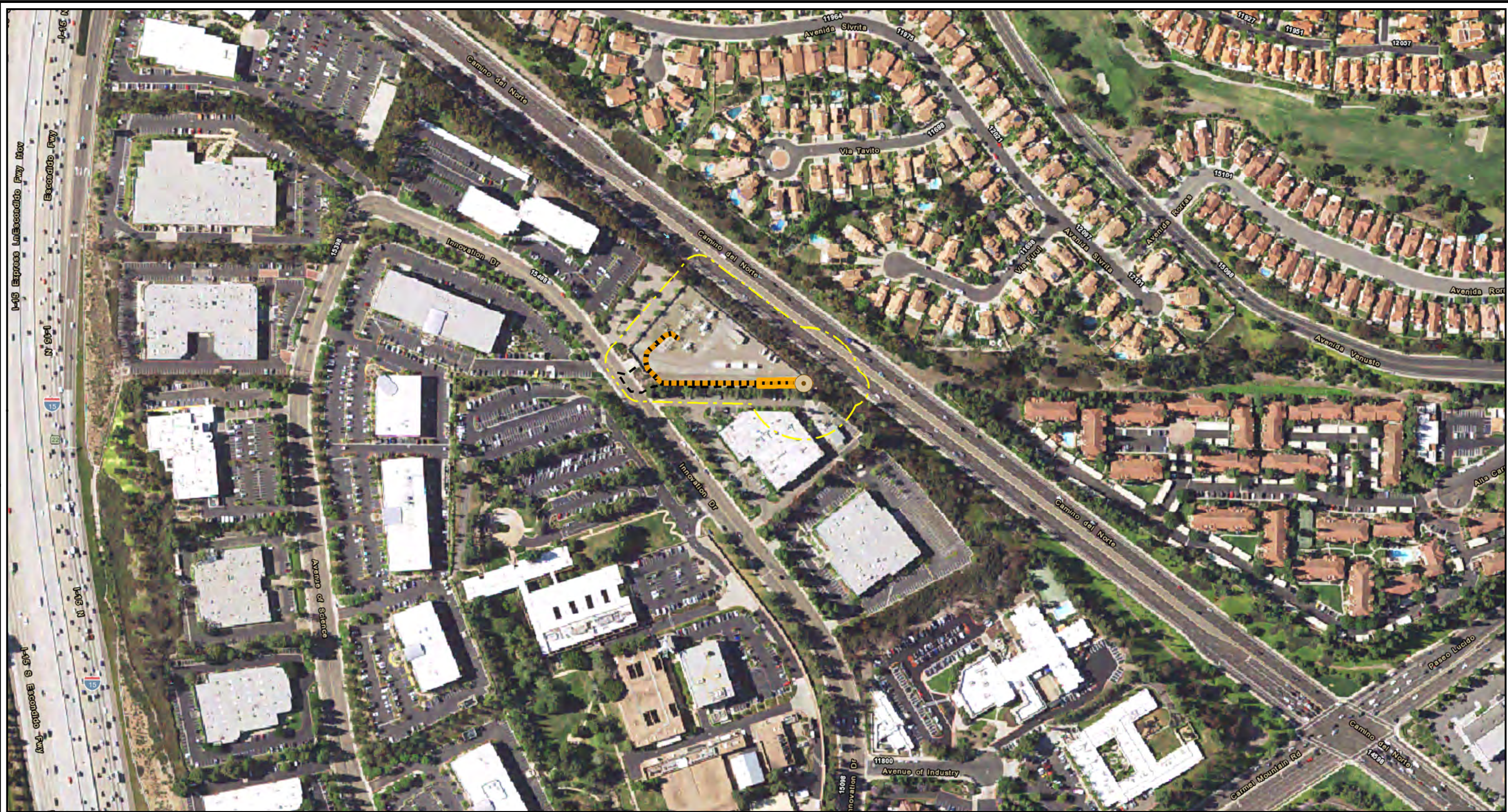







Figure 2
California Gnatcatcher
Survey Results Map



- Legend**
-  Project Structure
 -  Project Underground Route
 -  Navigational
 -  Work area
 -  Survey Corridor

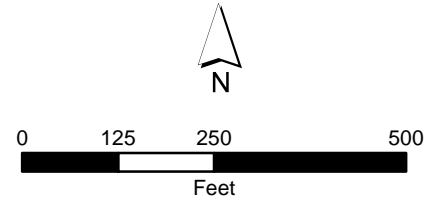


Figure 2
California Gnatcatcher
Survey Results Map



Legend

- Staging Area
- Survey Corridor

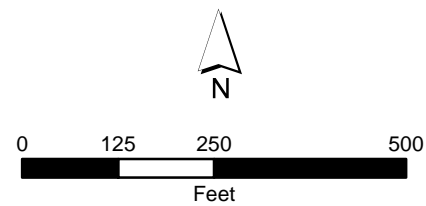





Figure 2
California Gnatcatcher
Survey Results Map



- Legend**
-  Staging Area
 -  Survey Corridor
 -  CAGN Occurrence (CDFW)

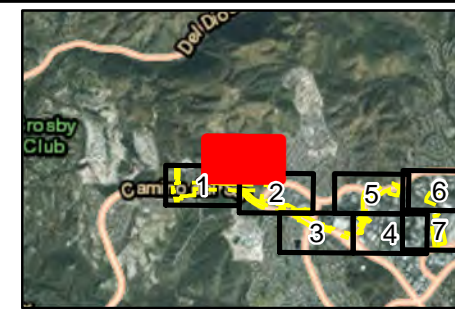
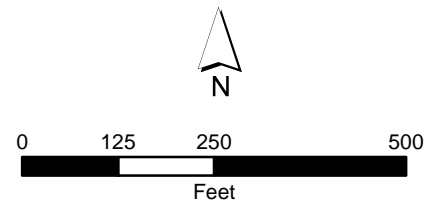


Figure 2
California Gnatcatcher
Survey Results Map

APPENDIX A – AVIAN SPECIES OBSERVED



APPENDIX A: Avian Species Observed

Scientific name	Common Name	Special Status
Class Aves	BIRDS	
Order Galliformes	Gallinaceous Birds	
Family Odontophoridae	New World Quail	
<i>Callipeplacalifornica</i>	California quail	
Order Ciconiiformes	Herons, Ibises, Storks, American Vultures, and Allies	
Family Cathartidae	New World Vultures	
<i>Cathartes aura</i>	turkey vulture	
Order Falconiformes	Diurnal Birds of Prey	
Family Accipitridae	Hawks, Kites, Eagles, and Allies	
<i>Circus cyaneus</i>	northern harrier	SSC
<i>Accipiter cooperii</i>	Cooper's hawk	WL
<i>Buteojamaicensis</i>	red-tailed hawk	
Family Falconidae	Falcons	
<i>Falco sparverius</i>	American kestrel	
Order Columbiformes	Pigeons and Doves	
Family Columbidae	Pigeons and Doves	
<i>Columba livia</i>	rock pigeon	I
<i>Zenaida macroura</i>	mourning dove	
Order Cuculiformes	Cuckoos and Allies	
Family Cuculidae	Cuckoos and Roadrunners	
<i>Geococcyx californianus</i>	greater roadrunner	
Order Apodiformes	Swifts and Hummingbirds	
Family Apodidae	Swifts	
<i>Aeronautes saxatalis</i>	white-throated swift	
Family Trochilidae	Hummingbirds	
<i>Calypte anna</i>	Anna's hummingbird	
<i>Calypte costae</i>	Costa's hummingbird	
<i>Selasphorus sasin</i>	Allen's hummingbird	
Order Piciformes	Woodpeckers and Allies	
Family Picidae	Woodpeckers	
<i>Picoides nuttallii</i>	Nuttall's woodpecker	
Order Passeriformes	Perching Birds	
Family Tyrannidae	Tyrant Flycatchers	
<i>Empidonax difficilis</i>	Pacific-slope flycatcher	
<i>Sayornis nigricans</i>	black phoebe	
<i>Sayornis saya</i>	Say's phoebe	
<i>Myiarchus cinerascens</i>	ash-throated flycatcher	

Scientific name	Common Name	Special Status
<i>Tyrannus vociferans</i>	Cassin's kingbird	
<i>Tyrannus verticalis</i>	western kingbird	
Family Corvidae	Crows and Jays	
<i>Apheloco macalifornica</i>	western scrub-jay	
<i>Corvus brachyrhynchos</i>	American crow	
<i>Corvus corax</i>	common raven	
Family Hirundinidae	Swallows	
<i>Stelgidopteryxserripennis</i>	northern rough-winged swallow	
<i>Hirundopyrrhonota</i>	cliff swallow	
Family Aegithalidae	Bushtits	
<i>Psaltriparusminimus</i>	bushtit	
Family Troglodytidae	Wrens	
<i>Salpinctesobsoletus</i>	rock wren	
<i>Thryomanesbewickii</i>	Bewick's wren	
<i>Troglodytes aedon</i>	house wren	
Family Sylviidae	Gnatcatchers	
<i>Polioptilacaerulea</i>	blue-gray gnatcatcher	
<i>Polioptilacalifornicacalifornica</i>	coastal California gnatcatcher	FT, SSC
Family Turdidae	Thrushes	
<i>Catharusguttatus</i>	hermit thrush	
Family Timaliidae	Babblers	
<i>Chamaeafasciata</i>	wren	
Family Mimidae	Mockingbirds and Thrashers	
<i>Mimus polyglottos</i>	northern mockingbird	
<i>Toxostoma redivivum</i>	California thrasher	
Family Sturnidae	Starlings	
<i>Sturnus vulgaris</i>	European starling	I
FamilyParulidae	Wood-Warblers	
<i>Geothlypistrichas</i>	common yellowthroat	
Family Emberizidae	Embrezids	
<i>Pipilomaculatus</i>	spotted towhee	
<i>Pipilocrissalis</i>	California towhee	
<i>Aimophilaruficepsanescens</i>	southern California rufous-crowned sparrow	WL
<i>Zonotrichialeucophrys</i>	white-crowned sparrow	
Family Cardinalidae	Cardinals and Allies	
<i>Pheucticusmelanocephalus</i>	black-headed grosbeak	
Family Icteridae	Blackbirds	
<i>Sturnellaneglecta</i>	western meadowlark	
<i>Euphaguscyanocephalus</i>	Brewer's blackbird	

Scientific name	Common Name	Special Status
<i>Molothrus ater</i>	brown-headed cowbird	
<i>Icterus cucullatus</i>	hooded oriole	
Family Fringillidae	Fringilline and Cardueline Finches and Allies	
<i>Carpodacus mexicanus</i>	house finch	
<i>Carduelis psaltria</i>	lesser goldfinch	

I= Introduced Species

X= Extirpated

*=species with extremely limited distributions

FE= Federally Endangered

FT= Federally Threatened

SE= State Endangered

ST= State Threatened

SSC= CDFW Species of Special Concern

WL= CDFW List of Taxa to Watch

FP= CDFW Fully Protected