

December 7, 2015

Ms. Esther Burkett  
California Department of Fish and Wildlife  
Wildlife Branch - Nongame Wildlife  
1812 9th Street  
Sacramento, CA 95811

**RE: 2015 BURROWING OWL SURVEY SUMMARY REPORT FOR THE MAIN ALIGNMENT FOR THE PROPOSED SAN DIEGO GAS & ELECTRIC COMPANY SYCAMORE TO PEÑASQUITOS 230 KILOVOLT TRANSMISSION LINE PROJECT, SAN DIEGO COUNTY, CALIFORNIA**

Ms. Burkett:

Busby Biological Services, Inc. (BBS) was contracted by Chambers Group, Inc. (Chambers) to conduct a focused habitat assessment and focused surveys for burrowing owl (*Athene cunicularia*) on behalf of San Diego Gas & Electric Company (SDG&E) for the proposed Sycamore to Peñasquitos 230 Kilovolt (kV) Transmission Line Project (Proposed Project) in the City of Carlsbad, City of San Diego, City of Poway, and the extreme northern portion of Marine Corps Air Station (MCAS) Miramar, San Diego County, California (Attachment 1: Figures 1 through 3). This survey summary report provides brief project background information, burrowing owl species and historical occurrence information, methods, and results/discussion.

## **1.0 PROJECT BACKGROUND INFORMATION**

A brief summary of the Proposed Project and burrowing owl surveys are provided in this section.

### **1.1 Proposed Project Description and Location**

The main Proposed Project alignment extends from Sycamore Canyon Substation in the east, which is located on MCAS Miramar, and terminates at Peñasquitos Substation in the west. The main Proposed Project alignment also includes several staging areas as well as the Mira Mesa Hub (Attachment 1: Figures 1 through 3). In addition, the Proposed Project includes the Encina Hub in Carlsbad, California (Attachment 1: Figure 1). However, because the Encina Hub is in a geographically distinct location and is not within the immediate vicinity of the main Proposed Project alignment, the burrowing owl survey results from this portion of the Proposed Project are included in a separate survey summary report (BBS 2015).

The main Proposed Project alignment is within the U.S. Geological Survey (USGS) 7.5-minute Poway, Del Mar, and La Jolla topographic quadrangle (USGS 1967a, 1967b, 1967c). Elevations within the main Proposed Project alignment range from approximately 1,000 feet above mean sea level (amsl) at Sycamore Canyon Substation in the eastern

portion of the main Proposed Project alignment to approximately 120 feet amsl in an unnamed tributary to Peñasquitos Creek in the western portion of the main Proposed Project alignment (Attachment 1: Figure 3).

Topography along the main Proposed Project alignment varies from relatively flat developed and undeveloped areas, to steep and rolling hills and ridges, to wide and narrow drainages and canyons. The main Proposed Project alignment area crosses several unnamed and named drainages and canyons, including Peñasquitos Canyon, McGonigle Canyon, and Deer Canyon (Attachment 1: Figure 3). While the main Proposed Project alignment crosses through both residential and commercial development, including a network of roads and highways and mixed-use development, the majority of the main Proposed Project alignment is located in undeveloped areas that includes parks and other undeveloped open space that have the potential to support sensitive biological resources, including the burrowing owl.

SDG&E proposes to construct and operate a new, approximately 16.7-mile 230 kV transmission line between the existing SDG&E Sycamore Canyon and Peñasquitos Substations (Attachment 1: Figures 1 through 3). The Proposed Project would also include the consolidation of two existing 69 kV power lines onto new double-circuit, steel structures that would replace existing, predominantly wood structures.

All new transmission line facilities would be located within existing SDG&E Right-of-Way (ROW) or within franchise position within existing public roadways.

## **1.2 Brief Survey Area Explanation**

Focused burrowing owl surveys were conducted for the Proposed Project within the 2015 burrowing owl survey area, which included all suitable habitats within the current Proposed Project footprint and a 500-foot buffer of the footprint. Because the Encina Hub portion of the Proposed Project is located in a geographically distinct location and is not within the immediate vicinity of the main Proposed Project alignment (Attachment 1: Figure 1), two separate survey summary reports were prepared for the spring 2015 surveys, one for the burrowing owl surveys conducted within the 2015 burrowing owl survey area along the main Proposed Project alignment and one for the surveys that were conducted within the 2015 burrowing owl survey area at the Encina Hub. This report focuses on the results of the focused burrowing owl surveys conducted within the 2015 burrowing owl survey area along the main Proposed Project alignment. The results of the spring 2015 burrowing owl surveys conducted at the Encina Hub are contained in a separate report (BBS 2015).

It should be noted that a proposed staging yard located in the northern portion of the intersection of Camino Del Sur and Carmel Valley Road was added to the main Proposed Project alignment in late spring 2015. Because the current burrowing owl survey protocol requires that at least one breeding season survey be conducted between February 15 and April 15 (CDFW 2012) and because the proposed staging yard was added after this survey window, it was determined that focused breeding season surveys would not be conducted in 2015. However, protocol-level burrowing owl surveys will be conducted in suitable habitat within this proposed staging yard and a 500-foot buffer before this proposed staging yard is utilized for the Proposed Project.

## **2.0 BURROWING OWL SPECIES & HISTORICAL OCCURRENCE INFORMATION**

The burrowing owl is a California Department of Fish and Wildlife (CDFW) Species of Special Concern and a *SDG&E Subregional Natural Community Conservation Plan (NCCP)*-covered, narrow endemic species. This section provides species-specific information about the burrowing owl range and migration patterns, habitat, breeding information, and population threats.

### **2.1 Burrowing Owl Range & Migration Patterns**

The burrowing owl ranges from southwestern Canada and the western United States, south through Central America, and into the northernmost portion of South America as well as the southern half of South America. It can also be found on coastal islands off of Florida and Baja California, Mexico (Haug et. al. 1993). The northernmost populations of this species are almost completely migratory, and wintering birds can be found south to southern Mexico.

The western subspecies of burrowing owl (*A. c. hypugaea*) includes the populations that occur in southern Alberta, Canada, and within the western United States. In California, the western burrowing owl is found throughout the state, with the exception of the northern coast and eastern Sierra Nevada Mountains (Shuford and Gardali 2008). This subspecies remains fairly common in the Imperial Valley, which is home to nearly 70 percent of the entire California population; however, this species is rapidly declining in the remainder of the California populations (Unitt 2004). While the northern populations are often migratory, southern California burrowing owls are only partially migratory as evidenced by reduced population sizes in winter, with some birds remaining on territories throughout the year.

The burrowing owl has disappeared and/or populations have declined in several southern California and San Francisco Bay area counties and in coastal areas throughout California, as they have in other regions throughout the United States and Canada (DeSante et al. 1997, Klute et al. 2003). During the late 1800's and early 1900's, the burrowing owl was widespread and common in San Diego County, primarily along the coast and into the grassy interior; however, by the 1970's, the burrowing owl was considered uncommon and declining in these areas (Unitt 2004; Bent 1961). The burrowing owl currently occupies some historical sites in San Diego County (e.g., Naval Air Station North Island, south San Diego coastal area, and Otay Mesa) in much reduced numbers and is believed to be absent from many developed areas that it formerly occupied (e.g., north-central San Diego County, coastal areas, and the area around the City of San Diego) (Unitt 2004; Lincer and Bloom 2007). Currently, an estimated 41 to 46 pairs breed and 148 to 168 local individuals winter within San Diego County (Lincer and Bloom 2007). During the winter, local wintering burrowing owls are joined by migratory wintering burrowing owls to form a total estimated wintering population of approximately 300 to 370 individuals (Lincer and Bloom 2007).

### **2.2 Burrowing Owl Habitat**

The burrowing owl is a ground-dwelling raptor that requires open, relatively flat terrain with burrows for nesting, roosting, and cover (CDFW 2012). This species can be found in a variety of habitat types that contain suitable burrowing and foraging habitat, including – but not limited to – native and non-native grassland, shrub steppe, shrubland with low density shrub cover, desert, agricultural, golf courses, drainage ditches, earthen berms,

pasturelands, fallow fields, and even ruderal areas and vacant lots (Gervais et al 2008, CDFW 2012, TLMA 2006). The burrowing owl is typically associated with areas containing well-drained, friable soils inhabited by fossorial mammals (Haug et al. 1993, CDFW 2012).

In California, the burrowing owl prefers habitat with short, sparse vegetation and few shrubs, level to gentle topography, and well-drained soils (Haug et al. 1993). In San Diego County, the burrowing owl typically inhabits coastal lowlands in grasslands, agricultural areas, and coastal dunes (Unitt 2004).

In addition to burrowing habitat, the burrowing owl requires ample foraging habitat surrounding its burrows. This species concentrates its foraging within approximately 2,000 feet of its burrow, which equates to an area of up to approximately 300 acres (Haug and Oliphant 1990, Rosenberg and Haley 2004); however, the burrowing owl is known to use much smaller patch sizes, especially when they are located adjacent to suitable breeding and/or foraging habitat. Preferred foraging habitat consists of dry, open, relatively flat expanses with short grasses and sparse shrub cover (Ehrlich et al. 1988).

Although the burrowing owl may dig its own burrows (Thomsen 1971, Barclay 2007), this opportunistic species usually modifies or enlarges existing burrows that were previously used by mammals. In California, the burrowing owl frequently uses burrows of California ground squirrel (*Spermophilus beecheyi*) and round-tailed ground squirrel (*Citellus tereticaudus*), but it may also use dens or holes dug by American badger (*Taxidea taxus*), coyote (*Canis latrans*), and fox (*Vulpes* spp.; Ronan 2002, CDFW 2012). In addition to earthen burrows, the burrowing owl may also use natural rock cavities, debris piles, culverts, openings beneath cement or asphalt pavement, and pipes (Rosenberg et al. 1998) as well as artificial burrows (Smith and Belthoff 2003) for nesting, roosting, and cover (CDFW 2012).

### **2.3 Burrowing Owl Breeding Information**

Burrowing owl breeding behaviors include a wide range of activities associated with site selection by males; breeding pair formation; actual copulation; egg laying, incubation, and hatching; and care of the young during fledging and post-fledging. In California, the burrowing owl breeding season typically occurs between February 1 and August 31; however, breeding outside of this window has been documented under appropriate environmental conditions (CDFW 2012). The peak of the breeding season, when most burrowing owls have active nests, typically occurs between April 15 and July 15. In addition to its nest burrow, the burrowing owl may use satellite burrows to reduce predation and parasite infestation, particularly while caring for nestlings (CDFW 2012).

### **2.4 Burrowing Owl Population Threats**

In California, the burrowing owl is threatened by a variety of factors, including habitat loss, control of burrowing rodents, and direct mortality. Population declines have been attributed to habitat loss, degradation, and fragmentation resulting most often from conversion of suitable habitat as a result of urbanization (Gervais et al. 2008). Burrowing rodent control programs, especially those targeting the California ground squirrel, threaten burrowing owl populations because ground squirrel burrows are the burrows most often utilized by burrowing owl for nesting and cover. Thus, elimination of burrowing rodents has led to both recent and historical declines of burrowing owl populations in California and

nationwide (Klute et al. 2003). Direct mortality from vehicle collisions (Haug et al. 1993, Gervais et al. 2008), agricultural drain/ditch maintenance, discing in fallow fields (Rosenberg and Haley 2004, Catlin and Rosenberg 2006), and wind turbine collisions (Thelander et al. 2003) as well as exposure to pesticides (Klute et al. 2003, Gervais et al. 2008) have all added to the decline of the burrowing owl in California. In areas of remaining open habitat close to or surrounded by developed areas, disturbance from human activity (e.g., walking, jogging, off-road activity, dog walking) and loose and feral pets are likely factors deterring the burrowing owl from these areas (Wesemann and Rowe 1985, Millsap and Bear 2000).

### **3.0 METHODS**

A focused burrowing owl habitat assessment was performed within the 2015 burrowing owl survey area, which included the main Proposed Project alignment and a 500-foot buffer from the main alignment. Focused burrowing owl surveys were conducted in all suitable habitat identified within the 2015 burrowing owl survey area during the habitat assessment. The methods used for the habitat assessment and focused surveys are presented in this section.

#### **3.1 Habitat Assessment Methods**

Prior to initiating the focused burrowing owl surveys within the 2015 burrowing owl survey area, qualified biologists conducted a focused habitat assessment during winter 2015 to identify locations of suitable habitat for the species both within the 2015 burrowing owl survey area. The habitat assessment consisted of an analysis of historical occurrence data, desktop evaluation of available site data and aerial imagery, and a field evaluation to further investigate and map suitable burrowing owl habitat. The following sections provide detail on the habitat assessment methods.

##### **3.1.1 Historical Occurrence Data**

BBS obtained historical burrowing owl occurrence data for the main Proposed Project alignment and an approximately 5-mile buffer from the SanBIOS database (County of San Diego 2014) and CDFW *California Natural Diversity Database* (CNDDDB; CDFW 2014a). BBS also reviewed other special-status species resources, including the CDFW Special Animals list (CDFW 2014b); Proceedings of the California Burrowing Owl Symposium (Barclay et al. 2007); San Diego County Breeding Bird Atlas (Unit 2004); North American Breeding Bird Survey, Results Analysis 1966-2012 (Sauer et al. 2014); eBIRD (<http://ebird.org>); Gervais et al. (2008); the San Diego Natural History Museum (SDNHM) Bird Atlas Project (SDNHM 2014); and other regional and site-specific relevant information, data, and literature.

##### **3.1.2 Focused Desktop Evaluation**

BBS obtained aerial imagery of the 2015 burrowing owl survey area and prepared a draft map of potentially suitable burrowing owl habitat that may require surveys. Patches of open habitat that could potentially support burrowing owl breeding and/or foraging habitat were identified on the maps, while portions of the 2015 burrowing owl survey area that were fully developed, covered by dense vegetation, or otherwise appeared to be unsuitable based on

the aerial imagery were identified as potentially excludable. All of these were later evaluated during the focused field evaluation, described below.

### **3.1.3 Focused Field Evaluation**

BBS used the results of the background research along with the draft map of potentially suitable burrowing owl habitat as guidance during the field evaluation conducted within the 2015 burrowing owl survey area. BBS assessed the entire 2015 burrowing owl survey area during the field evaluation, with the exception of the proposed staging yard located in the northern portion of the intersection of Camino Del Sur and Carmel Valley Road, because this proposed staging yard was added in late spring 2015. The areas that were excluded during the desktop evaluation were visited to verify that these areas did not support suitable burrowing owl habitat and could be excluded. In addition, the patches of potentially suitable habitat identified on the draft map were field-truthed and refined. Additional areas of suitable habitat that were not identified during the desktop evaluation were drawn onto the map by hand in the field. BBS used binoculars to view portions of the burrowing owl habitat assessment area where lawful access could not be achieved. In addition, photographs were taken of each polygon evaluated in the burrowing owl habitat assessment area.

To consistently and systematically evaluate each patch of potentially suitable habitat within the 2015 burrowing owl survey area for the potential to support the burrowing owl, BBS recorded data on the following criteria:

- polygon patch size
- dominant vegetation and land use within and adjacent to the polygon
- presence of adjacent foraging habitat
- vegetation height and shrub density within the polygon
- presence of friable soils within the polygon
- presence and quantity of burrows and burrow complexes within the polygon
- other evidence of fossorial animal use and burrow features within the polygon
- slope steepness within the polygon

BBS used this data to assess the overall potential of each potentially suitable burrowing owl habitat polygon to support the burrowing owl, taking into consideration the historical occurrence data and the evaluation criteria. Each habitat patch was either determined as not expected to support burrowing owl, or as having a low, moderate, or high potential to support burrowing owl.

## **3.2 Focused Burrowing Owl Survey Methods**

Qualified biologists conducted focused surveys for the burrowing owl in accordance with the current CDFW survey protocol, titled *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). Surveys were conducted within the entire 2015 burrowing owl survey area, with the exception of the proposed staging yard located in the northern portion of the intersection of Camino Del Sur and Carmel Valley Road, because this proposed staging yard was added in late spring 2015 after the first survey window had passed.

A total of four protocol-level surveys spaced at least 3 weeks apart were conducted between February 15 and July 15 – one survey was conducted within the first survey window (i.e., February 15 and April 15), and three more were conducted within the second

survey window (i.e., April 15 and July 15), with one survey after June 15. The surveys were conducted between civil twilight and 10:00 am. Surveys were not conducted during adverse weather conditions (i.e., wind speeds greater than 20 kilometers per hour, rain, or dense fog). Surveyors walked straight-line transects spaced approximately 7 to 20 meters apart, (based on the vegetation height and density) throughout the suitable habitat. The biologists scanned for burrowing owl every 100 meters with the aid of binoculars; watched for burrows, sign, and owls; and listened for burrowing owl calls. Surveyors took care not to flush burrowing owls.

If burrowing owl is detected during a survey, surveyors record the approximate location electronically using a hand-held Global Positioning Systems (GPS) device and by hand onto a high-resolution aerial image of the survey areas. Surveyors also collect data on the number of burrowing owl or nesting pairs at each location (by nestlings, juveniles, adults, and those of an unknown age), number of active burrows, burrowing owl sign at burrows, burrowing owl behavior, possible burrowing owl predators present and any evidence of predation on burrowing owl. In addition, during all surveys, surveyors record other wildlife species observed directly or detected indirectly by sign, including scat, tracks, calls, and other evidence.

## **4.0 RESULTS & DISCUSSION**

The results of the habitat assessment and focused surveys for burrowing owl within the 2015 burrowing owl survey area are presented in this section.

### **4.1 Habitat Assessment Results**

This section provides a summary of the results of the historical occurrence data analysis as well as a result of the focused field evaluation.

#### **4.1.1 Historical Burrowing Owl Occurrence within Vicinity of the Proposed Project**

A search of the SanBIOS database (County of San Diego 2014) and CNDDDB (CDFW 2014a) did not result in any historical burrowing owl occurrence data within the burrowing owl habitat assessment areas and an approximately 5-mile buffer.

According to current literature, breeding burrowing owls are believed to be absent from the main Proposed Project alignment and vicinity (Unitt 2004; Lincer and Bloom 2007). Currently, the closest known breeding occurrences are at Naval Air Station North Island, south San Diego coastal areas, and Otay Mesa (Unitt 2004; Lincer and Bloom 2007). Migrant wintering burrowing owls can utilize a variety of habitats not suitable for breeding individuals; therefore, migrant wintering burrowing owls have a potential to occur throughout the 2015 burrowing owl survey area. Migrant wintering owls were last documented in the vicinity of the main Proposed Project alignment along ridgetops in the northeastern corner of MCAS Miramar during the winter of 1996-1997 (Unitt 2004).

#### **4.1.2 Desktop and Field Evaluation Results**

During the initial desktop evaluation of the 2015 burrowing owl survey area, BBS identified 35 individual polygons of potentially suitable burrowing owl habitat within the 2015 burrowing owl survey area based on our understanding of the existing conditions onsite

along with an interpretation of aerial imagery. After the initial desktop assessment, four new polygons were added to the 2015 burrowing owl survey area and are proposed to be used as staging yards, including one polygon for the Evergreen Nursery staging yard, one polygon for the Black Mountain Ranch Community Park staging yard, and two polygons for the Camino Del Sur staging yard.

BBS biologists Darin Busby and Laurie Gorman conducted the field evaluation of the 39 potentially suitable burrowing owl polygons within the 2015 burrowing owl survey area on November 17 and 18, 2014, and on January 26 and February 18, 2015, to (1) verify that areas that were potentially excluded during the desktop evaluation did not support suitable burrowing owl habitat and (2) evaluate the potentially suitable burrowing owl habitat polygons to determine if the existing habitat within these polygons has a potential to support burrowing owl. The Black Mountain Community Park staging yard is no longer part of the Proposed Project; therefore, the results of the habitat assessment at this staging yard will not be discussed in this report.

No burrowing owls or burrowing owl sign was observed during the focused burrowing owl habitat assessment of the 2015 burrowing owl survey area. Based on the field assessment revisions to the potentially suitable habitat, BBS evaluated approximately 404.28 acres within 38 polygons distributed within the 2015 burrowing owl survey area (Attachment 1: Figure 4). A summary of the data collected for each polygon as well as the potential for burrowing owl to occur in each polygon is presented in Attachment 2: Burrowing Owl Habitat Assessment Summary Table. In addition, representative photographs of the polygons evaluated in the 2015 burrowing owl survey area are included in Attachment 3: Burrowing Owl Habitat Assessment Photographs.

Of the 38 polygons evaluated, 13 of the polygons did not provide potentially suitable habitat for breeding and resident burrowing owl (Attachment 1: Figure 4) because they had at least three, and usually more, of the following characteristics:

- small polygon size
- vegetation community and/or density within the polygon not suitable for burrowing owl
- polygon surrounded by unsuitable burrowing owl habitat, such as development or tall, dense vegetation
- compact soils
- few to no small mammal burrows and/or burrow complexes
- no adjacent open foraging or breeding habitat

The remaining 25 polygons provide potentially suitable habitat for breeding and resident burrowing owl (Attachment 1: Figure 4). These polygons had at least four, and sometimes more, of the following characteristics:

- moderate to very large polygon size
- vegetation community and/or density within the polygon suitable for burrowing owl
- friable soils
- small mammal burrows and/or burrow complexes present within the polygon
- adjacent open foraging or breeding habitat



## 4.2 Focused Burrowing Owl Survey Results

Between March 23 and July 15, 2015, a total of four focused burrowing owl surveys were conducted over 19 days throughout the 2015 burrowing owl survey area (Attachment 1: Figure 4; Attachment 4).

During the last day of the first round of focused burrowing owl surveys on March 26, 2015, approximately 13.71 acres of habitat were excluded (all of the habitat in Polygon 27 and some of the habitat in Polygon 28) from the survey area because of active construction, leaving approximately 360.03 acres across 24 polygons of potentially suitable burrowing owl habitat to be surveyed during the focused burrowing owl surveys.

All surveys were conducted during appropriate weather conditions by BBS biologists Darin Busby and Laurie Gorman with assistance from Brian Lohstroh, Travis Cooper, and Kevin Clark. Attachment 3 contains representative photographs of both unsuitable and suitable burrowing owl habitat within the 2015 burrowing owl survey area. Attachment 4 provides a summary of survey conditions, including survey times and weather conditions, and personnel. Attachment 5 contains a list of wildlife species detected during the surveys.

No burrowing owls or burrowing owl sign were detected during the 2015 focused burrowing owl surveys conducted within the 2015 burrowing owl survey area. During the surveys, all biologists searched for suitable small mammal burrows and burrow complexes that were at least ground squirrel size or larger. Numerous small mammal burrows were observed throughout the 2015 burrowing owl survey area; however, only small mammal burrow complexes and burrows of suitable size and shape were mapped as 'potentially suitable burrows', as displayed in Attachment 1: Figure 4.

A total of 68 wildlife species were detected during the focused burrowing owl surveys. Of these 68 species, three are considered special-status species - the coastal California gnatcatcher (*Polioptila californica californica*) is a federally listed threatened species and a CDFW Species of Special Concern; the grasshopper sparrow (*Ammodramus savannarum*) and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) are both CDFW Species of Special Concern. It should be noted that these special-status species and their locations presented in Attachment 1: Figure 4 may reflect repeated detections of the same individuals of a species from one survey to the next; therefore, Attachment 1: Figure 4 is intended to show the type and general location of these special-status species detected, not quantity of individuals present.

## SUMMARY & DISCUSSION

No burrowing owls were detected during the 2015 focused burrowing owl surveys conducted within the 2015 burrowing owl survey area.

The proposed staging yard located in the northern portion of the intersection of Camino Del Sur and Carmel Valley Road (Attachment 1: Figure 4) was added to the main Proposed Project alignment in late spring 2015. Because the current burrowing owl survey protocol requires that at least one breeding season survey be conducted between February 15 and April 15 (CDFW 2012) and because the proposed staging yard was added after this survey window, it was determined that focused breeding season surveys would not be conducted in 2015. However, protocol-level burrowing owl surveys will be conducted in suitable

habitat within this proposed staging yard and a 500-foot buffer before this proposed staging yard is utilized for the Proposed Project.

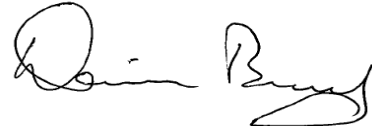
Please do not hesitate to contact Melissa Busby at [melissa@busbybiological.com](mailto:melissa@busbybiological.com) or 858.334.9507 or Darin Busby at [darin@busbybiological.com](mailto:darin@busbybiological.com) or 858.334.9508 if you have any questions.

Sincerely,



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Melissa Busby  
Owner/Principal Biologist



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Darin Busby  
Owner/Principal Biologist

#### **ATTACHMENTS**

- Attachment 1: Figures
- Attachment 2: Habitat Assessment Summary Table
- Attachment 3: Photos
- Attachment 4: Survey Conditions
- Attachment 5: Wildlife Species Detected

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1967a 7.5-minute Poway Topographic Quadrangle (Photorevised 1975)

1967b 7.5-minute Del Mar Topographic Quadrangle (Photorevised 1975)

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**PROJECT BIOLOGIST SIGNATURE PAGE**

All biologists performing focused, protocol-level, burrowing owl (*Athene cunicularia*) surveys for the Encina Hub portion of the proposed Sycamore to Peñasquitos Substation 230 kilovolt transmission line project (Proposed Project) were qualified to survey for this species. The undersigned project biologists certify this report to be a complete and accurate account of the findings and conclusions of surveys for burrowing owl conducted for the Proposed Project during spring 2015.



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Darin Busby  
Busby Biological Services, Inc.



---

Laurie Gorman  
Busby Biological Services, Inc.



---

Travis Cooper  
Cooper Biological Services



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Brian Lohstroh  
Lohstroh Biological Consulting

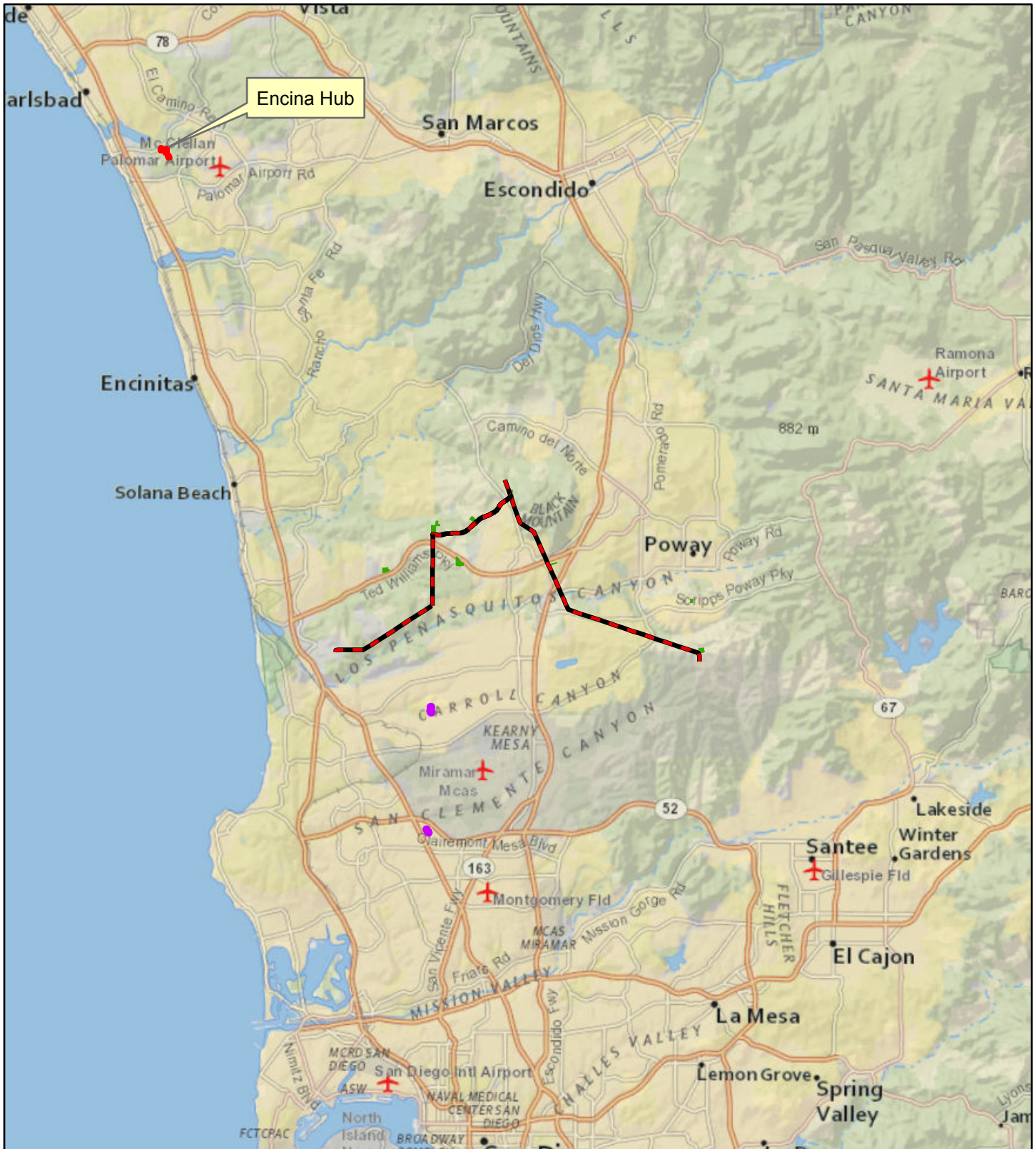


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Kevin B. Clark  
San Diego Natural History Museum

## **ATTACHMENT 1 – Figures**

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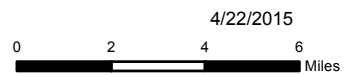
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### Sycamore to Peñasquitos 230 kV Transmission Line Project

Project Location Map

Figure 1

- Proposed Project Route
- Staging Yards
- Encina Hub
- Mira Mesa Hub



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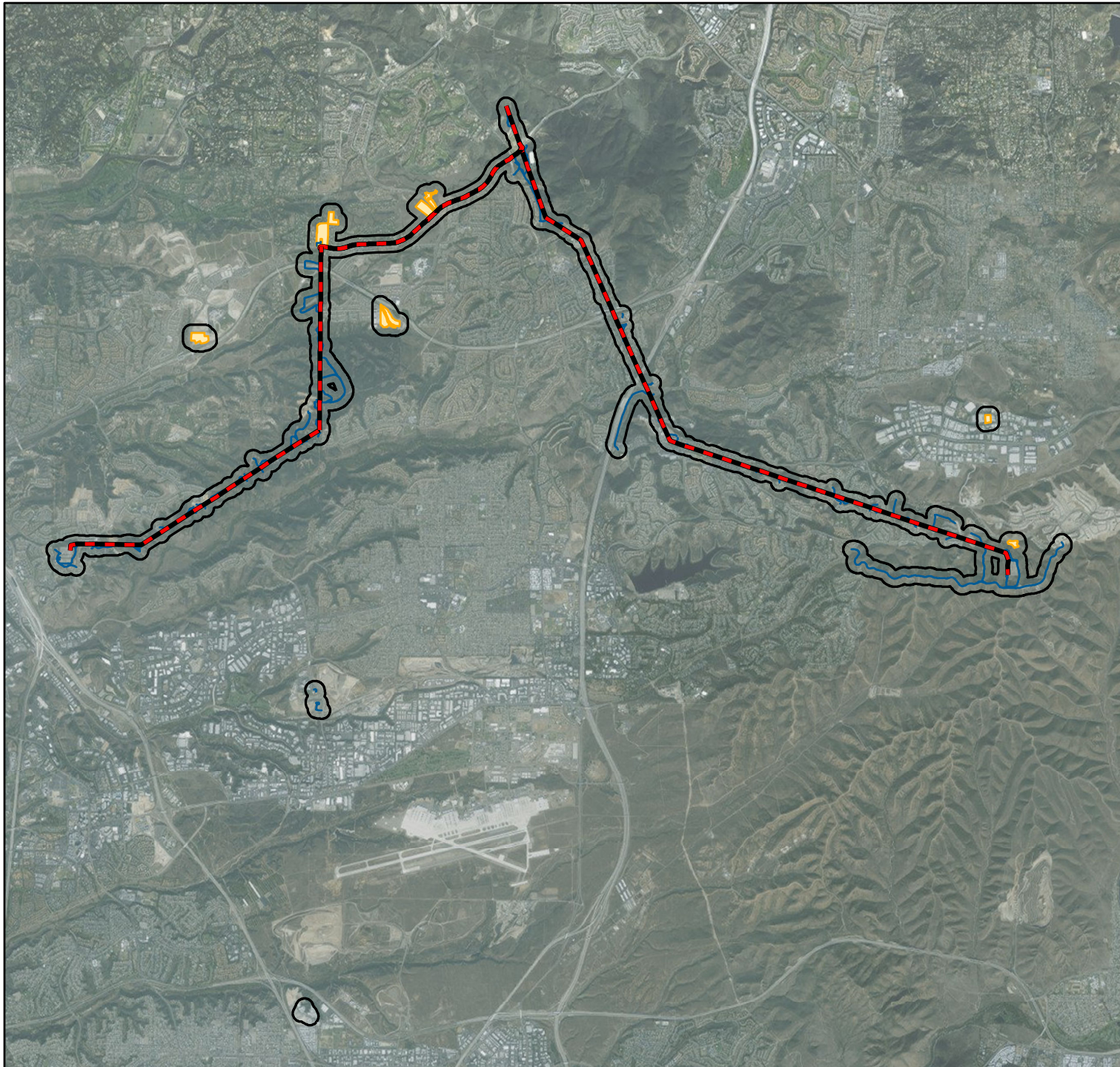




# Sycamore to Peñasquitos 230 kV Transmission Line Project

## Burrowing Owl Habitat Assessment Area

### Figure 2



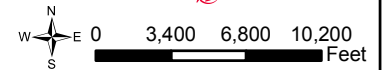
- Main Project Alignment
- Access Roads
- Staging Yards
- Project Footprint 500ft Buffer



8/5/2015



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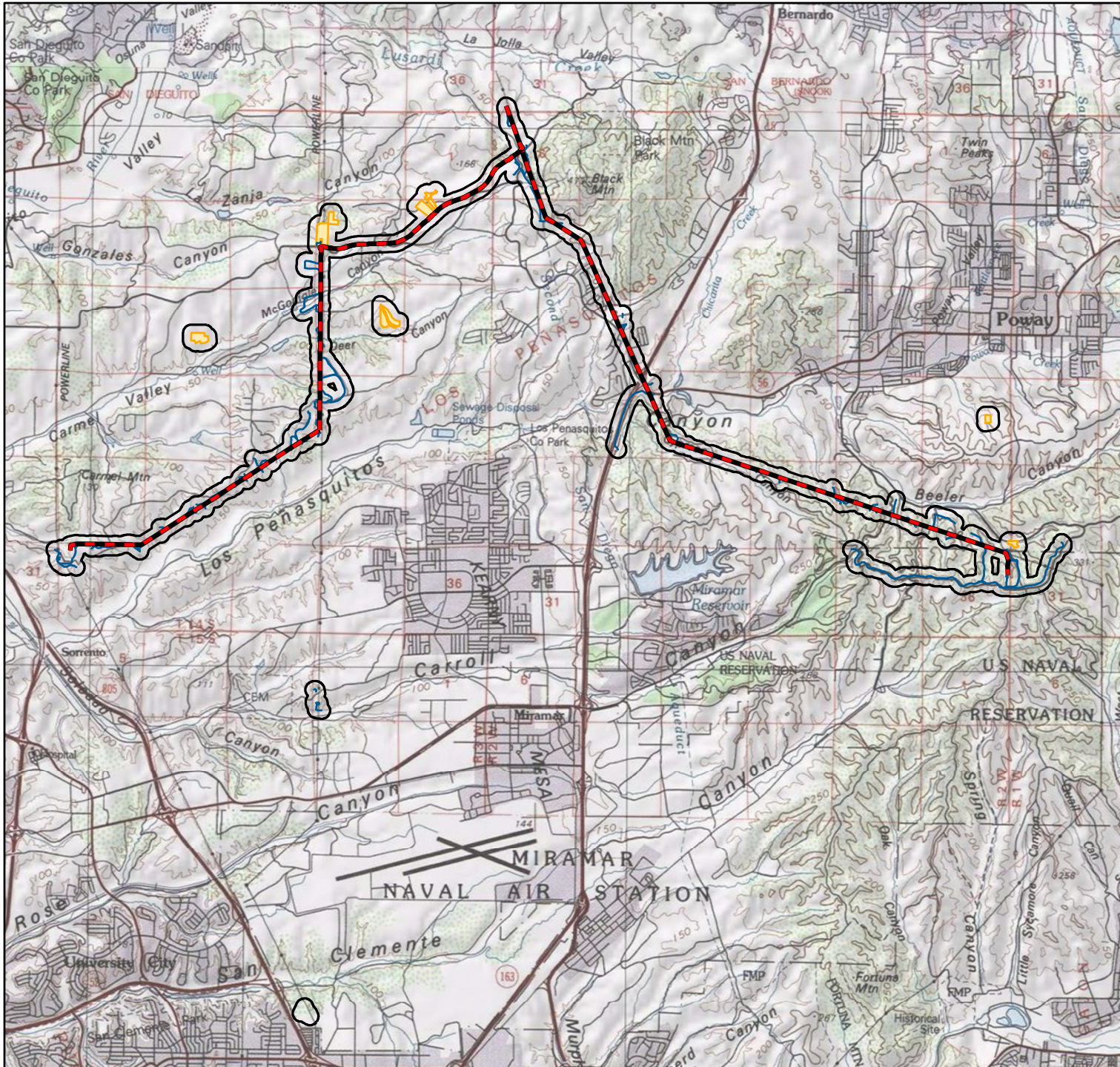
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**Sycamore to Peñasquitos  
230 kV Transmission  
Line Project**

Burrowing Owl Habitat  
Assessment Area

**Figure 3**



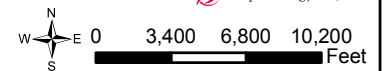
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# Sycamore to Peñasquitos 230 kV Transmission Line Project

## Burrowing Owl Habitat Assessment and Survey Results

**Figure 4**

- San Diego black-tailed jackrabbit
- coastal California gnatcatcher
- grasshopper sparrow
- Potentially suitable burrows
- Main Project Alignment
- Project Access Roads
- Project Footprint 500ft Buffer
- Potential for Occurrence**
- Excluded because of active construction
- Not Expected to Occur
- Potential to Occur; not yet Surveyed
- Potential to Occur

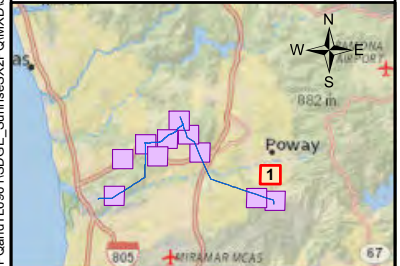


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# Sycamore to Peñasquitos 230 kV Transmission Line Project

## Burrowing Owl Habitat Assessment and Survey Results

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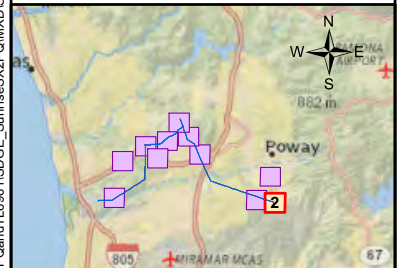
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# Sycamore to Peñasquitos 230 kV Transmission Line Project

## Burrowing Owl Habitat Assessment and Survey Results

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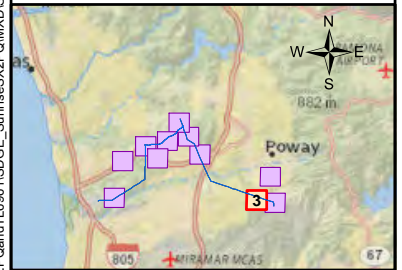


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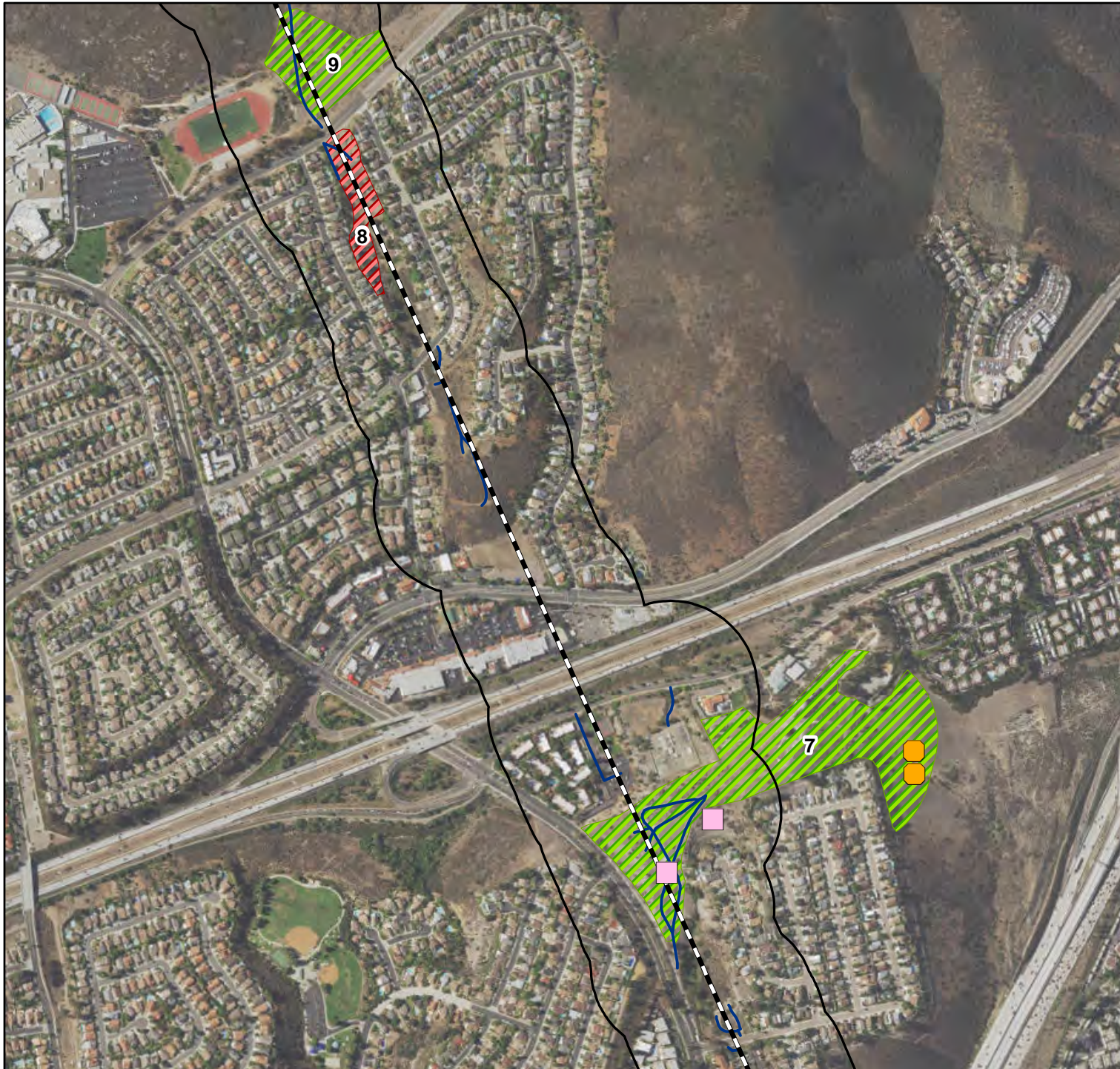
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# Sycamore to Peñasquitos 230 kV Transmission Line Project

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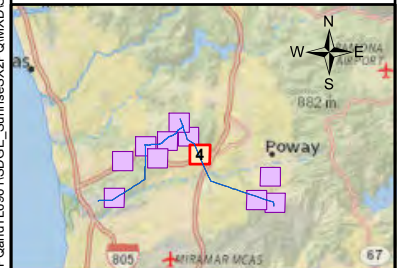


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# Sycamore to Peñasquitos 230 kV Transmission Line Project

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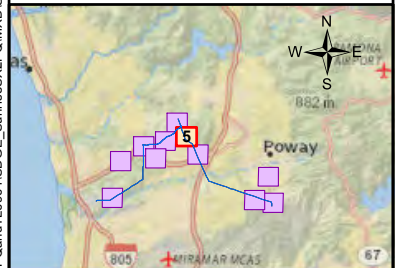


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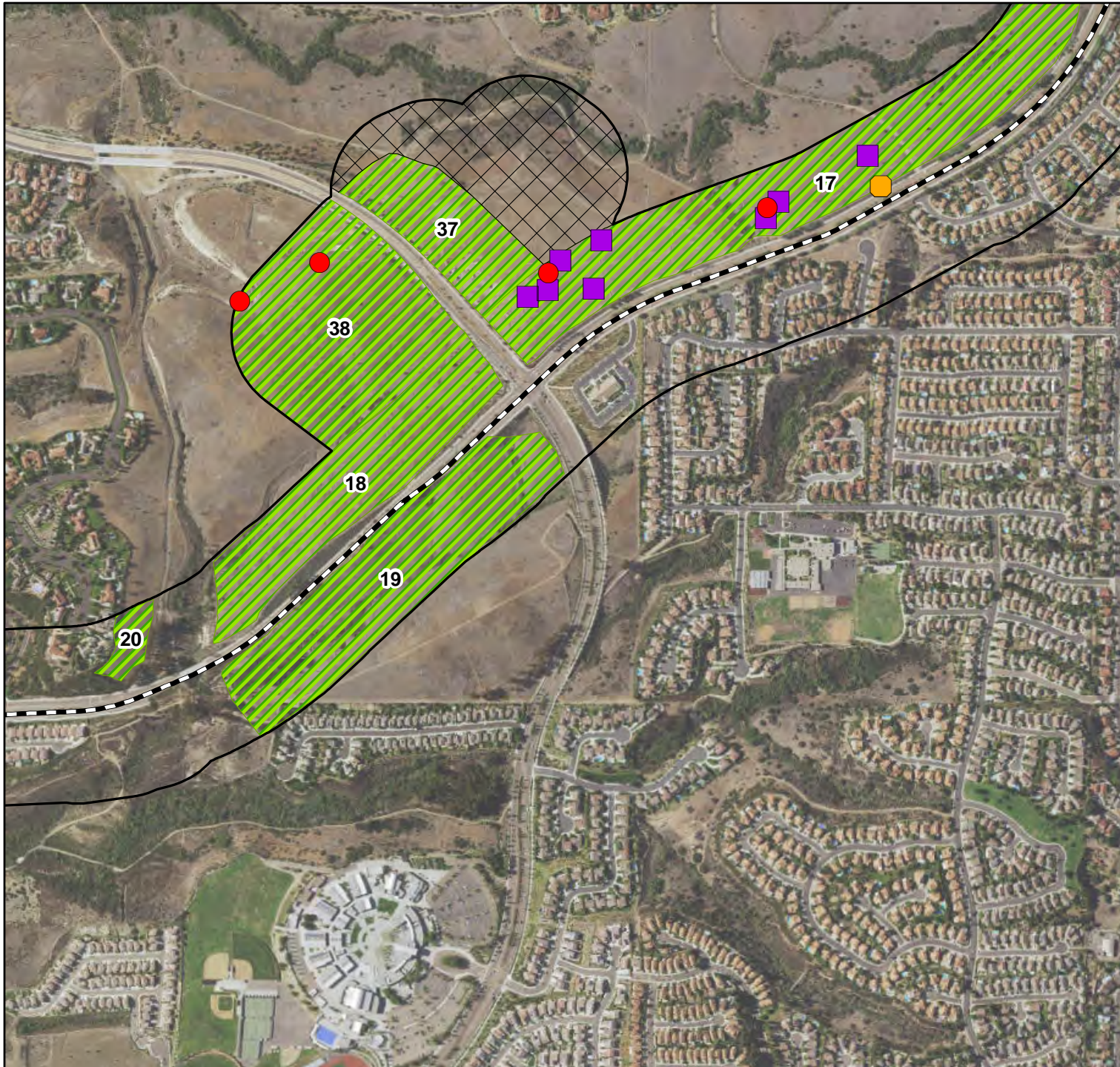




# Sycamore to Peñasquitos 230 kV Transmission Line Project

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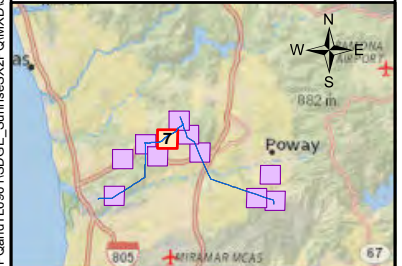


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# Sycamore to Peñasquitos 230 kV Transmission Line Project

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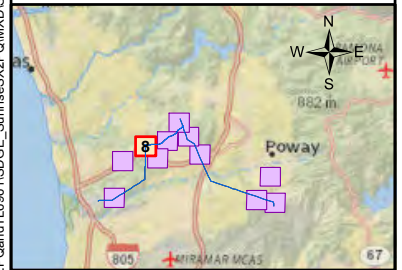


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# Sycamore to Peñasquitos 230 kV Transmission Line Project

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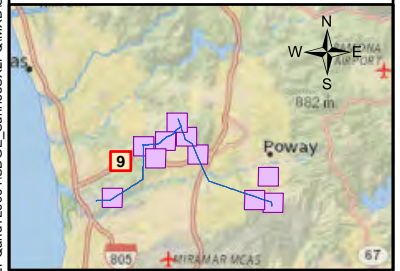


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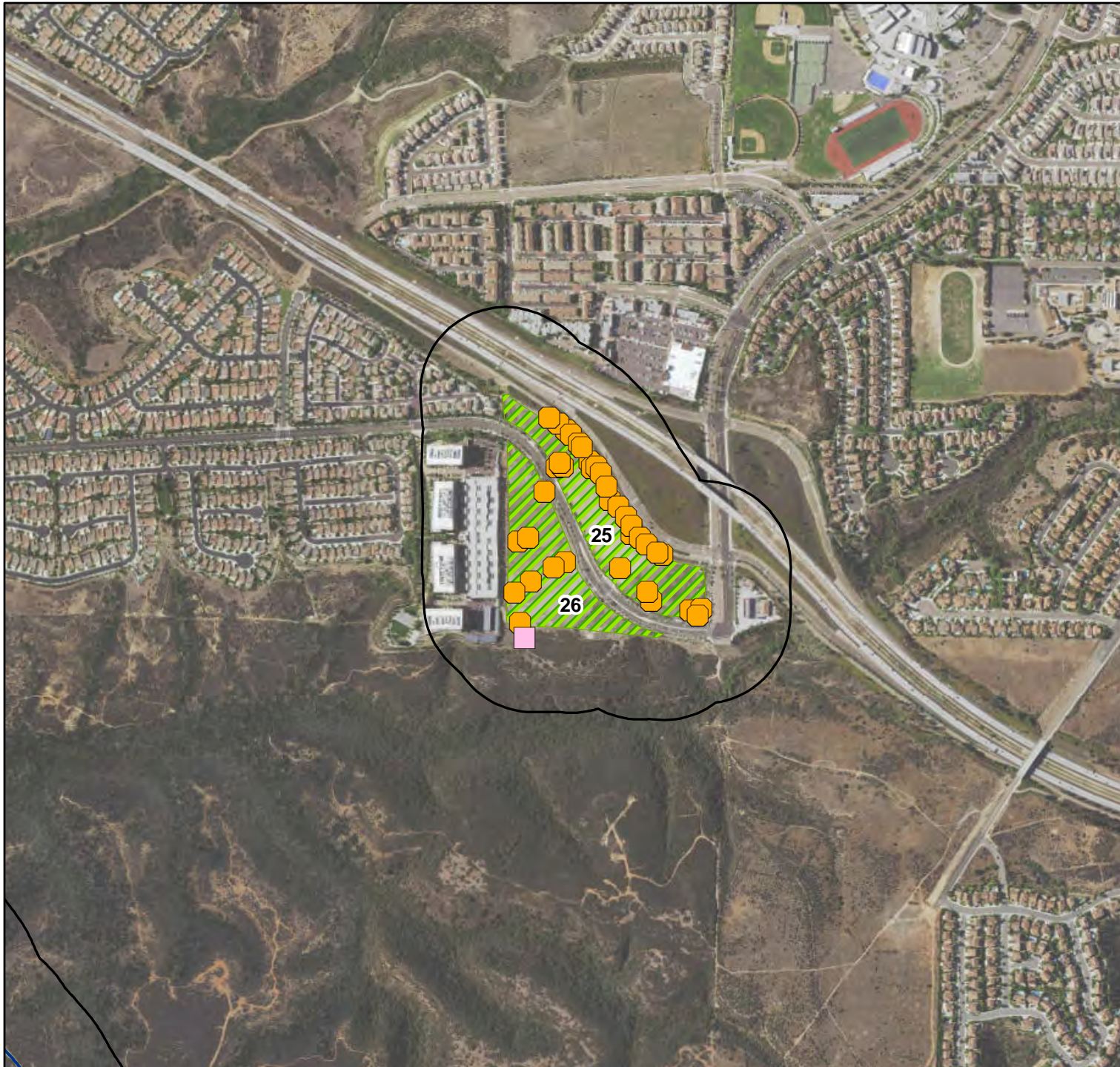
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# Sycamore to Peñasquitos 230 kV Transmission Line Project

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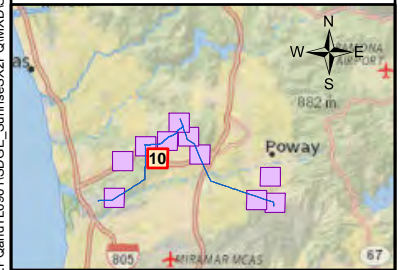


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# Sycamore to Peñasquitos 230 kV Transmission Line Project

## Burrowing Owl Habitat Assessment and Survey Results

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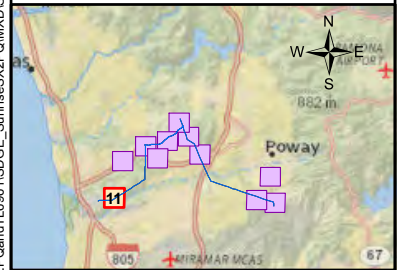
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**ATTACHMENT 2 – Burrowing Owl Habitat Assessment Summary Table**

**Attachment 2 - Burrowing Owl Habitat Assessment Summary Table**

Poly ID	Patch Size (ac.)	Dominant Vegetation and Land Use			Adjacent Foraging Habitat	Polygon Habitat Parameters				Polygon Burrow Features			Slope	Potential for Occurrence
		Within	Adjacent	Development Type and Proximity		Soils	Ave Veg Height (in.)	Max Veg Height (in.)	Shrub Density (%)	Small Mammal Burrows?	Burrow Complexes?	Burrowing Features		
1	4.4	DH	DL	Commercial, paved roads surrounding	None	Compact	<6	18	10	No	No	None	Level	Not expected. Polygon is surrounded by commercial development and paved roads; and contains compact soils, no small mammal burrows, and no adjacent open foraging or breeding habitat.
2	0.81	SMC-D	SMC, DL	Unpaved firebreak road within polygon; paved road adjacent	None	Compact, slightly friable	10	16	15	Yes, very few	No	Slopes	Slight	Not expected. Polygon is very small in size, isolated, and surrounded by tall and dense vegetation; and contains compact soils, few small mammal burrows, no burrow complexes, and no adjacent open foraging or breeding habitat.
3	1.5	BG	CSS, SMC, DL	Transmission tower within polygon; substation and paved and unpaved roads adjacent; residential within 1/2 mile	None	Compact	<3	60	5	No	No	None	Level	Not expected. Polygon is very small in size, isolated, and surrounded by tall and dense vegetation and development; and contains compact soils, no small mammal burrows, no burrow complexes, and no adjacent open foraging or breeding habitat.
4	4	CSS-D, DH	CSS, SMC, DL	Substation and paved and unpaved roads adjacent; residential within 1/4 mile	None	Compact	<4	<4	5	No	No	None	Level	Not expected. Polygon is isolated and surrounded by tall and dense vegetation and development; and contains compact soils, no small mammal burrows, no burrow complexes, and no adjacent open foraging or breeding habitat.
5	1.31	BG, CSS	DL, SMC, SWS	Residential, ranches, paved roads surrounding	None	Friable	2	0	0	Yes, very few	No	Slopes	Slight	Not expected. Polygon is very small in size and surrounded by residential development, ranches, and paved roads; polygon contains few small mammal burrows, no burrow complexes, and no adjacent open foraging or breeding habitat.

**Attachment 2 - Burrowing Owl Habitat Assessment Summary Table**

Poly ID	Patch Size (ac.)	Dominant Vegetation and Land Use			Adjacent Foraging Habitat	Polygon Habitat Parameters				Polygon Burrow Features			Slope	Potential for Occurrence
		Within	Adjacent	Development Type and Proximity		Soils	Ave Veg Height (in.)	Max Veg Height (in.)	Shrub Density (%)	Small Mammal Burrows?	Burrow Complexes?	Burrowing Features		
6	1.29	SMC-D	SMC, DL	Unpaved firebreak road within polygon; paved road adjacent; residential within 3/4 mile	None	Compact, slightly friable	10	16	15	Yes, very few	No	Slopes	Slight	Not expected. Polygon is very small in size, isolated, and surrounded by tall and dense vegetation; and contains compact soils, few small mammal burrows, and no adjacent open foraging or breeding habitat.
7	24.02	NNG, DH, CSS-D	DL, NNG	Unpaved roads and transmission tower within polygon; substation and paved roads adjacent; residential surrounding	Contiguous with adjacent NNG	Compact, friable	<6	108	15	Yes, many	Yes, many	Slopes, berms	Slight to moderate	Low. Polygon is large; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soils and many burrows and burrow complexes.
8	3.09	NNG, DH	DL, CSS	Unpaved road within polygon; residential and paved roads surrounding	None	Compact, friable	12	36	60	Yes, very few	No	Slopes, berms, debris piles	Slight	Not expected. Polygon is surrounded by residential development and paved roads; is dominated by compact soil; and contains tall and dense vegetation, few small mammal burrows, no burrow complexes, and no adjacent open foraging or breeding habitat.
9	6.13	NG, CSS	DL, CSS	Paved roads within and adjacent; high school, residential, and paved roads adjacent	Contiguous with adjacent NG	Friable	<6	24	8	Yes, few to moderate	No	Slopes	Slight	Low. Polygon is moderate in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soil and a few to moderate number of burrows but no burrow complexes.
10	7.3	NG, CSS	DL, CSS	Unpaved roads and transmission tower within polygon; park and paved and unpaved roads adjacent; residential within 500 feet	Contiguous with adjacent NG	Friable	<6	24	20	Yes, few to moderate	No	Slopes	Moderate	Low. Polygon is moderate in size; supports suitable but moderate density vegetation; is located adjacent to suitable foraging habitat; and contains friable soil and a few to moderate number of burrows but no burrow complexes.
11	1.85	NNG	CSS, DL	Unpaved roads within and adjacent; residential and paved roads within 200 feet	None	Friable	<6	<6	60	Yes, many	No	Slopes	Moderate	Not expected. Polygon is very small in size, isolated, and surrounded by tall and dense vegetation; and contains adjacent residential development and no adjacent open foraging or breeding habitat.



**Attachment 2 - Burrowing Owl Habitat Assessment Summary Table**

Poly ID	Patch Size (ac.)	Dominant Vegetation and Land Use			Adjacent Foraging Habitat	Polygon Habitat Parameters				Polygon Burrow Features			Slope	Potential for Occurrence
		Within	Adjacent	Development Type and Proximity		Soils	Ave Veg Height (in.)	Max Veg Height (in.)	Shrub Density (%)	Small Mammal Burrows?	Burrow Complexes?	Burrowing Features		
12	1.49	NNG, CSS	CSS, DL	Unpaved roads adjacent; residential and paved roads within 200 feet	None	Friable	<6	36	10	Yes, few	No	Slopes	Slight	Not expected. Polygon is very small in size, isolated, and surrounded by tall and dense vegetation; and contains few small mammal burrows, no burrow complexes, adjacent residential development, and no adjacent open foraging or breeding habitat.
13	2.69	NG, CSS	DL, CSS	Paved and unpaved roads adjacent; residential within 1/4 mile	None	Friable	<6	36	10	Yes, few	No	Slopes	Slight to moderate	Not expected. Polygon is small in size, isolated, and surrounded by tall and dense vegetation; and contains few small mammal burrows, no burrow complexes, and no adjacent open foraging or breeding habitat.
14	4.46	NNG, CSS	DL, CSS	Residential and paved and unpaved roads surrounding	None	Friable	<6	36	10	Yes, few	No	Slopes	Slight	Not expected. Polygon is surrounded by residential development and paved and unpaved roads; polygon contains few small mammal burrows, no burrow complexes, adjacent residential development, and no adjacent open foraging or breeding habitat.
15	7.87	NNG, DH, CSS	NNG, DH, CSS, DL	Park and paved and unpaved roads adjacent; residential within 1/2 mile	Contiguous with adjacent DH	Compact, friable	12	18	30	Yes, few to moderate	No	Slopes, rock piles	Level	Low. Polygon is moderate in size; supports suitable but moderate density vegetation; is located adjacent to suitable foraging habitat; and contains friable soil and a few to moderate number of burrows but no burrow complexes.
16	61.59	DH, BG	DH, BG, DL	Unpaved roads and transmission tower within polygon; park, residential, and paved and unpaved roads adjacent	Contiguous with surrounding DH	Friable	0	6	2	Yes, few	Yes, few	Slopes, berms, rock piles	Slight to moderate	Low to moderate. Polygon is very large; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soils, few burrows, and few burrow complexes.

**Attachment 2 - Burrowing Owl Habitat Assessment Summary Table**

Poly ID	Patch Size (ac.)	Dominant Vegetation and Land Use			Adjacent Foraging Habitat	Polygon Habitat Parameters				Polygon Burrow Features			Slope	Potential for Occurrence
		Within	Adjacent	Development Type and Proximity		Soils	Ave Veg Height (in.)	Max Veg Height (in.)	Shrub Density (%)	Small Mammal Burrows?	Burrow Complexes?	Burrowing Features		
17	44.37	NNG	NNG, CSS, DL	Unpaved roads within polygon; residential, and paved and unpaved roads adjacent	Contiguous with adjacent NNG	Compact, friable	10	48	10	Yes, few to moderate	Yes, few	Slopes, berms, drainage banks	Slight to moderate	Low. Polygon is very large in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soils, few to moderate burrows, and few burrow complexes.
18	19.41	NNG	NNG, SWS, DL	Unpaved roads within polygon; paved and unpaved roads adjacent; residential within 500 feet	Contiguous with adjacent NNG	Compact, friable	8	48	5	Yes, moderate	Yes, few	Slopes, berms	Slight to moderate	Low. Polygon is large in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soils, a moderate number of burrows, and few burrow complexes.
19	25.38	NNG	NNG, SWS, DL	Unpaved roads within polygon; residential and paved and unpaved roads adjacent	Contiguous with adjacent NNG	Compact, friable	<6	48	<5	Yes, moderate	Yes, few	Slopes, berms	Slight to moderate	Low. Polygon is large in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soils, a moderate number of burrows, and few burrow complexes.
20	1.88	NNG	NNG, SWS, DL	Unpaved roads within polygon; residential and paved and unpaved roads adjacent	Contiguous with adjacent NNG	Compact, friable	8	48	5	Yes, moderate	Yes, few	Slopes, berms	Moderate	Low. Polygon is small in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soils, a moderate number of burrows, and few burrow complexes.
21	8.37	NNG	NNG, DL	Unpaved roads within polygon; residential and commercial, and paved roads surrounding	None	Compact, friable	<6	18	5	Yes, many	No	Slopes, berms	Slight	Low. Polygon is moderate in size; supports suitable, low-density vegetation; and contains compact and friable soil and many burrows but no burrow complexes.
22	1.12	NNG, DH	NNG, DH, DL	Residential and commercial, and paved and unpaved roads surrounding; active construction adjacent	None	Compact, friable	<6	18	10	Yes, few	No	Slopes, berms	Slight	Not expected. Polygon is very small in size, is surrounded by residential and commercial development, and paved and unpaved roads, and is dominated by compact soils; polygon contains few small mammal burrows, no burrow complexes, and no adjacent open foraging or breeding habitat; active construction of a large development is occurring adjacent to polygon.

**Attachment 2 - Burrowing Owl Habitat Assessment Summary Table**

Poly ID	Patch Size (ac.)	Dominant Vegetation and Land Use			Adjacent Foraging Habitat	Polygon Habitat Parameters				Polygon Burrow Features			Slope	Potential for Occurrence
		Within	Adjacent	Development Type and Proximity		Soils	Ave Veg Height (in.)	Max Veg Height (in.)	Shrub Density (%)	Small Mammal Burrows?	Burrow Complexes?	Burrowing Features		
23	14.27	NNG, DH	NNG, DH, DL	Unpaved roads and transmission tower within polygon; residential and commercial, paved and unpaved roads, and active construction adjacent	None	Friable	6	18	5	Yes, many	Yes, many	Slopes, berms	Slight to moderate	Low to moderate. Polygon is moderate in size; supports suitable, low-density vegetation; and contains friable soil and a many burrows and burrow complexes.
24	40.68	NNG	NNG, CSS, SWS, DL	Unpaved roads and transmission tower within polygon; paved and unpaved roads, and active construction adjacent; residential within 1/4 mile	Contiguous with adjacent NNG	Compact, friable	6	18	10	Yes, very few	No	Slopes, berms	Slight to moderate	Low. Polygon is very large in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains both compact and friable soils, very few burrows, and no burrow complexes.
25	8.91	DH	DH, DL	Unpaved roads within polygon; residential and commercial, and paved roads adjacent	Adjacent DH in polygon 26	Compact, friable	6	12	30	Yes, many	Yes, many	Berms	Level	Low to moderate. Polygon is moderate in size; supports suitable but moderate density vegetation; is located adjacent to suitable foraging habitat; and contains both compact and friable soils, many burrows and burrow complexes.
26	8.9	DH	DH, DL	Unpaved roads within polygon; residential and commercial, and paved roads adjacent	Adjacent DH in polygon 25	Compact, friable	6	12	20	Yes, many	Yes, many	Berms	Level	Low to moderate. Polygon is moderate; supports suitable but moderate density vegetation; is located adjacent to suitable foraging habitat; and contains both compact and friable soils, many burrows and burrow complexes.
27	8.93	DH	DH, DL	Residential and commercial, and paved roads adjacent	Contiguous with adjacent DH	Compact, slightly friable	6	24	30	Yes, very few	No	Berms	Level	Low. Polygon is moderate in size; supports suitable but moderate density vegetation; is located adjacent to suitable foraging habitat; and contains both compact and slightly friable soils and very few burrows but no burrow complexes.

**Attachment 2 - Burrowing Owl Habitat Assessment Summary Table**

Poly ID	Patch Size (ac.)	Dominant Vegetation and Land Use			Adjacent Foraging Habitat	Polygon Habitat Parameters				Polygon Burrow Features			Slope	Potential for Occurrence
		Within	Adjacent	Development Type and Proximity		Soils	Ave Veg Height (in.)	Max Veg Height (in.)	Shrub Density (%)	Small Mammal Burrows?	Burrow Complexes?	Burrowing Features		
28	16.48	DH, NNG	NNG, DH, DL	Unpaved roads within polygon; residential and commercial, paved roads, and active construction adjacent	Adjacent DH in polygon 27	Compact, slightly friable	2	18	30	Yes, very few	No	Berms	Level	Low. Polygon is large in size; supports suitable but moderate density vegetation; is located adjacent to suitable foraging habitat; and contains both compact and slightly friable soil and very few burrows but no burrow complexes.
29	4.23	NNG, CSS	CSS, DL	Unpaved roads within polygon; residential development adjacent	Few scattered patches of NNG in vicinity	Friable	<12	36	5	Yes, few	No	Slopes	Moderate to steep	Low. Polygon is moderate in size; supports suitable, low density vegetation; is located adjacent to suitable foraging habitat; and contains friable soil and a few burrows but no burrow complexes.
30	2.54	CSS	CSS	Residential development within 300 feet	Few scattered patches of NNG in vicinity	Friable	36	72	60	Yes, few	No	Slopes	Slight to steep	Not expected. Polygon is small in size; and contains tall and dense habitat, steep topography, few small mammal burrows, no burrow complexes, and limited adjacent open foraging or breeding habitat.
31	1.36	NNG, CSS	CSS, DL	Residential development adjacent	Contiguous with adjacent NNG	Friable	<6	96	10	Yes, moderate	No	Slopes	Moderate	Low. Polygon is small in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soils and a moderate number of burrows but no burrow complexes.
32	6.21	NNG, CSS	CSS, DL	Residential development within 150 feet	Few scattered patches of NNG in vicinity	Friable	<6	36	15	Yes, few	No	Slopes	Moderate to steep	Low. Polygon is moderate in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soils and a few burrows but no burrow complexes.
33	4.71	CSS, NNG	CSS, NNG	Residential development within 1/4 mile	Contiguous with adjacent NNG	Friable	12	72	30	Yes, few	No	Slopes, drainage banks,	Moderate to Steep	Low. Polygon is moderate in size; supports suitable but moderately dense vegetation; contains friable soils; and few small mammal burrows but no burrow complexes.

**Attachment 2 - Burrowing Owl Habitat Assessment Summary Table**

Poly ID	Patch Size (ac.)	Dominant Vegetation and Land Use			Adjacent Foraging Habitat	Polygon Habitat Parameters				Polygon Burrow Features			Slope	Potential for Occurrence
		Within	Adjacent	Development Type and Proximity		Soils	Ave Veg Height (in.)	Max Veg Height (in.)	Shrub Density (%)	Small Mammal Burrows?	Burrow Complexes?	Burrowing Features		
34	6.18	NNG, NG, CSS	NNG, CSS	Unpaved roads and transmission tower within polygon; residential development within 1/4 mile	Contiguous with adjacent NNG	Friable	<6	36	5	Yes, moderate	No	Slopes, berms	Moderate	Low to moderate. Polygon is moderate in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soils and a few burrows but no burrow complexes.
35	4.57	NNG, CSS	CSS, DH, DL	Unpaved roads and transmission tower within polygon; residential development adjacent	Few scattered patches of NNG in vicinity	Compact, friable	<6	36	10	Yes, moderate	No	Slopes, berms	Level	Low. Polygon is moderate in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains compact and friable soils and a few burrows but no burrow complexes.
36	Polygon no longer part of proposed project													
37	11.21	NNG	NNG, CSS, DL	Unpaved roads within polygon; residential, and paved and unpaved roads adjacent	Contiguous with adjacent NNG	Compact, friable	10	48	10	Yes, few to moderate	Yes, few	Slopes, berms, drainage banks	Slight to moderate	Low to moderate. Polygon is very large in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soils, few to moderate burrows, and few burrow complexes.
38	27.24	NNG	NNG, SWS, DL	Unpaved roads within polygon; paved and unpaved roads adjacent	Contiguous with adjacent NNG	Compact, friable	8	48	5	Yes, moderate	Yes, few	Slopes, berms	Slight to moderate	Low. Polygon is large in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soils, a moderate number of burrows, and few burrow complexes.
39	3.54	CSS-D, DH	CSS, DH, DL, ORN	Residential and commercial, and paved roads surrounding	Contiguous with adjacent NNG	Friable	<6	18	5	Yes, moderate	Yes, few	Slopes, drainages	Slight	Low. Polygon is small in size; supports suitable, low-density vegetation; and contains friable soil and a moderate number of burrows but no burrow complexes.

**Legend**

- DL = Developeped Land
- DH = Disturbed Habitat
- BG = Bare Ground

**Attachment 2 - Burrowing Owl Habitat Assessment Summary Table**

Poly ID	Patch Size (ac.)	Dominant Vegetation and Land Use			Adjacent Foraging Habitat	Polygon Habitat Parameters			Polygon Burrow Features			Slope	Potential for Occurrence
		Within	Adjacent	Development Type and Proximity		Soils	Ave Veg Height (in.)	Max Veg Height (in.)	Shrub Density (%)	Small Mammal Burrows?	Burrow Complexes?		

- NNG = Nonnative Grassland
- ORN = Ornamental
- SMC = Southern Mixed Chaparral
- SMC-D = Disturbed Southern Mixed Chaparral
- CSS = Coastal Sage Scrub
- CSS-D = Disturbed Coastal Sage Scrub
- SWS = Southern Willow Scrub

**ATTACHMENT 3 – Site Photographs**

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**Polygon 1.** Burrowing owl are not expected to occur in this staging yard that is small in size and surrounded by commercial development and paved roads; and contains compact soils, no small mammal burrows, and no adjacent open foraging or breeding habitat (Facing south; November 18, 2014).



**Polygon 6.** Burrowing owl are not expected to occur in this firebreak on MCAS Miramar that is isolated, small in size, and surrounded by tall and dense vegetation; and contains compact soils, few small mammal burrows, and no adjacent open foraging or breeding habitat (Facing south; November 18, 2014)



**Polygon 7.** Burrowing owl have a low potential to occur in this staging yard that is large in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soils and many burrows and burrow complexes (Facing east; November 18, 2014;).





**Polygon 9.** Burrowing owl have a low to moderate potential to occur in this polygon that is moderate in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soil and a few to moderate number of burrows but no burrow complexes (Facing north; November 18, 2014).



**Polygon 14.** Burrowing owl are not expected to occur in this polygon that is small in size and surrounded by residential development and paved and unpaved roads; and contains few small mammal burrows, no burrow complexes, adjacent residential development, and no adjacent open foraging or breeding habitat (Facing west; November 18, 2014).



**Polygon 17.** Burrowing owl have a low to moderate potential to occur in this polygon that is very large in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soils, few to moderate burrows, and few burrow complexes (Facing southwest; November 18, 2014).



**Polygon 22.** Burrowing owl are not expected to occur in this polygon that is very small in size, is surrounded by residential and commercial development, and paved and unpaved roads, and is dominated by compact soils; polygon contains few small mammal burrows, no burrow complexes, and no adjacent open foraging or breeding habitat; active construction of a large development is occurring adjacent to polygon (Facing west; November 17, 2014).



**Polygon 23.** One of many potentially suitable burrows within polygon. Burrowing owl have a low to moderate potential to occur in this polygon that is moderate in size; supports suitable, low-density vegetation; contains friable soils, and many burrows and burrow complexes (Facing north; November 17, 2014).



**Polygon 24.** Burrowing owl have a low potential to occur in this polygon that is very large in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains both compact and friable soils, very few burrows, and no burrow complexes (Facing southwest; November 17, 2014).



**Polygon 25.** One of many potentially suitable burrows within polygon. Burrowing owl have a low to moderate potential to occur in this staging yard that is moderate in size; supports suitable but moderate density vegetation; is located adjacent to suitable foraging habitat; and contains both compact and friable soil, and many burrows and burrow complexes (Facing northwest; November 17, 2014).



**Polygon 28.** Burrowing owl have a low potential to occur in this staging yard that is large in size; supports suitable but moderate density vegetation; is located adjacent to suitable foraging habitat; and contains both compact and slightly friable soil and very few burrows but no burrow complexes (Facing northeast; November 17, 2014).



**Polygon 30.** Burrowing owl are not expected to occur in this polygon that is small in size; and contains tall and dense habitat, steep topography, few small mammal burrows, no burrow complexes, and limited adjacent open foraging or breeding habitat (Facing northeast; November 17, 2014).



**Polygon 32.** Burrowing owl have a low potential to occur in this polygon that is moderate in size; supports suitable, low-density vegetation; is located adjacent to suitable foraging habitat; and contains friable soils and a few burrows but no burrow complexes (Facing northwest; November 17, 2014).



**Polygon 33.** Burrowing owl have a low potential to occur in this polygon that is moderate in size; supports suitable but moderate density vegetation; is located adjacent to suitable foraging habitat; and contains both compact and slightly friable soil and very few burrows but no burrow complexes (Facing north; November 17, 2014).

**ATTACHMENT 4 – Survey Conditions**

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### Attachment 4 – Survey Conditions

Survey #	Day #	Date	Time		Weather Conditions				Surveyors
					Temp	Wind	Clouds	Precip	
					(°F)	(mph)	(%)		
1	1	03/23/15	Start	0630	56	0-1	0	N/A	D. Busby, K. Clark
			End	1000	62	2-5	40	N/A	
	2	03/24/15	Start	0615	58	0-1	0	N/A	K. Clark, B. Lohstroh, L. Gorman
			End	0950	66	0-2	2	N/A	
	3	03/25/15	Start	0630	58	0-1	0	N/A	D. Busby, B. Lohstroh
			End	1000	77	1-3	0	N/A	
	4	03/26/15	Start	0635	56	0-1	0	N/A	K. Clark
			End	0900	75	0-1	0	N/A	
2	1	4/20/15	Start	0610	61	0-1	100	N/A	D. Busby, B. Lohstroh
			End	0945	70	4-6	10	N/A	
	2	4/21/15	Start	0615	62	0-1	100	N/A	D. Busby, T. Cooper
			End	1000	66	1-3	100	N/A	
	3	4/22/15	Start	0610	64	0-1	100	N/A	D. Busby, T. Cooper
			End	1000	63	3-6	100	N/A	
	4	4/23/15	Start	0600	62	0-1	100	N/A	D. Busby
			End	1000	65	3-5	60	N/A	
	5	4/24/15	Start	0610	59	0-1	100	N/A	D. Busby
			End	0940	63	1-3	60	N/A	
3	1	5/11/15	Start	0610	56	0-1	100	N/A	D. Busby, T. Cooper
			End	0950	62	1-3	100	N/A	
	2	5/12/15	Start	0600	61	1-3	100	N/A	D. Busby, T. Cooper
			End	0945	67	1-3	10	N/A	
	3	5/13/15	Start	0600	59	1-3	95	N/A	T. Cooper, L. Gorman
			End	1000	71	1-4	20	N/A	
	4	5/14/15	Start	0600	58	0-1	85	N/A	T. Cooper, L. Gorman
			End	1000	66	0-4	25	N/A	
4	1	7/8/15	Start	0530	64	0-1	100	N/A	D. Busby
			End	1000	70	3-5	50	N/A	
	2	7/9/15	Start	0600	65	0-1	100	N/A	D. Busby
			End	1000	69	1-3	80	N/A	
	3	7/10/15	Start	0530	63	0	100	N/A	D. Busby
			End	1000	69	1-3	60	N/A	
	4	7/13/15	Start	0550	64	0-1	100	N/A	D. Busby
			End	1000	70	3-5	10	N/A	
	5	7/14/15	Start	0610	68	0-2	100	N/A	T. Cooper, L. Gorman
			End	1000	72	1-5	0	N/A	
	6	7/15/15	Start	0630	66	1-3	100	N/A	T. Cooper, L. Gorman
			End	1000	75	2-4	50	N/A	

**ATTACHMENT 5 – Wildlife Species Detected**

## Attachment 5 - Wildlife Species Detected

VERTEBRATES	
<b>Class: Sauropsida</b>	
<b>Reptiles</b>	
<b>Family Phrynosomatidae</b>	
<b>Spiny Lizards</b>	
	<i>Sceloporus occidentalis</i>
	Western Fence Lizard
	<i>Uta stansburiana</i>
	Common Side-blotched Lizard
<b>Class: Aves</b>	
<b>Birds</b>	
<b>Order Anseriformes</b>	
<b>Geese, Swans, and Ducks</b>	
<b>Family Anatidae</b>	
<b>Geese, Swans, and Ducks</b>	
	<i>Anas platyrhynchos</i>
	Mallard
<b>Order Galliformes</b>	
<b>Gallinaceous Birds</b>	
<b>Family Odontophoridae</b>	
<b>New World Quail</b>	
	<i>Callipepla californica</i>
	California Quail
<b>Family Cathartidae</b>	
<b>New World Vultures</b>	
	<i>Cathartes aura</i>
	Turkey Vulture
<b>Family Accipitridae</b>	
<b>Hawks, Kites, Eagles, and Allies</b>	
	<i>Accipiter cooperii</i>
	Cooper's hawk
	<i>Buteo jamaicensis</i>
	Red-tailed Hawk
<b>Family Falconidae</b>	
<b>Falcons</b>	
	<i>Falco sparverius</i>
	American Kestrel
<b>Family Laridae</b>	
<b>Gulls, Terns, and Skimmers</b>	
	<i>Larus occidentalis</i>
	Western Gull
<b>Order Charadriiformes</b>	
<b>Shorebirds, Gulls, Auks, and Allies</b>	
<b>Family Charadriidae</b>	
<b>Plovers</b>	
	<i>Charadrius vociferous</i>
	Killdeer
<b>Order Columbiformes</b>	
<b>Pigeons and Doves</b>	
<b>Family Columbidae</b>	
<b>Pigeons and Doves</b>	
	<i>Columba livia</i>
	Rock Pigeon
	<i>Zenaida macroura</i>
	Mourning Dove
<b>Family Cuculidae</b>	
<b>Cuckoos and Roadrunners</b>	
	<i>Geococcyx californianus</i>
	Greater Roadrunner
<b>Order Apodiformes</b>	
<b>Swifts and Hummingbirds</b>	
<b>Family Apodidae</b>	
<b>Swifts</b>	
	<i>Aeronautes saxatalis</i>
	White-throated Swift
<b>Family Trochilidae</b>	
<b>Hummingbirds</b>	
	<i>Calypte anna</i>
	Anna's Hummingbird
	<i>Selasphorus sasin</i>
	Allen's Hummingbird
<b>Order Piciformes</b>	
<b>Woodpeckers and Allies</b>	
<b>Family Picidae</b>	
<b>Woodpeckers</b>	
	<i>Picoides nuttallii</i>
	Nuttall's Woodpecker
<b>Order Passeriformes</b>	
<b>Perching Birds</b>	
<b>Family Tyrannidae</b>	
<b>Tyrant Flycatchers</b>	
	<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
<b>Family Corvidae</b>		<b>Crows and Jays</b>
	<i>Aphelocoma californica</i>	Western Scrub-Jay
	<i>Corvus brachyrhynchos</i>	American Crow
	<i>Corvus corax</i>	Common Raven
<b>Family Alaudidae</b>		<b>Larks</b>
	<i>Eremophila alpestris actia</i>	California horned lark
<b>Family Hirundinidae</b>		<b>Swallows</b>
	<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow
	<i>Hirundo pyrrhonota</i>	Cliff Swallow
<b>Family Aegithalidae</b>		<b>Bushtits</b>
	<i>Psaltriparus minimus</i>	Bushtit
<b>Family Troglodytidae</b>		<b>Wrens</b>
	<i>Thryomanes bewickii</i>	Bewick's Wren
	<i>Troglodytes aedon</i>	House Wren
<b>Family Sylviidae</b>		<b>Gnatcatchers</b>
	<i>Polioptila caerulea</i>	Blue-gray Gnatcatcher
	<i>Polioptila californica</i>	Coastal California Gnatcatcher
<b>Family Turdidae</b>		<b>Thrushes</b>
	<i>Sialia mexicana</i>	Western Bluebird
<b>Family Timaliidae</b>		<b>Babblers</b>
	<i>Chamaea fasciata</i>	Wrentit
<b>Family Mimidae</b>		<b>Mockingbirds and Thrashers</b>
	<i>Mimus polyglottos</i>	Northern Mockingbird
	<i>Toxostoma redivivum</i>	California Thrasher
<b>Family Sturnidae</b>		<b>Starlings</b>
	<i>Sturnus vulgaris</i>	European Starling
<b>Family Motacillidae</b>		<b>Wagtails and Pipits</b>
	<i>Anthus rubescens</i>	American Pipit
<b>Family Bombycillidae</b>		<b>Waxwings</b>
	<i>Bombycilla cedrorum</i>	Cedar Waxwing
<b>Family Parulidae</b>		<b>Wood-Warblers</b>
	<i>Vermivora celata</i>	Orange-crowned Warbler
	<i>Dendroica coronata</i>	Yellow-rumped Warbler
	<i>Geothlypis trichas</i>	Common Yellowthroat
	<i>Wilsonia pusilla</i>	Wilson's Warbler
<b>Family Emberizidae</b>		<b>Emberizids</b>
	<i>Pipilo maculatus</i>	Spotted Towhee
	<i>Pipilo crissalis</i>	California Towhee
	<i>Aimophila ruficeps</i>	Rufous-crowned Sparrow
	<i>Melospiza melodia</i>	Song Sparrow
	<i>Ammodramus savannarum</i>	Grasshopper Sparrow
	<i>Passerculus sandwichensis</i>	Savannah Sparrow
	<i>Zonotrichia leucophrys</i>	White-crowned Sparrow
<b>Family Cardinalidae</b>		<b>Cardinals and Allies</b>
	<i>Passerina amoena</i>	Lazuli Bunting

	<i>Pheucticus melanocephalus</i>	Black-headed Grosbeak
	<i>Passerina caerulea</i>	Blue Grosbeak
<b>Family Icteridae</b>		<b>Blackbirds</b>
	<i>Icterus cucullatus</i>	Hooded Oriole
	<i>Sturnella neglecta</i>	Western Meadowlark
<b>Family Fringillidae</b>		<b>Fringilline and Cardueline Finches and Allies</b>
	<i>Carpodacus mexicanus</i>	House Finch
	<i>Carduelis psaltria</i>	Lesser Goldfinch
<b>Family Passeridae</b>		<b>Old World Sparrows</b>
	<i>Passer domesticus</i>	House Sparrow
<b>Family Estrildidae</b>		<b>Estrildid Finches</b>
	<i>Lonchura punctulata</i>	Scaly-breasted Munia
<b>Class: Mammalia</b>		<b>Mammals</b>
<b>Order Lagomorpha</b>		<b>Rabbits and Hares</b>
<b>Family Leporidae</b>		<b>Rabbits and Hares</b>
	<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit
	<i>Sylvilagus audubonii</i>	Desert Cottontail
<b>Order Rodentia</b>		<b>Rodents</b>
<b>Family Sciuridae</b>		<b>Squirrels and Chipmunks</b>
	<i>Spermophilus beecheyi</i>	California Ground Squirrel
<b>Order Carnivora</b>		<b>Carnivores</b>
<b>Family Canidae</b>		<b>Dogs and foxes</b>
	<i>Canis familiaris</i>	Domestic Dog
	<i>Canis latrans</i>	Coyote
<b>Order Perissodactyla</b>		<b>Odd-toed Ungulates</b>
<b>Family Equidae</b>		<b>Horses, Donkeys, and Zebras</b>
	<i>Equus caballus</i>	Domestic Horse
<b>Order Artiodactyla</b>		<b>Even-toed Ungulates</b>
<b>Family Cervidae</b>		<b>Deer and Elk</b>
	<i>Odocoileus hemionus</i>	Mule Deer