

October 26, 2016

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**Subject: Riverside Transmission Reliability Project – Underground Alignment
Habitat Assessment Results**

Dear Mr. Busteed:

In response to a recent change to the configuration of the Riverside Transmission Reliability Project (RTRP) alignment (Project), Southern California Edison (SCE) contracted AECOM to conduct a habitat assessment in areas (gaps areas) not previously captured by the analysis of biological resources described in the 2016 *Riverside Transmission Reliability Project – Habitat Assessment Report* (HAR) (AECOM 2016). The following letter report identifies said gap areas and provides analyses of biological resources that are in line with the 2016 HAR.

At the request of SCE, this letter report summarizes the findings of a literature review and habitat assessment intended to identify suitable habitat, and areas needing focused surveys, for the following species:

- Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*)
- Least Bell's vireo (*Vireo bellii pusillus*)
- Southwestern willow flycatcher (*Empidonax traillii extimus*)
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)
- Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)
- Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)
- San Bernardino kangaroo rat (*Dipodomys merriami parvus*)
- San Diego ambrosia (*Ambrosia pumila*)
- Brand's phacelia (*Phacelia stellaris*)
- San Miguel savory (*Satureja chandleri*)
- Other Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) Rare Plant Species (including Criteria Area and Narrow Endemic Plant Species), where relevant.

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1.0 INTRODUCTION

1.1 Project Location

The Project is located in the northwest portion of Riverside County, north of Norco and south and east of Mira Loma (Figure 1). The western (north-south) segment of the Project alignment is located just east of Interstate 15 (Figure 2). The northern terminus occurs just west of the intersection of Cantu Galleano Ranch Road and Wineville Avenue, while the southern terminus occurs northeast of the dead end at Wilderness Avenue, just south of the Santa Ana River (Figure 2).

Of the approximately 10 miles of proposed transmission line, SCE proposes to reroute and underground approximately 2.1 miles originally intended to be overhead. The underground portion of the Project connects to the proposed overhead alignment near the southwest corner of an agricultural field just north of Limonite Avenue and east of Interstate 15 (Figure 3). The proposed infrastructure then follows the northern shoulder of Limonite Avenue east for approximately 0.2 mile until it meets the intersection of Limonite Avenue and Pats Ranch Road (Figure 3). From there, the alignment heads south along the eastern shoulder of Pats Ranch Road for approximately 0.8 mile, then makes a 90-degree turn east and follows the northern shoulder of 68th Street for another 0.8 mile (Figure 3). Where 68th Street dead ends at Lucretia Avenue, the underground alignment makes another 90-degree turn and runs approximately 0.3 mile south where it reconnects to the proposed overhead alignment in the middle of Goose Creek Golf Course (Figure 3).

Although the majority of the underground alignment and 500-foot buffer were captured during the surveys of the original alignment, the slight shift in position, when accommodating the 500-foot buffer area, captures an additional 90 acres of land that was not surveyed. Figure 3 illustrates the location of the unsurveyed areas relative to the previously surveyed overhead alignment.

1.2 Project Description

The Project is a joint venture with Riverside Public Utilities (RPU) to provide a new 230-kilovolt (kV) transmission line connection to RPU's transmission system and increase the reliability of their grid. SCE's scope of work includes construction of the following:

- Approximately 7.9 miles of new 230kV transmission line (overhead)
- Approximately 2.1 miles of new 230kV transmission line (underground)
- Access roads
- Towers
- Telecom
- Two marshalling yards

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2.0 METHODS

2.1 Historical Literature and Database Review

The 2010 *Riverside Transmission Reliability Project Biological Resources Technical Report* (BRTR) prepared by Power Engineers, Inc. (Power Engineers, Inc. 2010) and the 2016 HAR (AECOM 2016) were reviewed prior to conducting the fieldwork to understand the conditions of the gap areas and better prepare for the habitat assessment. Outside of Project-specific literature, select data pertaining to the natural resources of the region were also reviewed prior to conducting the field survey. The following sources were consulted to obtain public information relevant to the gap areas:

- Western Riverside County Multiple Species Habitat Conservation Plan (RCIP 2004);
- Riverside County Integrated Plan Online Conservation Report Generator (RCIP 2016);
- California Natural Diversity Database (CDFW 2016); and
- California Native Plant Society Online Rare Plant Inventory (CNPS 2016).

2.2 Vegetation Communities and Other Land Cover Types

Vegetation communities and other land cover types were mapped through photo-interpretation as informed by field reconnaissance. AECOM biologist Dallas Pugh was equipped with a portable geographic information system (GIS)-enabled field computer, which allowed for the notation of key features and species composition in the field. Photo-interpretation was conducted over National Agriculture Imagery Program imagery (NAIP 2014). Final feature creation and map attribution were completed in a controlled office environment. Feature digitization was conducted at a viewing scale no finer than 1:1,000 (approximately 1" = 100') to provide consistent results throughout the mapping area. The minimum mapping unit was 1 acre. All vegetation features were assigned to Manual of California Vegetation alliances.

2.3 Habitat Assessments

Habitat assessments of the gap areas were conducted simultaneously for all target species by AECOM biologist Dallas Pugh (senior biologist familiar with the habitat requirements of the target vertebrate species) and Ken Osbourne (Delhi Sands flower-loving fly [DSFLF] permitted biologist). The biologists walked through the gap areas to determine the location and extent of suitable habitat for the target species, and used Global Positioning System technology to delineate the limits of said habitat. Suitable habitat was to be later digitized and quantified using GIS software in a controlled office environment. The following sections provide a brief description of how habitat was classified as suitable for each target species/taxa.

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2.3.1 Riparian Birds

The habitat assessment included an evaluation of any riparian habitat within the gap areas capable of supporting three listed avian species: the federal- and state-endangered least Bell's vireo, the federally and state-endangered southwestern willow flycatcher, and the federally and state-endangered western yellow-billed cuckoo. Prior to conducting the survey, the BRTR, HAR, and aerial photographs were consulted to determine areas previously identified as suitable, areas occupied by the species and areas where the habitat assessment survey should be focused. Areas of riparian habitat best suited to support the three target species would have included structure and composition similar to those suitable and occupied areas described in the BRTR and HAR. These included contiguous spans of primarily mature riparian habitat. Small patches of early seral riparian habitat or riparian scrub, which were disconnected from more mature riparian areas, were considered unsuitable due to the lack of cover and protection offered for nesting and roosting birds.

2.3.2 Small Mammals

A habitat assessment was conducted for three southern California heteromyid small mammals: the federally endangered San Bernardino kangaroo rat, the California Department of Fish and Wildlife (CDFW) Species of Special Concern (SSC) Los Angeles little pocket mouse, and the SSC San Diego pocket mouse. These three target small mammal species are typically associated with sage scrub communities in sandy loam and loamy sand soils in the region of the current Project (e.g., see RCIP 2002). The habitat types preferred by each species, as well as atypical but known occupied habitat types for each species and designated critical habitat, were used as guidelines in assessing the potential for these mammals to occur within the gap areas.

Using species-specific habitat requirements, all areas exhibiting potentially suitable conditions for one or more of the three target species were to be recorded as polygons on aerial maps and slated for subsequent trapping.

2.3.3 Delhi Sands Flower-loving Fly Habitat Assessment

DSFLF permitted biologist Ken Osborne completed the habitat assessment within the gap areas. The evaluation of suitable habitat for DSFLF involved a two-step or two-tiered process. First, because DSFLF is restricted to Aeolian Delhi sands soils (characterized as Delhi sands in Ballmer 1989 and USFWS 1996), soil survey maps (Knecht 1971) were first consulted to determine those undeveloped portions of the gap areas that fall within these mapped Delhi sands. The soils of particular interest are Delhi fine sand (DaD2; Knecht 1971) and Delhi loamy fine sand (DbA; Knecht 1971). Areas clearly outside of Delhi sands soils were deemed unsuitable for the DSFLF. Secondly, those portions of the gap areas that fall within mapped Delhi sands, and areas immediately adjacent to these mapped soils (boundaries between soil types are sometimes blended or blurred on lands that have long been subject to disking), were ground-proofed and investigated for suitable conditions. Habitat suitability for DSFLF was evaluated using indicators such as presence and

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abundance of loose, unconsolidated Delhi sands with low organic contamination; presence of sand-associated insects; degree of habitat disturbance indicated by plant species composition and disposition of soil surface; presence and abundance of native sand-associated plant species often associated with Delhi sands and indicative of relative disturbance regimens (i.e., conditions with lesser disturbance being of higher quality for DSFLF) such as California croton (*Croton californicus*), telegraph weed (*Heterotheca grandiflora*), Thurber's buckwheat (*Eriogonum thurberi*), California buckwheat (*Eriogonum fasciculatum*), and golden crownbeard (*Verbesina encelioides*).

In the course of previous work (Osborne 2003; Osborne et al. 2003), Ken Osborne developed a means of rating habitat on a given site for its potential to support DSFLF. Areas were rated on a scale of 1 to 5, with 5 being the best quality and most suitable habitat based on the following scheme:

1. Developed areas, non-Delhi sands soils with high clay, silt, and/or gravel content. Delhi sands extensively and deeply covered by dumping of exotic soils, rubble, trash, manure, or organic debris. Unsuitable.
2. Delhi sands are present but the soil characteristics include a predominance of exotic soils such as alluvial materials, or predominance of other foreign contamination as gravels, manure, or organic debris. Severe and frequent disturbance (such as a maintenance yard or high use roadbed). Very Low Quality.
3. Moderately contaminated Delhi sands. Delhi sands with moderate to high disturbance (such as annual disking). Sufficient Delhi sands are present to prevent soil compaction (related to contamination by foreign soils). Some sandy soils exposed on the surface due to fossorial animal activity. Low Quality.
4. Abundant clean Delhi sands with little or no foreign soils (such as alluvial material) present. Moderate abundance of exposed sands on the soil surface. Low vegetative cover. Evidence of moderate degree of fossorial animal activity by vertebrates and invertebrates. May represent high quality habitat with mild or superficial disturbance. Moderate Quality.
5. Sand dune habitat with clean Delhi sands. High abundance of exposed sands on the soil surface. Low vegetative cover. Evidence (soil surface often gives under foot) of high degree of fossorial animal activity by vertebrates and invertebrates. Sand associated plant and arthropod species may be abundant. High Quality.

It should be noted that habitat qualities often vary spatially within a site so that conditions on a site fall within a range of qualities. Further, overall habitat quality is affected by the overall habitat area on a site, such that very small areas diminish the overall habitat value of a site. Use of this habitat rating system is somewhat subjective and best undertaken by a biologist who has extensive experience with *Rhaphiomidas* species. While investigating the gap

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areas, Ken Osborne implemented an analysis of this kind to provide a general estimate of overall habitat conditions relevant to DSFLF potential.

2.3.4 Rare Plant Habitat Assessment

The rare plant habitat assessment included an evaluation of the gap areas to support rare plants, including San Diego ambrosia, Brand's phacelia, San Miguel savory, and other special-status plant species. The gap areas are small extensions of the Rare Plant Survey Area defined in the HAR and were assessed for their potential to support rare plants following the same methods and criteria discussed in Sections 2.5.1 through 2.5.3 of the HAR. To summarize, these methods included a review of the resources listed in Section 2.1 and a pedestrian survey covering 100% of the gap areas that were not developed.

3.0 RESULTS AND DISCUSSION

3.1 Vegetation Communities and Other Land Cover Types

Four vegetation communities and other land cover types were mapped within the gap areas. Each community and cover type is listed and described below. Figure 4 depicts the extent of each community within the gap areas.

3.1.1 Annual Brome Grasslands

Bromus (diandrus, hordeaceus)-Brachypodium distachyon Semi-natural Herbaceous Stands

Extensive areas within 500 feet of the Project components have been impacted by historic agricultural activities and are dominated by a suite of nonnative grass and forb species, including ripgut brome (*Bromus diandrus*), foxtail (*Hordeum murinum*), Indian hedge mustard (*Sisymbrium orientale*), Russian thistle (*Salsola tragus*), and *Chenopodium* species. This highly disturbed habitat also supports scattered nonnative trees and shrubs, including Peruvian pepper tree (*Schinus molle*) and tree tobacco (*Nicotiana glauca*), and occasional fragments of *Artemisia californica-Eriogonum fasciculatum* Alliance smaller than a minimum mapping unit. Collectively, these habitats have been mapped as *Bromus (diandrus, hordeaceus)-Brachypodium distachyon* Semi-natural Herbaceous Stands.

3.1.2 Developed

This cover type includes roadways, homes, businesses, parks, cemeteries, and similar developed lands, including their associated landscape plantings.

3.1.3 Active Agriculture

This cover type includes dairies and livestock feed yards or areas that have been tilled and used as croplands or groves/orchards.

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3.1.4 Ornamental/Landscaped

This cover type includes vegetation planted and maintained for human aesthetic value, typically in proximity to developed areas.

3.2 Riparian Bird Habitat Assessment

No suitable habitat was found within the gap areas for the three target riparian bird species.

3.3 Small Mammal Habitat Assessment

No suitable habitat was found within the gap areas for the three target small mammal species.

3.4 Delhi Sands Flower-loving Fly Habitat Assessment

Two undeveloped areas containing Delhi Sands were evaluated for their potential to support DSFLF. The first is an approximately 1-acre area along the margin of an agricultural field just north of Limonite Avenue that supports annual brome grassland (Figure 5). This area is contiguous with Site 1 of the DSFLF Survey Area evaluated in the summer of 2016 and is considered very low quality (given a rating of 2 according to the scale in Section 2.3.3) due to heavy disking and mixing with organic materials such as manure. Additionally, the strip of habitat is small and narrow, and surrounded by unsuitable conditions (busy roads, active agricultural fields, and residential developments), thereby isolating the strip from other patches of suitable habitat in the area (Figure 5).

The second undeveloped area supporting Delhi Sands is a 1.8-acre vacant lot at the corner of 68th Street and Lucretia Avenue, which is denuded of vegetation and currently being used for stockpiling soils and other ornamental ground cover (Figure 5). Due to its current use and the presence of exotic soils, rubble, and trash, this area is considered unsuitable and was given a rating of 1 from the scale in Section 2.3.3.

3.5 Rare Plants Habitat Assessment

The habitat assessment for rare plants was conducted within the gap areas in early October 2016. The bulk of the gap areas fall within Narrow Endemic Plant Species Survey Area 7 of the MSHCP, which requires surveys for San Diego ambrosia, Brand's phacelia, and San Miguel savory. Most of the gap areas are developed or in active agriculture and do not support suitable habitat for these three species (Figure 4). The remaining undeveloped areas illustrated in Figure 4 were assessed for their potential to support the three target species as well as any other rare plants listed by the MSHCP or CNPS. The list of rare plants taken into consideration is included as Appendix A in the 2016 HAR.

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The habitat assessment determined that there is little to no potential for rare plants to occur within the undeveloped portions of the gap areas due to the anthropogenically degraded and disturbed conditions. Furthermore, the undeveloped gap areas are far enough away from the proposed ground disturbance that impacts to vegetation (including rare plants) are not expected.

4.0 RECOMMENDATIONS

4.1 Riparian Birds

No suitable riparian habitat occurs within the gap areas; therefore, no additional surveys are required.

4.2 Small Mammals

No suitable habitat occurs within the gap areas; therefore, no additional trapping sessions are required.

4.3 Delhi Sands Flower-loving Fly

It is recommended that surveys be conducted within the 1-acre area north of Limonite Avenue by a permitted biologist according to the *Guidelines for Conducting Presence/Absence Surveys for the Delhi Sands Flower-loving Fly* (USFWS 1996). However, in the course of the original survey of Site 1 in summer 2016, the biologists often contributed 10 to 15 minutes (or more) to this area, covering the majority of the 1-acre gap area. Considering that the 1-acre gap area is (1) well removed from project ground disturbance (approximately 475 feet); (2) poor quality habitat associated with an overall very thin strip of "suitable" habitat; and (3) associated with Site 1, which was surveyed with robust effort this past year as to far exceed protocol expectations, it is recommended that a request for a deviation from protocol be submitted to U.S. Fish and Wildlife Service. The deviation request would be worded such that this additional 1-acre portion of habitat would be added to the Project's entire second-year survey in summer 2017 (2-year survey according to protocol) with the caveat that, although the entire gap area was not surveyed according to protocol, the majority of the area was covered during the summer 2016 surveys and that the results should not be rejected based on failure to conduct the survey for the entire gap area in the first year.

4.4 Rare Plants

The habitat assessment determined that there is little to no potential for rare plants to occur within the gap areas. Furthermore, the undeveloped gap areas are far enough away from the proposed ground disturbance that impacts to vegetation are not expected. No focused surveys are recommended within the gap areas.

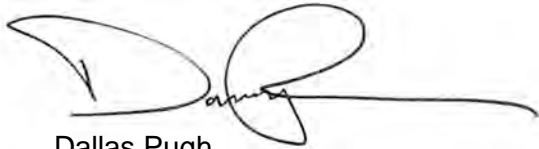
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4.5 Additional Notes

After investigating the new survey areas in the field, there was concern that the empty lot at the corner of 68th Street and Lucretia Avenue (same lot as DSFLF Unsuitable Habitat in Figure 5) could potentially support burrowing owl (*Athene cunicularia*). The Assessor's Parcel Number for the lot (157-202-016) was run through the Riverside County Online Conservation Report Generator to see if the property falls within a MSHCP-designated survey area for burrowing owl. The results of the query showed that no additional surveys are required for this property.

Please call me at (619) 610-7669 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dallas Pugh', with a long horizontal flourish extending to the right.

Dallas Pugh
Senior Biologist

Attachments: Figures

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REFERENCES

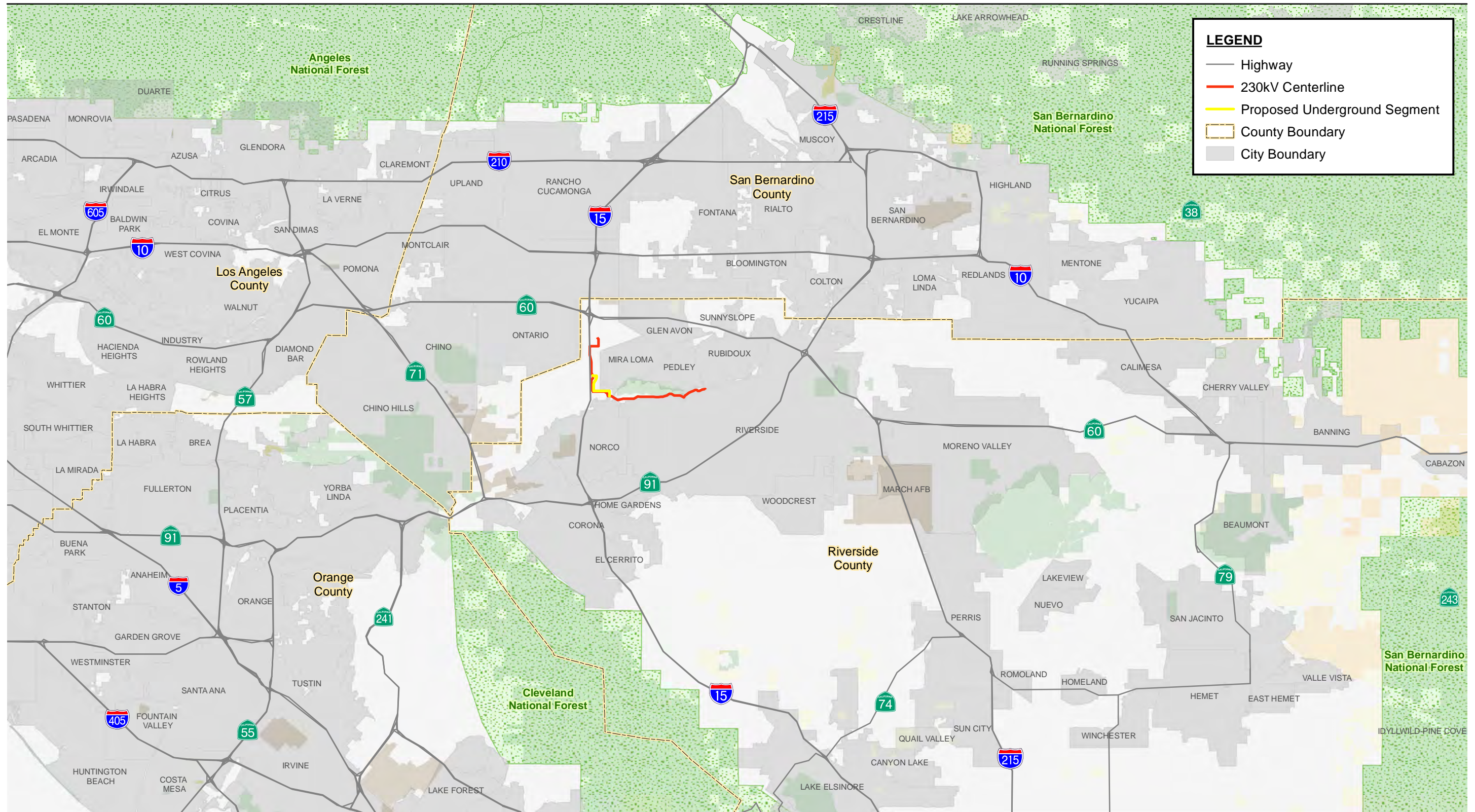
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FIGURES



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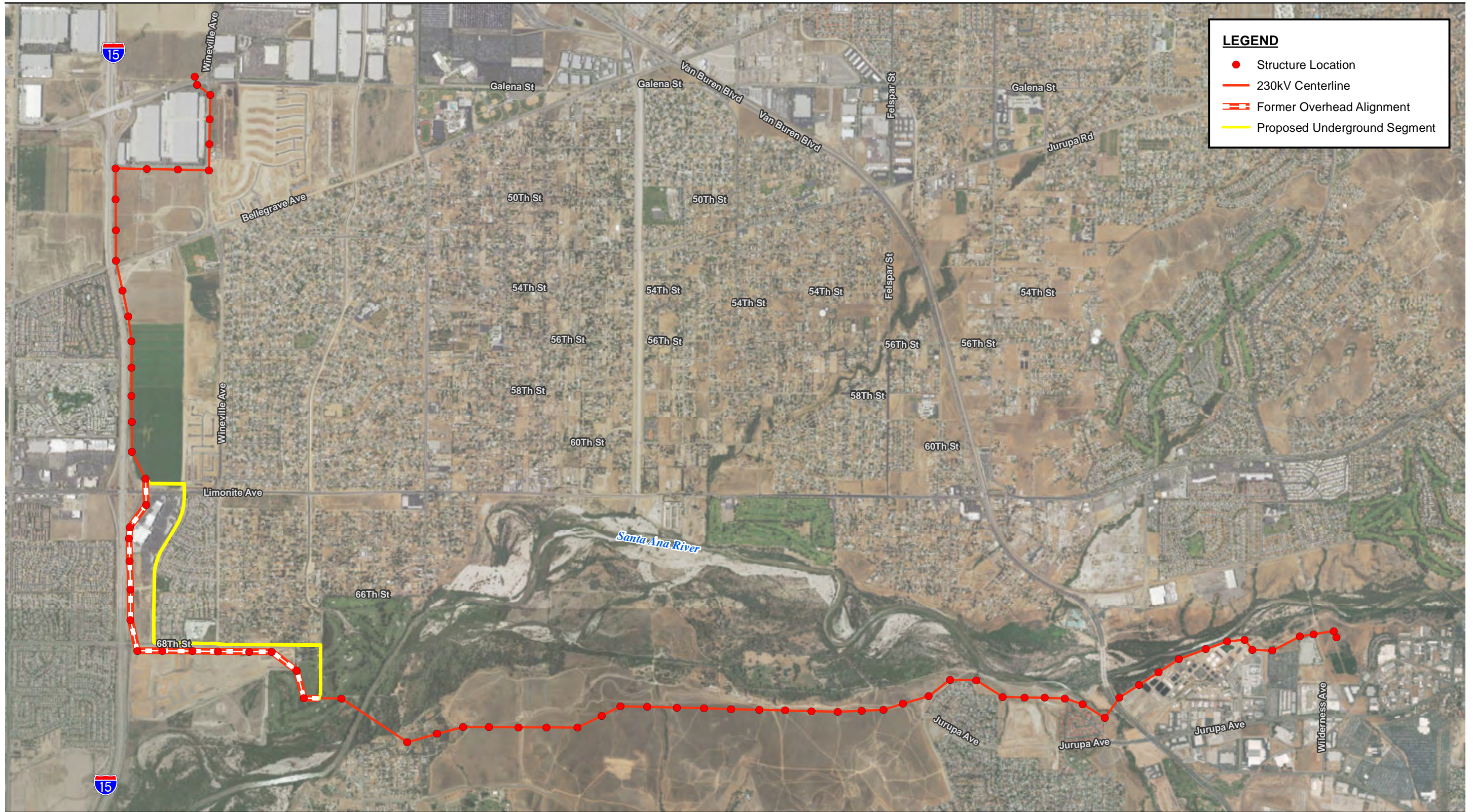
- Highway
- 230kV Centerline
- Proposed Underground Segment
- County Boundary
- City Boundary

Source: SCE; BLM; USFS; ESRI.

5 2.5 0 5 Miles

Scale: 1:316,800; 1 inch = 5 miles

Figure 1
Regional Map



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- Structure Location
- 230kV Centerline
- - - Former Overhead Alignment
- Proposed Underground Segment

Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

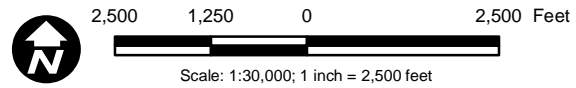
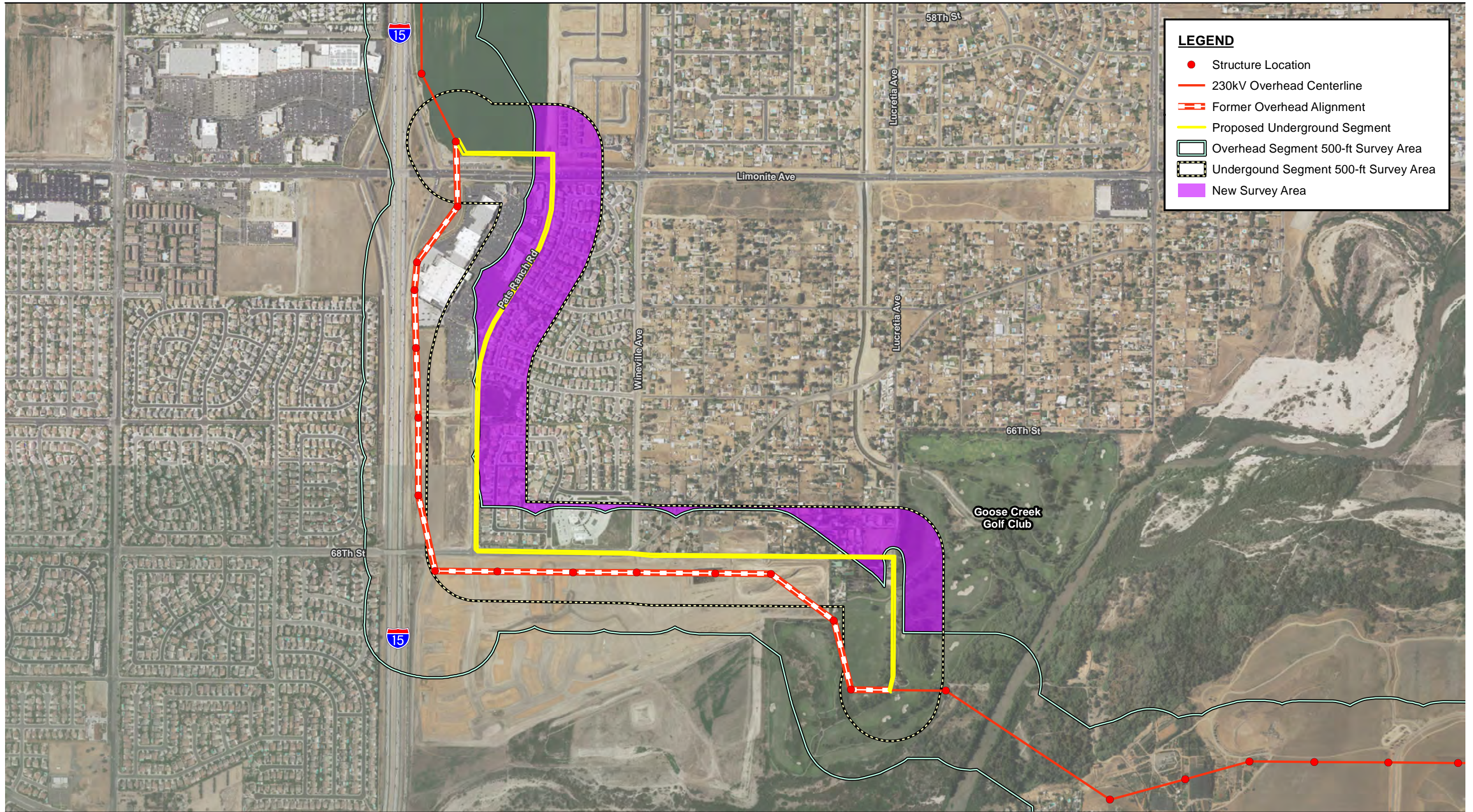


Figure 2
Vicinity Map



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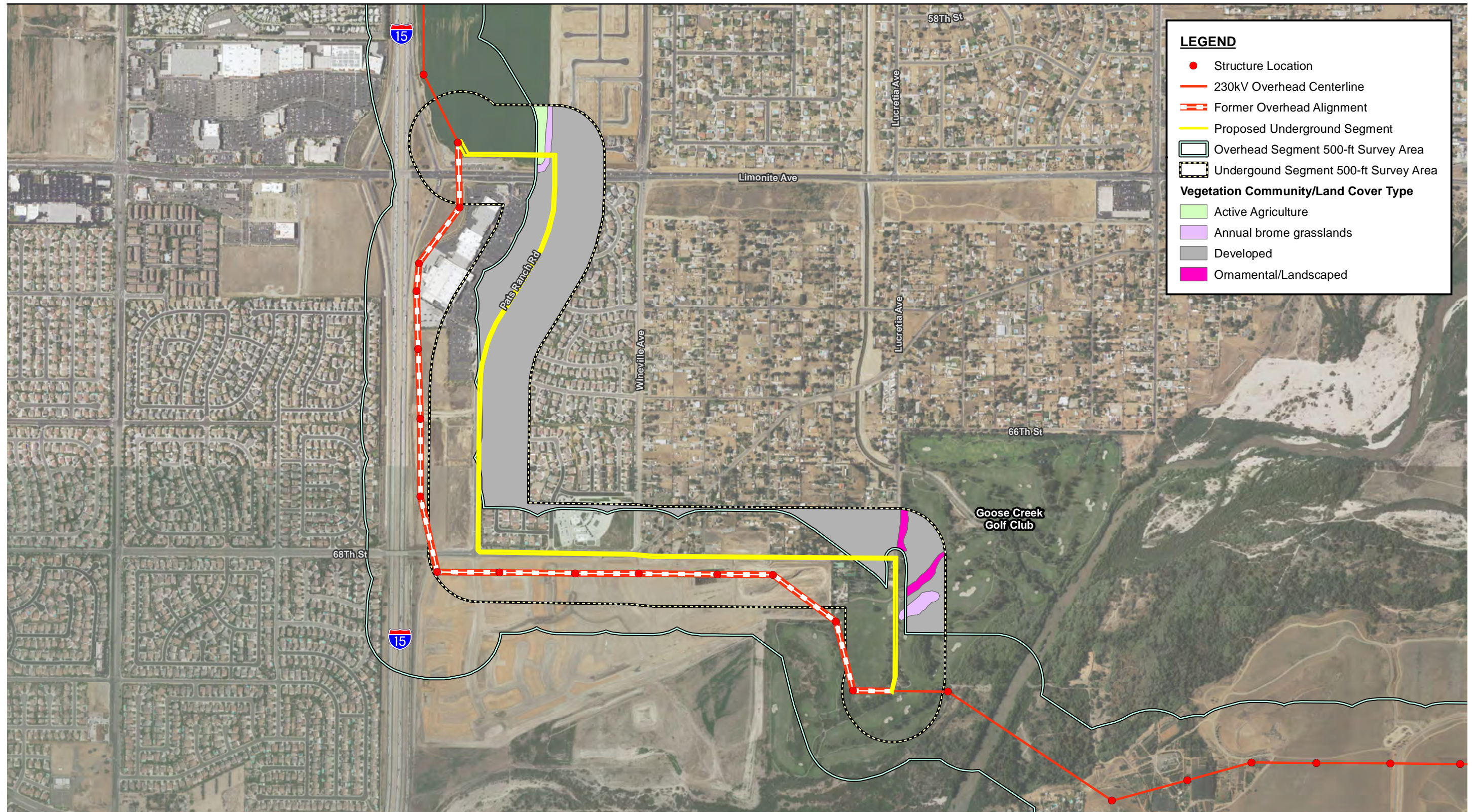
- Structure Location
- 230kV Overhead Centerline
- - - Former Overhead Alignment
- Proposed Underground Segment
- ▭ Overhead Segment 500-ft Survey Area
- - - Underground Segment 500-ft Survey Area
- New Survey Area

Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

1,000 500 0 1,000 Feet

Scale: 1:12,000; 1 inch = 1,000 feet

Figure 3
Overview of Underground Alignment



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

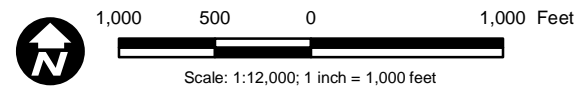
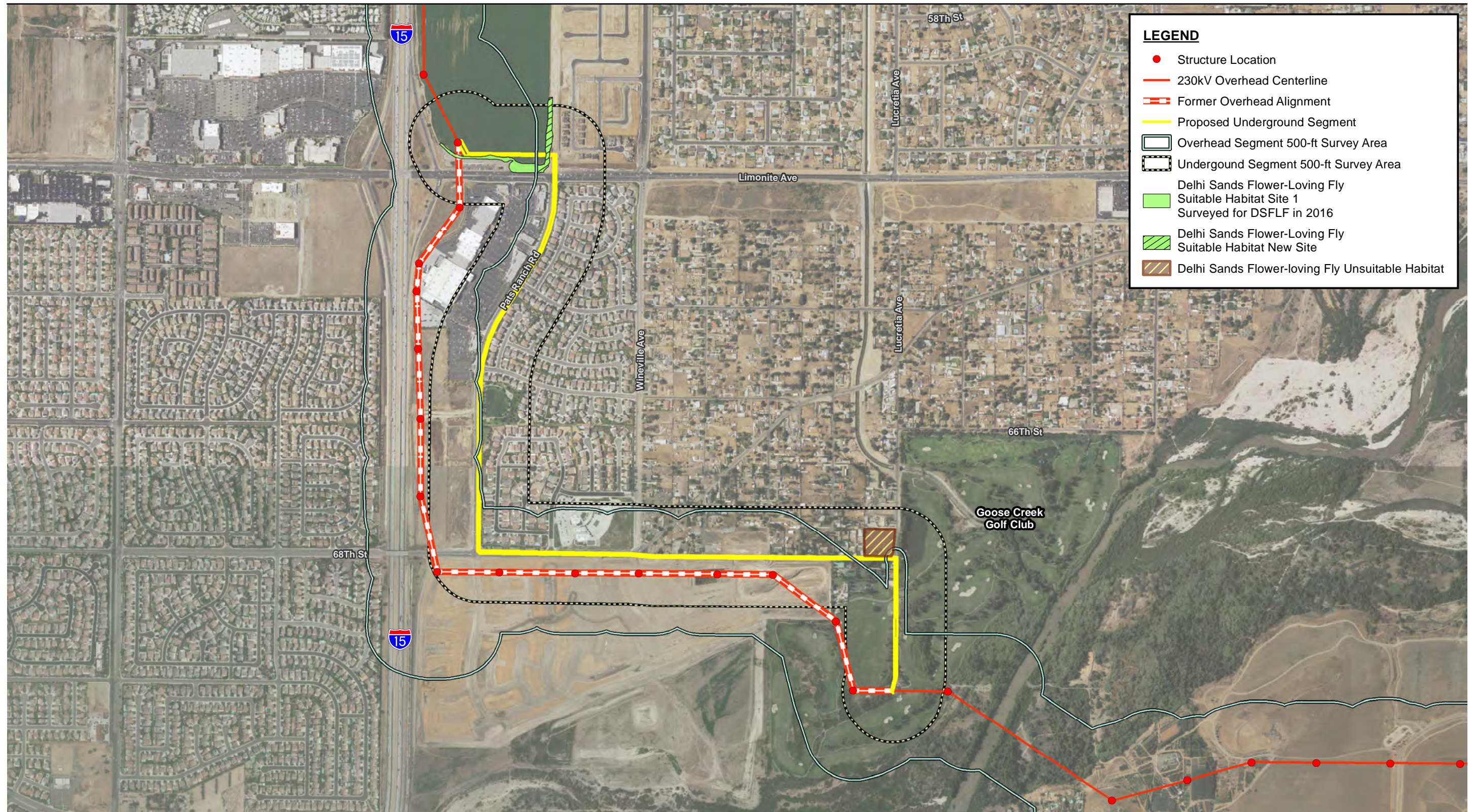


Figure 4
Vegetation Communities and
Other Land Cover Types



Source: NAIP 2014; Essex 2010; SCE 2016; ESRI 2009.

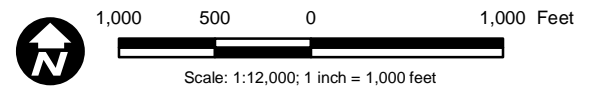


Figure 5
New Survey Areas (Excluding Developed Areas)