

# **Protocol Barefoot Banded Gecko (*Coleonyx switaki*) Survey Report – SDG&E - East County Substation September 14, 2010**

## ***Introduction and Project Background***

Consulting biologist and Barefoot Gecko researcher Eric A. Dugan completed an initial Habitat Assessment for the Barefoot Banded Gecko (BBG) at the request of San Diego Gas & Electric Company (SDG&E) for the East County Substation Project (Proposed Project).

The barefoot banded gecko (*Coleonyx switaki*) is listed as threatened under the California Endangered Species Act. This species is known to occur on arid desert slopes on the eastern side of the Peninsular Ranges from Borrego Springs south to the Mexican border. The BBG is found in areas of massive rock and rock outcrops at the heads of canyons at elevations below 2,200 feet above mean sea level (msl). The Proposed Project footprint includes potential habitat of the Barefoot Banded Gecko (BBG, along the 138 kilovolt (kV) transmission line, in the vicinity of Carrizo Gorge Road (Figure 1: Project Overview Map).

## ***Habitat Assessment***

A Habitat Assessment of the Proposed Project site (the East County (ECO) Substation Site and a 1.77-mile-long segment of 138 kV Transmission line) was completed on 6/3/10. Based on the presence of appropriate habitat for this species that includes rocky canyons, large rock outcrops, numerous rocky washes, and proximity to known gecko locations, only a portion of the of the 138 kV transmission line was determined to be potential habitat of the BBG. The portion of the 138 kV Transmission line determined to be potential habitat was a linear area roughly a mile in length, 225 feet wide, situated east of Carrizo Gorge Road, south of I-8, and north of Old Highway 80. The ECO Substation and area surrounding the substation location was determined as unsuitable habitat for the BBG. (Figure 2: BBG Habitat Assessment Survey Area and Suitable Habitat).

## ***Survey Methodology***

A field crew ranging from 3 to 4 biologists completed Protocol level surveys for the BBG. Complete survey methodology is located in the BBG Survey Protocol document on file with CDFG (Crayon, 2010). All surveys met the standards of the protocol methodology, providing 100% coverage of the project footprint of disturbance including a 50-foot buffer zone. Four visual nocturnal surveys at least a week apart were completed within the approved window of 1 May thru 31 July (Table 1: Survey Dates). Surveys were conducted by walking 10-foot center-line transects unless topography (steep slopes or large boulders) prevented safe ingress or egress. All surveys were completed between a half hour after sunset and 2 am when ambient temperatures were above 70 F at the start of surveys. Access to the site was via several dirt roads leading into the foothills north from Old Highway 80.

Table 1: Survey Dates

*Survey 1 - 6/17/10; 9 pm- 1 am; 71F*  
*Survey 2 - 6/29/10; 9 pm- Midnight; 72F*  
*Survey 3 - 7/20/10; 8:45 pm- 1 am; 81F*  
*Survey 4 - 7/28/10; 8:30 pm- 1 am; 78F*

### ***Survey Area Details***

Linear transects were performed along an approximately 1 mile stretch of appropriate rocky foothill habitat south of the existing Southwest Powerlink (SWPL) transmission line. Habitats lacking rocks and those areas with sand washes were not surveyed. Surveys concentrated on habitat characterized by canyons, rocky washes, and rock outcroppings. Depending on topography, biologists surveyed suitable habitat up to 200-225 feet south of the existing SWPL transmission line (Figure 3: BBG Survey Area Map).

### ***Results***

A total of 7 lizard species and 8 snake species (Table 2) were detected during the surveys. BBG was not detected during the CDFG protocol-level surveys conducted for of the Proposed Project area.

### ***Discussion***

BBGs are very difficult to detect (Fritts et al., 1982). Ten years of research in both Southern California and Baja Mexico indicate that *C. switaki* is a rarely observed species, even under ideal conditions in occupied habitat (Dugan, 2009). Surface activity is low often resulting in the *C. switaki* going undetected at known localities. Based on museum records, published accounts, and personal research, the BBG is known from near sea-level to approximately 2,100 feet above msl (Dugan, *In prep.*; Grismer, 1990). However, few, if any, documented efforts to detect this species at higher elevations within suitable habitat have been made (Grismer, pers comm., 2004). Although the project is 2,300 feet to over 3,000 feet above msl, potential suitable habitat is present. Therefore, SDG&E decided to conduct a BBG protocol-level survey in appropriate habitats at these elevations.

Although the area supports an abundant reptile community, the 2010 surveys did not find *C. switaki* part of this community. In addition, the presence of the Leaf-toad Gecko (*P. xanti*) suggests there maybe potential for *C. switaki* to occur because these two species are sympatric over most of their range (Grismer, 2002). The protocol-level survey efforts for the Proposed Project failed to detect BBC in the survey area. Based on the surveys, it is the author's opinion, the BBG does not occur within the survey area.

### ***Conclusion***

The Habitat Assessment determined that the Substation and area surrounding it does not contain suitable habitat for the BBG. However, suitable habitat was determined

to exist along the portion of the 138 kV Transmission line that runs just south of the existing SWPL transmission line. CDFG protocol-level surveys failed to detect BBG within the survey area. Based on these survey results and the elevation of the Proposed Project site it is unlikely BBG occurs at the site.

### Literature Cited

- Crayon, J. 2010. California Department of Fish and Game. Survey Protocol for the Barefoot Banded Gecko (*Coleonyx switaki*).
- Dugan, E. 2010 A. *In preparation*. Diet, Seasonal Activity, and Reproduction of the Barefoot Banded Gecko (*Coleonyx switaki*) in Southern California and Baja, Mexico.
- Dugan, E. A. 2009. Species Account, *Coleonyx switaki*. In Jones and Lovich (eds.) *Lizards of the American Southwest: A Photographic Fieldguide*. Rio Nuevo Publishers. Tucson, Arizona.
- Fritts, T. H., H. L. Snell, and R. L. Martin. 1982. *Anarbylus switaki* Murphy: An addition to the herpetofauna of the United States with comments on relationships with *Coleonyx*. *Journal of Herpetology* 16:39-52.
- Grismer, L. L. 1990. *Coleonyx switaki*. Catalogue Account. Catalogue of American Amphibians and Reptiles, Society for the Study of Amphibians and Reptiles.
- Grismer, L. L. 2002. Amphibians and reptiles of Baja California, including its Pacific Islands and the islands in the Sea of Cortes. University of California Press. Berkeley and Los Angeles, California.
- Grismer, L. L. 2004. Personal Communication. Conversation about sampling and survey efforts for the Barefoot Banded Gecko (*Coleonyx switaki*) throughout the range of the species. He was unaware of any efforts made to survey for BBG at higher elevations within suitable habitats.

Report Prepared by:

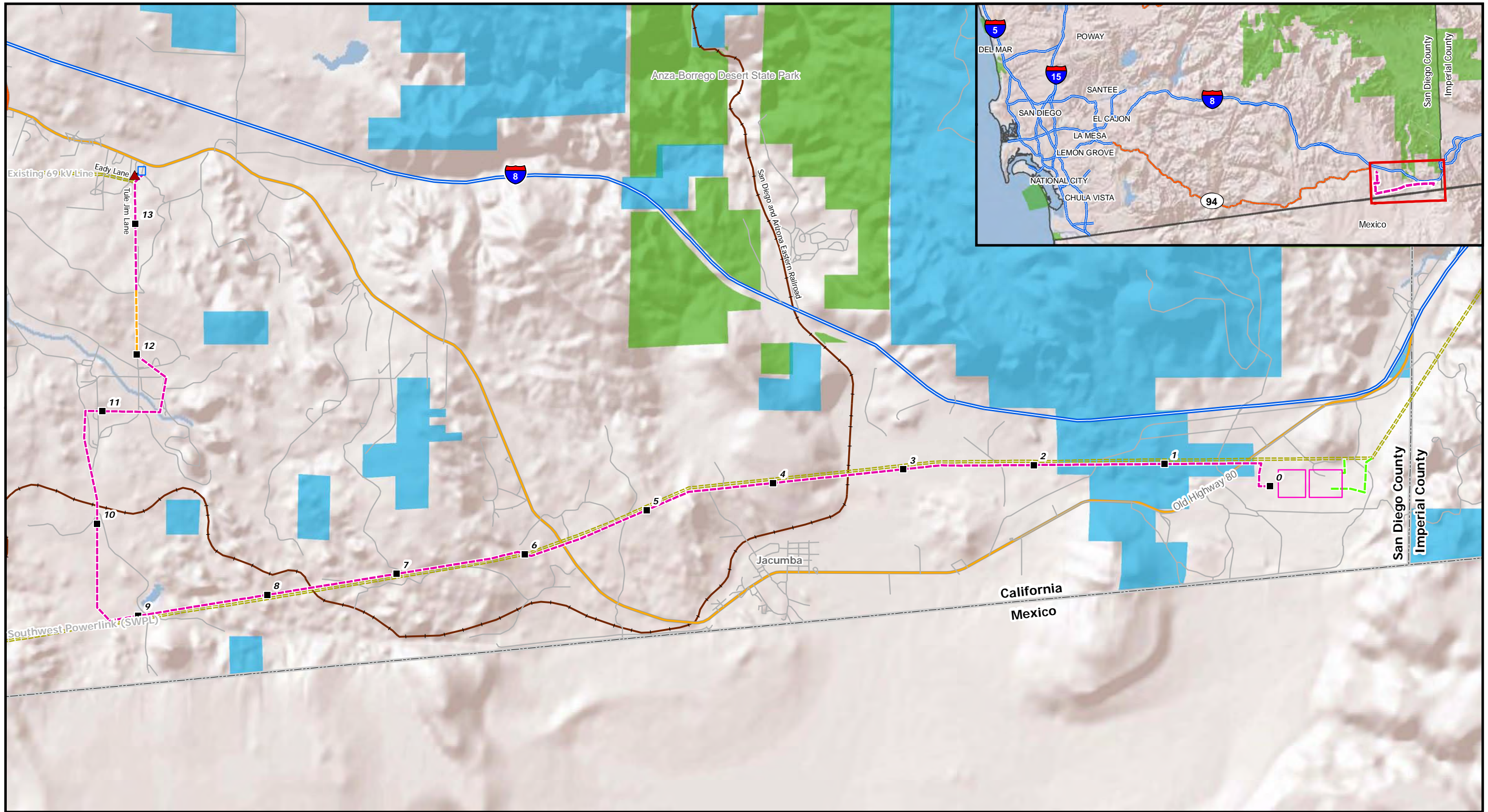
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**Table 1: Reptiles Observed During Barefoot Banded Gecko Protocol Surveys – East County Substation**

<b>Common - Scientific Names</b>	<b>Observation Details</b>
<i>Lizards</i>	
Sideblotched Lizard - <i>Uta stansburiana</i>	<ul style="list-style-type: none"> <li>• Distributed throughout all habitats within the survey area</li> </ul>
Desert Spiny Lizard - <i>Sceloporus magister</i>	<ul style="list-style-type: none"> <li>• Distributed throughout rocky habitats within the survey area</li> <li>• Often observed on large trees and shrubs and in cracks at night</li> </ul>
Granite Spiny Lizard - <i>Sceloporus orcutti</i>	<ul style="list-style-type: none"> <li>• Moderately common in the survey area</li> <li>• Restricted to large rocky outcroppings and canyons</li> </ul>
Granite Night Lizard - <i>Xantusia henshawi</i>	<ul style="list-style-type: none"> <li>• Commonly observed in cracks and on large boulders at night</li> </ul>
Leaf-toed Gecko - <i>Phyllodactylus xanti</i>	<ul style="list-style-type: none"> <li>• Moderately common on rock faces and in cracks at night</li> </ul>
Desert Banded Gecko - <i>Coleonyx variegatus</i>	<ul style="list-style-type: none"> <li>• Uncommon on the site</li> <li>• Less than 5 individuals observed</li> </ul>
Banded Rock Lizard – <i>Petrosaurus mearnsi</i>	<ul style="list-style-type: none"> <li>• Observed sleeping in cracks at night</li> </ul>
<i>Snakes</i>	
Glossy Snake - <i>Arizona elegans</i>	<ul style="list-style-type: none"> <li>• Rare on the site</li> </ul>
Lyre Snake – <i>Trimorphodon biscutatus</i>	<ul style="list-style-type: none"> <li>• Moderately common</li> </ul>
Red Diamond Rattlesnake - <i>Crotalus ruber</i>	<ul style="list-style-type: none"> <li>• Common. Many individuals observed of all ages.</li> </ul>
Speckled Rattlesnake - <i>Crotalus mitchellii</i>	<ul style="list-style-type: none"> <li>• Uncommon</li> </ul>
Shovelnose Snake - <i>Chionactis occipitalis</i>	<ul style="list-style-type: none"> <li>• Uncommon on the site</li> </ul>
Leafnose Snake - <i>Phyllorhynchus decurtatus</i>	<ul style="list-style-type: none"> <li>• Uncommon at the higher elevations</li> </ul>
Night Snake - <i>Hypsiglena torquata</i>	<ul style="list-style-type: none"> <li>• Moderately common</li> </ul>
Rosy Boa - <i>Lichanura trivirgata</i>	<ul style="list-style-type: none"> <li>• Common. Several observed in rocky canyons.</li> </ul>

**Figure 1: Project Overview Map**





**Figure 1: Project Overview Map**

**East County Substation Project**

- |   |                               |                           |            |
|---|-------------------------------|---------------------------|------------|
| Proposed ECO Substation                 | Proposed 138 kV Line Milepost | Bureau of Land Management | Interstate |
| Proposed SWPL Loop-In                   | Existing Boulevard Substation | California State Park     | Highway    |
| Proposed 138 kV Transmission Line       | Boulevard Substation Rebuild  | Local Road                | Major Road |
| 445 Circuit Collocated with 138 kV Line | Existing Transmission Line    | Railroad                  |            |
| TL 6931 Get Away                        |                               |                           |            |

**SDGE**  
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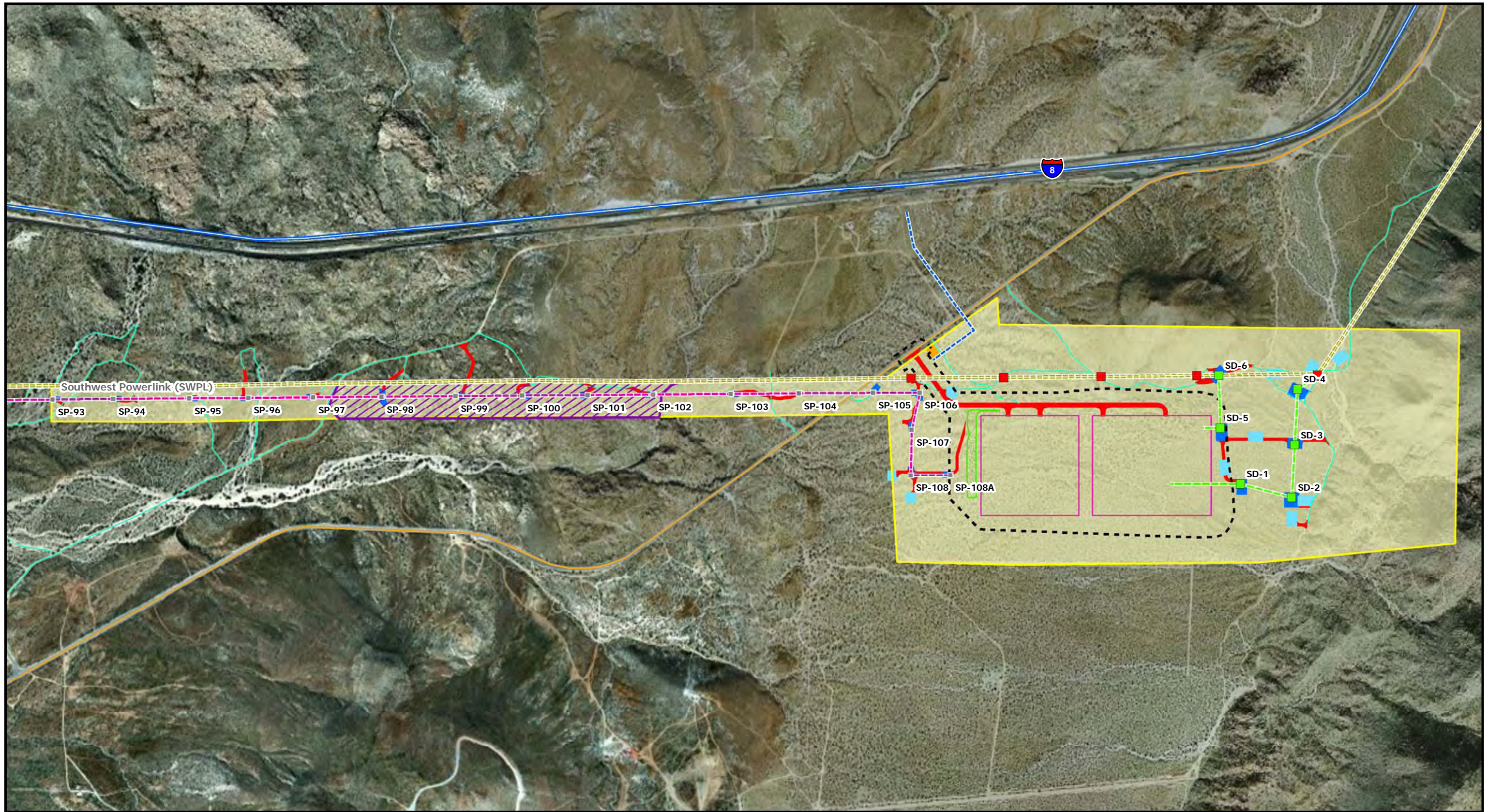
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**Figure 2: BBG Habitat Assessment Survey Area and Suitable Habitat**





**Figure 2: BBG Habitat Assessment Survey Area and BBG Suitable Habitat Map**

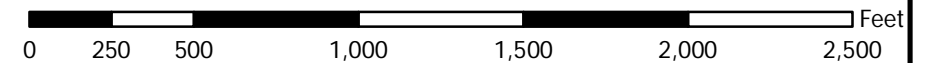
**East County Substation Project**

- |   |                               |                                 |                      |
|---|-------------------------------|---------------------------------|----------------------|
| BBG Suitable Habitat                      | ECO Substation                | Pull Site                       | Existing Access Road |
| Habitat Assessment Area                   | Temporary Construction Buffer | Staging Yard                    | Major Road           |
| Proposed SWPL Loop-In                     | Retention Pond                | Proposed 138 kV Tower           | Interstate           |
| Proposed 138 kV Line                      | Permanent Work Area           | Proposed SWPL Loop-In Structure | Highway              |
| Proposed 12 kV Temporary Distribution Tap | New Access Road               | Existing SWPL Structure         | Railroad             |
| Existing Transmission Line                |                               |                                 |                      |

Note: The Proposed Project facilities and work areas depicted are based on preliminary engineering data and are subject to change or refinement.



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**Figure 3: BBG Survey Area Map**





**Figure 3: BBG Survey Area Map**

**East County Substation Project**

- BBG Survey Area
- Proposed 138 kV Line
- Existing Transmission Line
- Permanent Work Area
- New Access Road
- Proposed 138 kV Tower
- Existing Access Road
- Major Road
- Interstate
- Highway
- Railroad

Note: The Proposed Project facilities and work areas depicted are based on preliminary engineering data and are subject to change or refinement.



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