APPENDIX D

BIOLOGICAL RESOURCES TECHNICAL REPORT

Table of Contents

Tables

Figures

Appendices

1 INTRODUCTION

1.1 Project Description

Southern California Edison (SCE) proposes construction of new facilities in Cummings Valley and Tehachapi, Kern County, California. The proposed Banducci 66/12 kV Substation and associated components (Proposed Project) include a substation and subtransmission and telecommunications routes. SCE intends to make these facilities operational by June 2016.

The Proposed Project includes the following components:

- Construction of a new Banducci 66/12 kV Substation. The Banducci Substation would be an unstaffed, automated, 56.0 MVA, low-profile substation with a potential capacity of 112 MVA at final build out. The proposed 66/12 kV distribution substation would be located on an approximately 6.3 acre parcel in the unincorporated Cummings Valley area of Kern County.
- Construction of two new 66 kV subtransmission line segments that would loop the existing Correction-Cummings-Kern River 1 66 kV Subtransmission Line: one that would enter and one that would exit the proposed Banducci Substation creating the new Banducci-Kern River 1 66 kV Subtransmission Line and the new Banducci-Correction-Cummings 66 kV Subtransmission Line.
- Construction of three new underground 12 kV distribution getaways.
- Installation of telecommunications facilities to connect the proposed Banducci Substation to SCE's existing telecommunications system.

1.2 Projected Project Impacts

Table 1-1 summarizes the anticipated surface disturbance from the Proposed Project.

Table 1-1. Anticipated Surface Disturbance

Project Component	Temporarily Disturbed Acres	Permanently Disturbed Acres
Substation	6.3	6.3
Subtransmission	16.2	0.14
Telecommunications	4.95	0.006
TOTAL	**27.45**	**6.4406**

1.3 Project Location

The Proposed Project would be located within the Tehachapi, Brite, and Cummings Valleys in eastern Kern County (Figure 1-1: Project Vicinity). The Banducci Substation would be a new facility encompassing approximately 3.3 acres of an approximately 6.3 acre parcel located in the unincorporated Cummings Valley area of Kern County. The proposed substation site would be located at the southeast corner of Pellisier Road and future Dale Road (Figure 1-2: Project Location). The subtransmission and telecommunications lines would exit the Banducci Substation and connect the Cummings and Monolith Substations as shown in Figure 1-2.

1.4 Report Purpose and Need

This report provides a description of biological resources potentially affected by the Proposed Project. The analysis is needed to address environmental concerns associated with the Proposed Project.

1.5 Document Organization

The document is divided into five major sections (including this Introduction). The ensuing sections describe:

- The pertinent regulatory drivers for natural resources on this project (Regulatory Setting);
- The methods employed to accomplish the survey and prepare the report (Methodology);
- A description of plants, animals and sensitive habitats of concern to the project (Results); and,
- Discussion of potential impacts and recommended mitigation measures to offset those impacts (Discussion).

Figure 1-1. Project Vicinity

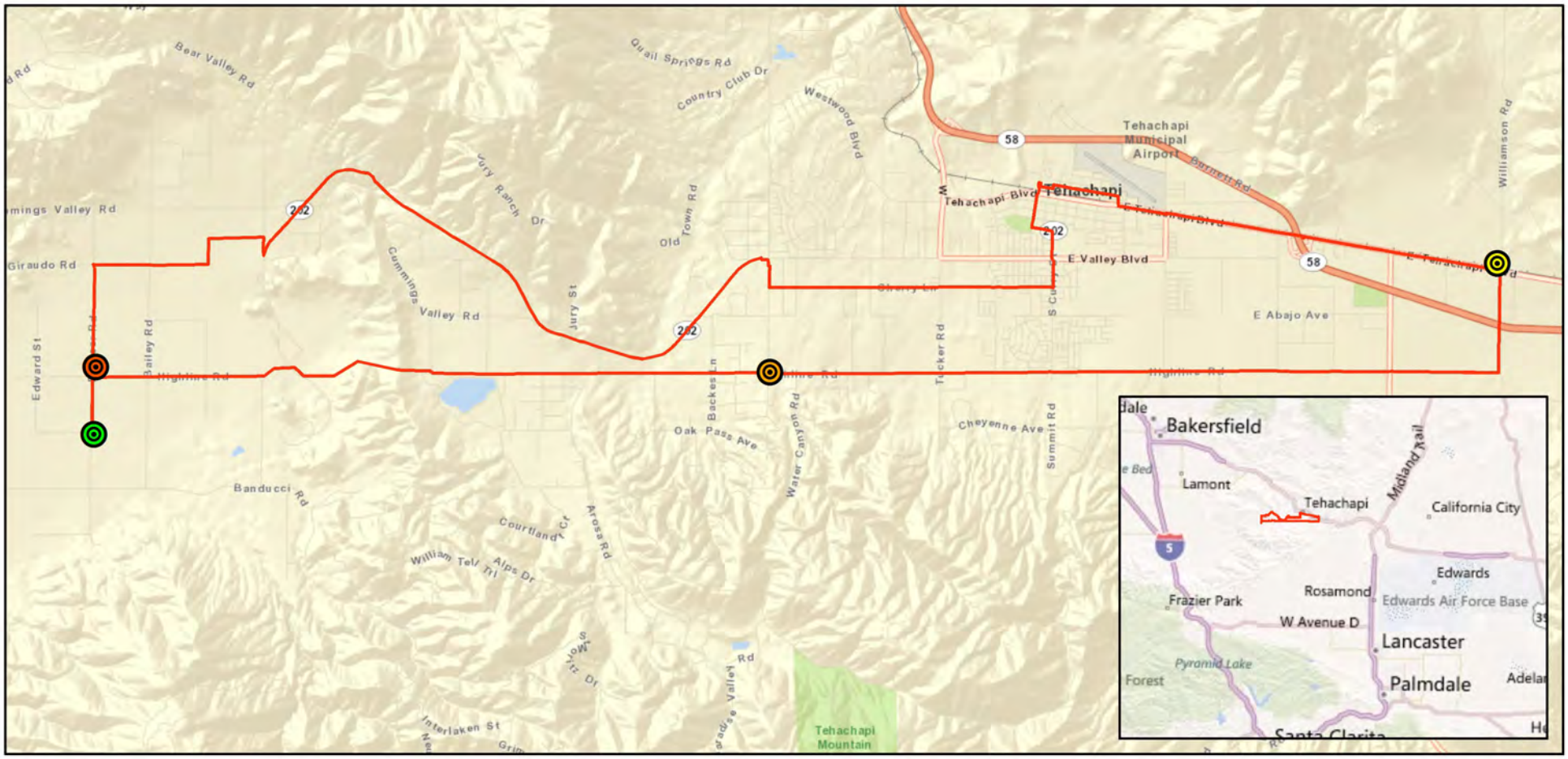
Legend

Proposed Project Alignment

0 5 10 20 30 40

Miles

Figure 1-2. Project Location



Legend

- Subtransmission & Telecommunication Alignment Route
- Proposed Banducci Substation Site
- Alternate Banducci Substation Site
- Cummings Substation
- Monolith Substation

0 0.5 1 2 3 4 Miles

2 REGULATORY SETTING

The following section presents relevant state and federal legislation intended to conserve and promote recovery and protect a variety of natural resources. Generally, there are three categories of natural resource legislation:

- Laws intended to protect individual species and their habitat, such as state and federal endangered species acts.
- Laws and policies intended to protect taxa (species or groups of plants and animals), such as the federal Migratory Bird Treaty Act.
- Laws and policies that protect habitats or natural communities critical to the maintenance of other vital resources, such as portions of the federal Clean Water Act and California Fish and Game (CFG) Code that protect wetlands and streambeds, respectively.

The ensuing sections discuss state, federal and local laws and policies; plans driven by state and federal law; and other applicable regulations that apply to natural resources potentially affected by this project.

2.1 Federal

2.1.1 Endangered Species Act

The United States Congress passed the Endangered Species Act (ESA) in 1973 to protect endangered species and species threatened with extinction (federally listed species). ESA operates in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

Section 9 of the ESA prohibits the "take" of endangered or threatened wildlife species. The legal definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 U.S.C. § 1532 [19]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harassment is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

ESA authorizes the USFWS to issue permits under Sections 7 and 10 of that Act. Section 7 mandates that all federal agencies consult with the USFWS for terrestrial species and/or National Marine Fisheries Service (NMFS) for marine species to ensure that federal agency actions do not jeopardize the continued existence of a listed species or adversely modify critical habitat for listed species. Any anticipated adverse effects require preparation of a biological assessment to

determine potential effects of the project on listed species and critical habitat. If the project adversely affects a listed species or its habitat, the USFWS or NMFS prepares a Biological Opinion (BO). The BO may recommend "reasonable and prudent alternatives" to the project to avoid jeopardizing or adversely modifying habitat including "take" limits.

The ESA defines critical habitat as habitat deemed essential to the survival of a federally species. The ESA requires the federal government to designate "critical habitat" for any species it lists under the ESA. Under Section 7, all federal agencies must ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species, or destroy or adversely modify its designated critical habitat. These complementary requirements apply only to federal agency actions, and the latter only to specifically designated habitat. A critical habitat designation does not set up a preserve or refuge, and applies only when federal funding, permits, or projects are involved. Critical habitat requirements do not apply to activities on private land that does not involve a federal agency.

Nonfederal projects may still pursue Section 7 permitting when a federal nexus, such as federal funding or permitting (i.e. through the USACE under Section 404 of the Federal CWA), is available. When no nexus is available, Section 10(a)(1)(B) authorizes issuance of permits to allow "incidental take" of listed species. "Incidental take" is defined by the ESA as take that is incidental to, and not for the purpose of, carrying out an otherwise lawful activity. To obtain an incidental take permit, an applicant must submit a Habitat Conservation Plan outlining steps to minimize and mitigate permitted take impacts to listed species.

2.1.2 Clean Water Act

The Federal CWA provides guidance for the restoration and maintenance of the chemical, physical and biological integrity of the nation's waters.

The USACE and the U.S. EPA regulate discharge of dredged or fill material into navigable waters of the United States under Section 404 of the CWA. The general definition of navigable waters of the U.S. includes those waters of the U.S. that are subject to the ebb and flow of the tide shoreward to the mean high water mark, and/or are presently used or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce. "Discharges of fill material" are defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33CFR §328.2(f)]. Additionally, Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters

of the United States to obtain a certification that the discharge will comply with applicable effluent limitations and water quality standards.

Jurisdictional waters of the U.S. include jurisdictional wetlands as well as all other waters of the U.S. such as creeks, ponds, and intermittent drainages. Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Corps 1987). The majority of jurisdictional wetlands in the United States meet three wetland assessment criteria: hydrophilic vegetation, hydric soils, and wetland hydrology. Jurisdictional waters of the U.S. can also be defined by exhibiting a defined bed and bank and ordinary high water mark (OHWM). As discussed in Regulatory Framework, jurisdictional waters of the U.S. are subject to Section 404 of CWA and are regulated by the Corps. Methods for delineating wetlands and non-tidal waters are described below.

> Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 CFR §328.3(b),1991]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.
>
> The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 CFR §328.4(c)(1)]. The OHWM is defined by the Corps as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 CFR. §328.3(e)].

The Corps authorizes certain fill activities under the Section 404 Nationwide Permit Program (NWP). NWP 12 covers utility line construction activities that result in fill placement into Waters of the U.S. NWP 12 also states that overhead utility lines constructed over navigable Waters of the U.S. require a Rivers and Harbors Act Section 10 permit. Nationwide permits do not authorize activities that are likely to jeopardize the existence of a threatened or endangered species or that may affect properties listed or eligible for listing in the National Register of Historic Places (56 Federal Register [FR] 59134, November 22, 1991). In addition to conditions outlined under each NWP, project-specific conditions may be required by the USACE as part of the Section 404 permitting process.

Waters of the U.S. do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of

the CWA, the final authority regarding CWA jurisdiction remains with EPA (328.3 (a)(8) added 58 FR 45035, August 25, 1993).

Because of recent court decisions in *Rapanos v. United States* and *Carabell v. United States*, the USACE and the EPA issued joint guidance regarding the USACE's jurisdiction over Waters of the United States under the CWA. The guidance summarizes the Supreme Court's findings and provides how and when the USACE should apply the "significant nexus" test in its jurisdictional determinations. This test determines whether a waterway is substantially connected to a traditionally navigable water tributary and thus falls within the USACE's jurisdiction. The guidance provides the factors and summarizes the significant nexus test as an assessment of "the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters." Flow characteristics include the volume, duration, and frequency of the flow. Additionally, ecological factors should be included, such as the shared hydrological and biological characteristics between a tributary and an adjacent wetland.

Section 401 of the CWA requires the issuance of a water quality certification thereof for all Section 404 nationwide or individual permits issued by the USACE. The EPA has deferred water quality certification authority to the State Water Resources Control Board. Most projects are regulated by RWQCBs. The State Water Resources Control Board directly regulates multiregional projects and supports and coordinates the program statewide.

2.1.3 Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act (MBTA), first enacted in 1918, prohibits any person, unless permitted by regulations, to:

> …pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatsoever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention … for the protection of migratory birds ... or any part, nest, or egg of any such bird. (16 USC 703)

The list of migratory birds includes nearly all bird species native to the United States. The Migratory Bird Treaty Reform Act of 2004 further defined species protected under the act and excluded all nonnative species. The statute was extended in 1974 to include parts of birds, as well as eggs and nests. Thus, it is illegal under MBTA to directly kill, or destroy a nest of, nearly any native bird species, not just endangered species. Activities that result in removal or destruction of an active nest (a nest with eggs or young being attended by one or more adults)

would violate the MBTA. Removal of unoccupied nests, or bird mortality resulting indirectly from disturbance activities, is not considered a violation of the MBTA.

2.1.4 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC 668-668c), enacted in 1940, and amended several times since then, prohibits anyone without a permit issued by the Secretary of the Interior from "taking" bald eagles (*Haliaeetus leucocephalus*), including their parts, nests, or eggs. In 1962, Congress amended the act to cover golden eagles (*Aquila chrysaetos*).

The Bald and Golden Eagle Protection Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." "Take" is defined as an act to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

On November 10, 2009, the US Fish and Wildlife Service (USFWS) implemented new rules under the existing Bald and Golden Eagle Act, requiring all activities that may disturb or incidentally take an eagle or its nest because of an otherwise legal activity to be permitted by the USFWS.

2.2 State

2.2.1 California Endangered Species Act

The CDFG administers the California Endangered Species Act (CESA) (CFG Code Sections 2050 et seq.). CESA prohibits the "taking" of listed species except as otherwise provided in State law. Section 86 of CFG Code defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Under certain circumstances, CESA applies these take prohibitions to species petitioned for listing (state candidates). Pursuant to the requirements of CESA, State lead agencies (as defined under CEQA Public Resources Code Section 21067) are required to consult with CDFG to ensure that any action or project is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat. Additionally, the CDFG encourages informal consultation on any proposed project that may impact a candidate species. CESA requires the CDFG to maintain a list of threatened and endangered species. The CDFG also maintains a list of candidates for listing under CESA and of species of special concern (or watch list species).

2.2.2 California Fish and Game Code (Sections1600-1616)

CDFG is a trustee agency that has jurisdiction under Section 1600 et seq. of the California Fish and Game Code. Under Section 1602, a private party must notify CDFG if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or

bank of any river, stream, or lake designated by the department, or use any material from the streambeds - except when the department has been notified pursuant to Section 1601." Under this code, the CDFG not only regulates activities that would alter the flow, bed and banks, channel of a river, stream or a lake, but also activities that may affect associated riparian areas of these resources—all considered waters of the State.

2.2.3 Other Applicable California Fish and Game Code Sections

If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFG may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFG identifying the approved activities and associated mitigation measures.

The California Fish and Game Code provides protection from take for a variety of species, referred to as fully protected species. Section 5050 lists protected amphibians and reptiles, and Section 3515 prohibits take of fully protected fish species. Eggs and nests of all birds are protected under Section 3503, nesting birds (including raptors and passerines) under Sections 3503.5 and 3513, birds of prey under Section 3503.5, and fully protected birds under Section 3511. Migratory nongame birds are protected under Section 3800, and Mammals are protected under Section 4700. Except for take related to scientific research, all take of fully protected species is prohibited.

2.2.4 Title 14, California Code of Regulations, Sections 670.2 and 670.5

California Code of Regulations, Sections 670.2 and 670.5 list animals designated as endangered or threatened in California, California Species of Special Concern due to declining populations and habitat, and candidate species for future state listing as California Species of Special Concern.

2.2.5 CEQA Significance Criteria

CEQA was adopted in 1970 and applies to actions directly undertaken, financed or permitted by Sate lead agencies. CEQA requires that agencies inform themselves about the environmental effects of their proposed actions, consider all relevant information, provide the public an opportunity to comment on the environmental issues, and avoid or reduce potential environmental harm whenever feasible.

Appendix G of the CEQA Guidelines provides the criteria used in determining whether project-related impacts would be significant. Impacts from the Proposed Project could be considered significant if they have the potential to result in impact to the following questions. Would the Proposed Project:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Game or U.S. Fish and Wildlife Service?
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by California Department of Fish and Game or U.S. Fish and Wildlife Service?
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?

An evaluation of whether or not an impact to biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. This is necessary because, although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

Section 15380 of the CEQA Guidelines states that a lead agency may consider a species to be rare or endangered for the purposes of CEQA if the species can be shown to meet the criteria in the definition of rare or endangered. For the purposes of this discussion, the current scientific knowledge on the population size and distribution for each special-status species was considered according to the definitions for “rare” and “endangered” listed in Section 15380 of the CEQA Guidelines.

2.3 Local

2.3.1 Kern County General Plan

The Kern County General Plan (Kern County, 2009a) identifies the federal, State, and local statutes, ordinances, or policies that govern the conservation of biological resources that must be considered by Kern County during the decision-making process for any project that could affect biological resources.

The Land Use, Open Space, and Conservation Element of the Kern County General Plan provides for a variety of land uses to ensure future economic growth while also ensuring the conservation of the county's agricultural and natural resources. Section 1.10: General Provisions provides goals, policies, and implementation measures that typically apply to discretionary projects.

1.10.10 Oak Tree Conservation

Policy 65. Oak woodlands and large oak trees shall be protected where possible and incorporated into project developments.

Policy 66. Promote the conservation of oak tree woodlands for their environmental value and scenic beauty.

Implementation Measure KK.

The following applies to discretionary development projects (General Plan

Amendment, zone change, conditional use permit, tract maps, parcel maps, precise development plan)

that contains oak woodlands, which are defined as development parcels having canopy cover by oak trees of at least ten percent (10%), as determined from base line aerial photography or by site survey performed by a licensed or certified arborist or botanist. If this study is used in an Environmental Impact Report, then a Registered Professional Forester (RPF) shall perform the necessary analysis.

a. Development parcels containing oak woodlands are subject to a minimum canopy coverage retention standard of thirty percent (30%). The consultant shall include recommendations regarding thinning and diseased tree removal in conjunction with the discretionary project.

b. Use of aerial photography and a dot grid system shall be considered adequate in determining the required canopy coverage standard.

c. Adjustments below thirty percent (30%) minimum canopy standard may be made based on a report to assess the management of oak woodlands.

d. Discretionary development, within areas designated as meeting the minimum canopy standard, shall avoid the area beneath and within the trees unaltered drip line unless approved by a licensed or certified arborist or botanist.

Implementation Measure LL.

The following applies to development of parcels having oak tree canopy cover of less than ten percent (10%), but containing individual oak trees equal to or greater than a 12-inch diameter trunk at 4.5 feet breast height.

a. Such trees shall be identified on plot plans.

b. Discretionary development shall avoid the area beneath and within the trees unaltered drip line unless approved by a licensed or certified arborist or botanist.

c. Specified tree removal related to the discretionary action may be granted by the decision making body upon showing that a hardship exists based on substantial evidence in the record.

Kern County Energy Element of the General Plan

The Kern County General Plan provides the policy under the Energy Element of the General Plan (Chapter 5) that encourages new transmission lines to be sited or configured to avoid or minimize collision and electrocution hazards to raptors.

2.3.2 Desert Renewable Energy Conservation Plan (DRECP)

Executive Oder S-14-08 established a target of obtaining 33 percent of the State's electricity from renewable resources by 2020. In response to this Order, the California Energy Commission (CEC), CDFG, Bureau of Land Management (BLM), and the USFWS have started preparing the Desert Renewable Energy Conservation Plan (DRECP). The plan area encompasses the Mojave and Colorado Desert regions in California, including all or a portion of Kern and Los Angeles Counties.

The DRECP is a proposed State Natural Community Conservation Plan (NCCP) intended to provide for effective protection and conservation of desert ecosystems while allowing for appropriate development of renewable energy projects. The plan proponents anticipate that it will provide long-term endangered species permit assurances to renewable energy developers and provide a process for conservation funding to implement the DRECP. It will also serve as the basis for one or more of the HCPs under the ESA. Estimated DRECP approval and adoption is in late 2013.

3 METHODS

3.1 Overview

Plegadis LLC undertook a biological resources assessment for the Proposed Project. The survey area encompassed the proposed Banducci Substation site at the southwestern terminus of the Proposed Project alignment, a proposed and existing subtransmission line route, and proposed telecommunications routes.

3.2 Analysis Area

The Project Survey Area (PSA) (also Focused Survey Area/Area of Potential Effect) consists of a 100-foot wide corridor, 50 feet on either side of the center line of the proposed subtransmission and telecommunication alignments and 50 feet beyond the boundaries of the parcels for both proposed and alternative substation sites. This area encompasses the proposed construction for the project and is depicted on Figure 3-1: Project Survey Area (PSA).

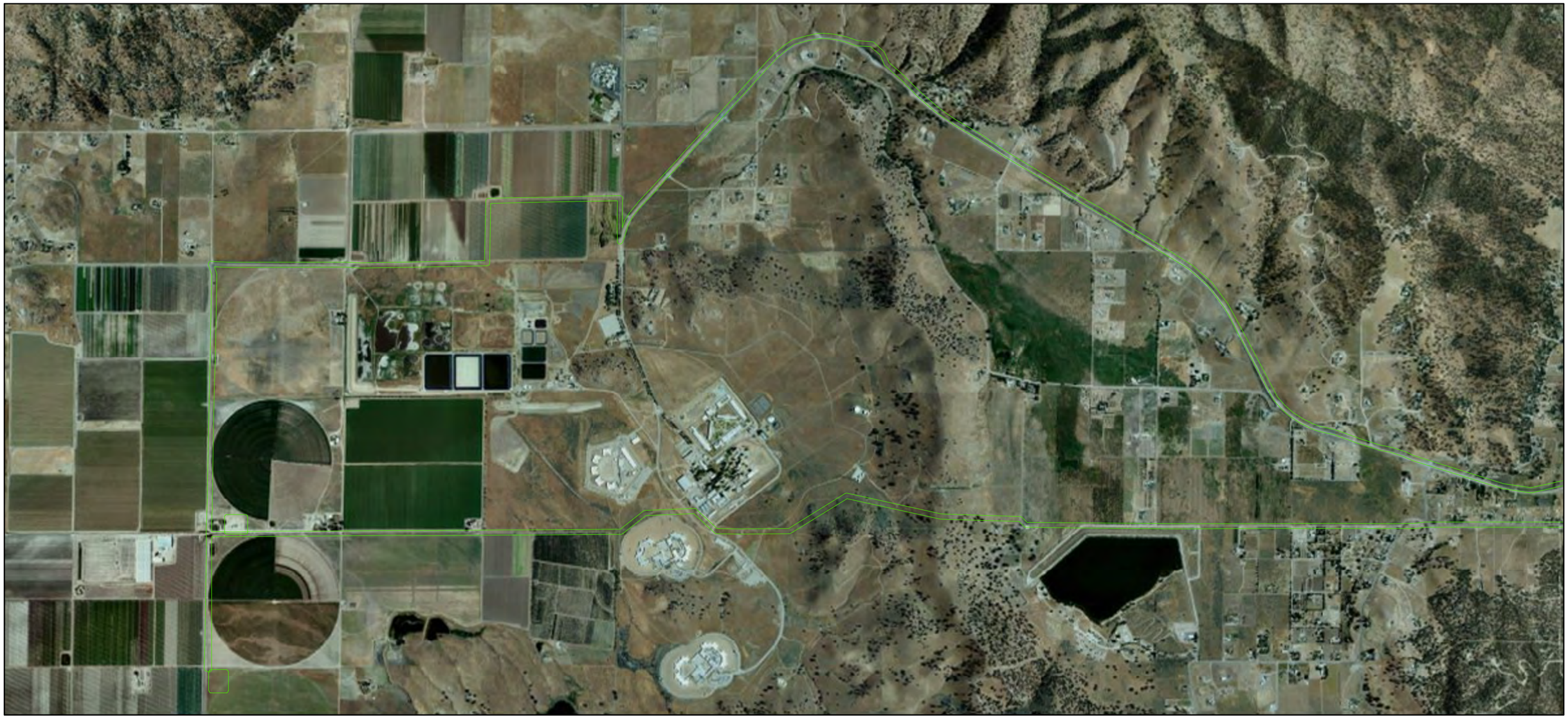
3.3 Literature and Records Review

Biologists reviewed available regional and local natural resources information including published and unpublished documents and herbarium records to undertake the analysis. Several Geographic Information System (GIS) data sets were collected as described below. Section 6 (Literature Cited) lists all documents and literature reviewed for this assessment and cited in this document.

Biologists reviewed available regional and local natural resources information, including published and unpublished documents and herbarium records, prior to undertaking field surveys. Site-specific information reviewed included, but was not limited to, the following sources:

- California Department of Fish and Game (CDFG). 2011. California Natural Diversity Database, Sacramento, CA.
- Plegadis LLC. 2010–2011 Surveys for the East Kern Wind Resources Area.
- SWCA. 2010. Biological Resources Assessment for the Greater Tehachapi Area Specific and Community Plan.
- U.S. Geological Survey. 2005. Keene, California, 7.5-minute Series Topographic Quadrangle. Washington, DC: United States Department of the Interior.
- U.S. Geological Survey. 2009. Cummings Mountain, California, 7.5-minute Series Topographic Quadrangle. Washington, DC: United States Department of the Interior.
- U.S. Geological Survey. 2009. Tehachapi North, California, 7.5-minute Series Topographic Quadrangle. Washington, DC: United States Department of the Interior.
- U.S. Geological Survey. 2009. Tehachapi South, California, 7.5-minute Series Topographic Quadrangle. Washington, DC: United States Department of the Interior.

Figure 3-1a. Project Survey Area (PSA)

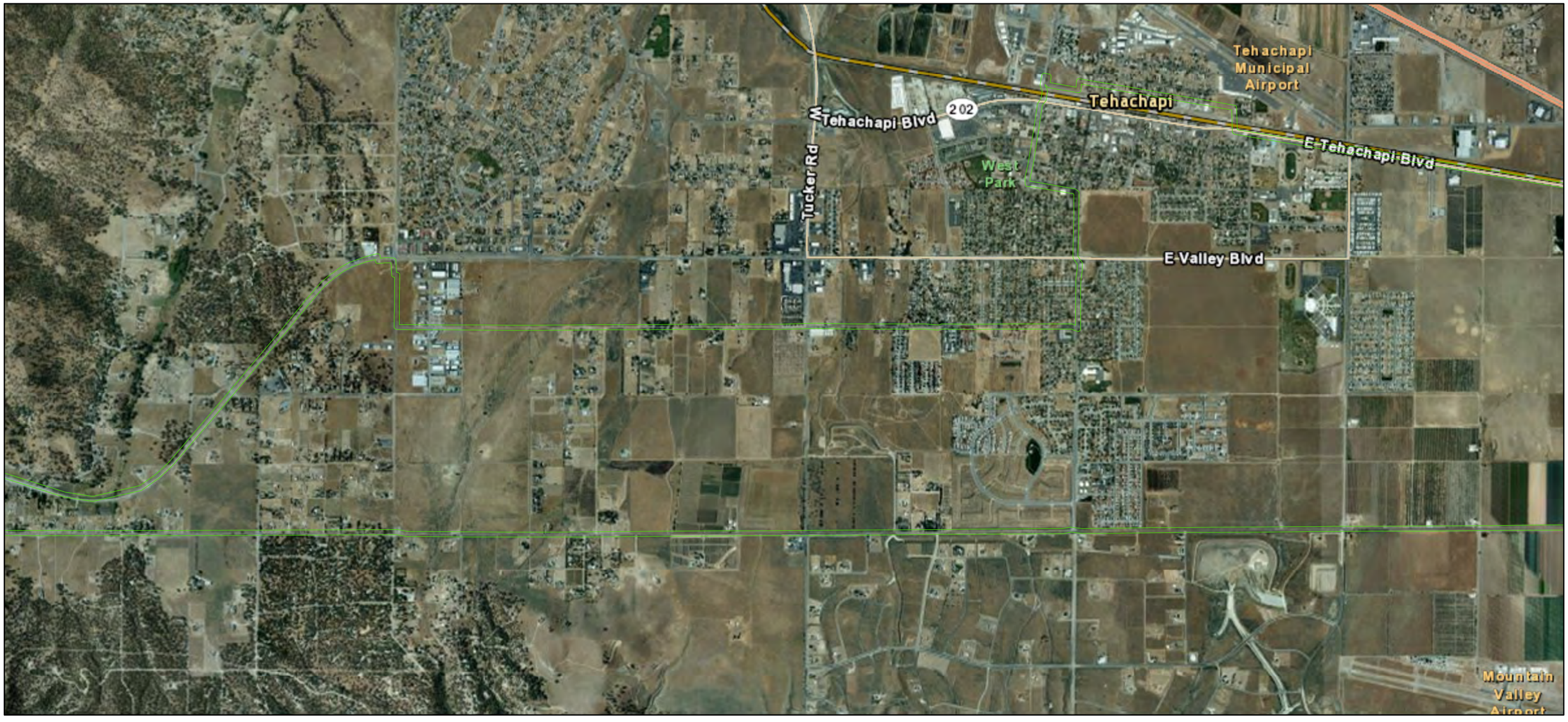


Legend

Project Survey Area

0 0.3 0.6 1.2 1.8 2.4
Miles

Figure 3-1b. Project Survey Area (PSA)



Legend

Project Survey Area

0 0.3 0.6 1.2 1.8 2.4 Miles

Figure 3-1c. Project Survey Area (PSA)

Legend

Project Survey Area

0 0.3 0.6 1.2 1.8 2.4
Miles

Additionally, biologists reviewed species occurrences from the CDFG California Natural Diversity Database (CNDDB) RareFind3 (CDFG 2003, as updated 2011) and the California Native Plant Society (CNPS).

3.4 GIS Analysis

Biological resources geospatial data were collected from a variety of sources to develop a project-specific GIS database. This was the first analysis level and it provided reviewers with essential sensitive species location data, preliminary habitat information, potential drainages and other jurisdictional waters, and designated critical habitat for federally-listed species. Data from the following sources comprise the database:

- California Gap Analysis (http://www.biogeog.ucsb.edu/projects/gap/gap_home.html)
- California Spatial Information Library (http://atlas.ca.gov/)
- CDFG Biogeographic Information and Observation System (BIOS) (http://bios.dfg.ca.gov/dataset_index.asp)
- CNDDB
- National Wetland Inventory (GIS layers available at http://atlas.ca.gov/)
- USFWS Critical Habitat Portal (http://criticalhabitat.fws.gov/)

The data were compiled in ArcGIS Desktop 10 and were subsequently uploaded to a Trimble Juno handheld GPS with ArcPad 8.0 for field verification efforts.

3.4.1 Vegetation and Jurisdictional Waters

Mapping and location data were collected using ESRI ArcPad 8.0 software installed on a Trimble Juno global positioning system unit. The software allowed biologists to superimpose the Proposed Project alignment on aerial imagery and create vegetation polygons in the field. Biologists also mapped and verified vegetation on aerial photographs scaled to 1 inch equals 238 feet. Vegetation types were mapped to 100 feet on either side of the project alignment. Therefore, the mapped area is greater than the PSA. The larger area was used to determine the uniqueness of biological communities within the proposed project alignment. Vegetation mapping was later clipped to conform to 100-foot wide PSA (50 feet on either side of center-line). Vegetation mapping generally follows the descriptions in Preliminary Description of the Terrestrial Natural Communities of California (Holland 1986).

Potential jurisdictional waters were mapped using available data from the above-named sources. Field verification was conducted in the spring of 2011 to determine if the drainages mapped met the criteria for waters of the United States and waters of the state. The drainage maps were adjusted to match conditions encountered in the field.

3.4.2 Sensitive Biological Resources

Species occurrences from the CDFG California Natural Diversity Database (CNDDB) RareFind3 (CDFG 2003, as updated December 2011) and the CNPS' Online Inventory of Rare and Endangered Plants (CNPS 2011) were queried for project relevant sensitive species data. Quadrangles adjacent to those containing the project were also queried within both the CNDDB and CNPS databases to determine which special-status plant and wildlife species required analysis within the survey area. Appendix B contains a list of the quadrangles queried. Upon query completion, project staff consulted the Consortium of California Herbaria (available on-line at http://ucjeps.berkeley.edu/consortium/). This review furthered informed botanical species of concern and botanical survey recommendations.

3.5 Field Survey Methods

Biologists Ricardo Montijo and Karen Kirtland (of Natural Resources Assessment Inc.) documented natural resources observed in the PSA conducted on December 15, 2010; March 16, 2011; April 20, 2011; May 25, 2011; June 2 and 30, 2011; and July 25, 2011.

The surveys included plant and wildlife inventories, focused surveys for burrowing owl (*Athene cunicularia*) and raptors, vegetation mapping, and preliminary demarcation of potential jurisdictional waters of the U.S. and the State. Surveyors noted and recorded all wildlife species encountered directly through observation or by sign (scat, remains, or tracks). Identification of certain bird and mammal species was by vocalization. The use of binoculars also facilitated wildlife identification. Similarly, surveyors recorded plant species encountered in the field, although in some instances plants were collected and subsequently identified using dichotomous keys.

Since previous documentation had indicated the potential occurrence of burrowing owl and other sensitive raptors in the vicinity of the Proposed Project, Plegadis LLC biologists conducted surveys for burrowing owl and raptors on December 15, 2010; March 16, 2011; April 20, 2011; and May 25, 2011.

3.5.1 Nomenclature and Mapping Conventions used in this Report

Vegetation nomenclature follows the Preliminary Description of the Terrestrial Natural Communities of California (Holland 1986). Taxonomic conventions follow The Jepson Manual: Higher Plants of California (Hickman ed. 1993)[1] for plants and a Complete List of Amphibian, Reptile, Bird and Mammal Species in California (CDFG 2008) for wildlife.

[1] Note that a new edition of the Jepson Manual was recently issued in early 2012. However, for consistency and ease of reference with respect to terminology commonly used in the area, this analysis uses the taxonomy identified in the 1993 Jepson Manual.

4 RESULTS

4.1 Geographical Setting

The Proposed Project would be located within the Tehachapi, Brite, and Cummings Valleys in eastern Kern County (Figure 4-1: Topography). The valleys are nestled within the Tehachapi Mountain Range, which is located between the northern Transverse and southern Sierra Nevada Mountain Ranges. The Tehachapi Mountain Range connects foothills and grasslands in the San Joaquin Valley to the west with high-altitude hardwood and coniferous forests in the ranges themselves to the Great Basin and Mojave Desert to the east. The confluence of these areas results in a complex set of conditions and a rich incidence of flora and fauna (Bauer, 1930; Hafner, 1977; Hawkins and Porter, 2003).

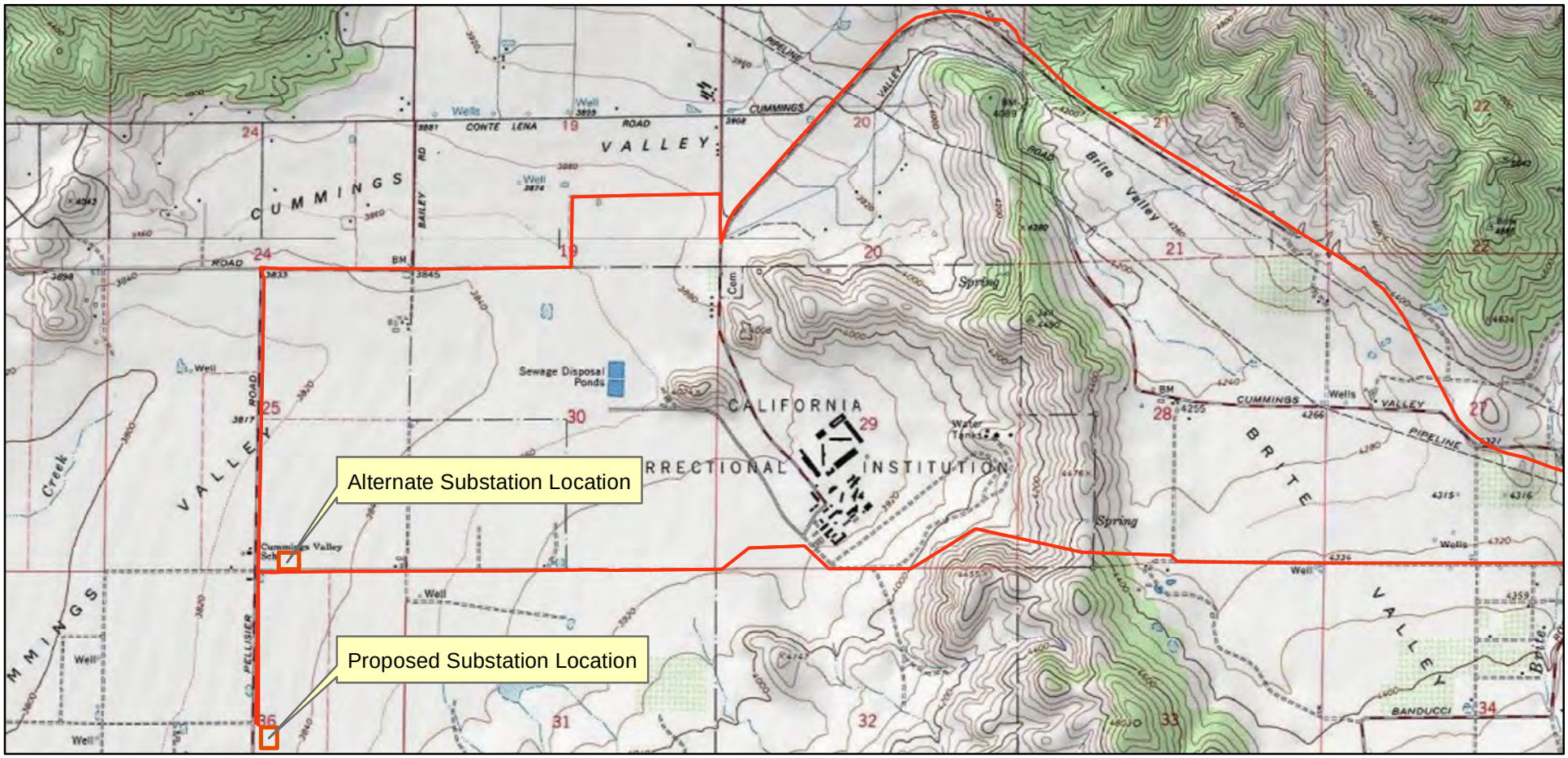
The PSAs found on the Keene, Cummings Mountain, Tehachapi North, and Tehachapi South U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles. Elevations range from 3,820 feet above mean sea level (msl) at the western limits of the alignment to approximately 4,300 feet msl in its north-central portion. Soil types within the alignment include Arujo-Friant-Tunis complex, Havala sandy loams, Psamments-Xerolls complex, Steuber sandy loams, Tehachapi sandy loam, Tujunga loamy sands, Tweedy-Anaverde complex, Walong sandy loams, Walong-Edmundston associations, and Xerorthents. The Xerorthent series and phase that occurs within the mapped area is considered a hydric soil type and is a potential indicator of hydric features regulated by the State and federal governments, pursuant the Fish and Game Code and Federal CWA, respectively. Soil types found in the PSA are illustrated in Figure 4-2: Soils.

The eastern half of the PSA would be largely within Tehachapi city limits while the western half occurs in mostly rural and agricultural areas. The majority of the PSA includes land located adjacent to roads such as Highline Road, Valley Boulevard, Tehachapi Boulevard, and Pellisier Road. Existing and proposed rights-of-way within the PSA occur primarily within developed, agricultural, or previously disturbed land.

4.2 Dominant Vegetation Types

The following section describes the dominant vegetation types found in the PSA. The descriptions correspond to the vegetation types depicted in Figure 4-3: Vegetation. Table 4-1 (PSA Vegetation Acreage) summarizes the acreage for each of the vegetation types mapped within the PSA. The Proposed Project would be largely within developed, disturbed, and agricultural areas and, therefore, primarily consists of both natural and human-influenced grasslands. Several woodland and scrub vegetation types also occur within PSA.

Figure 4-1a. Topography

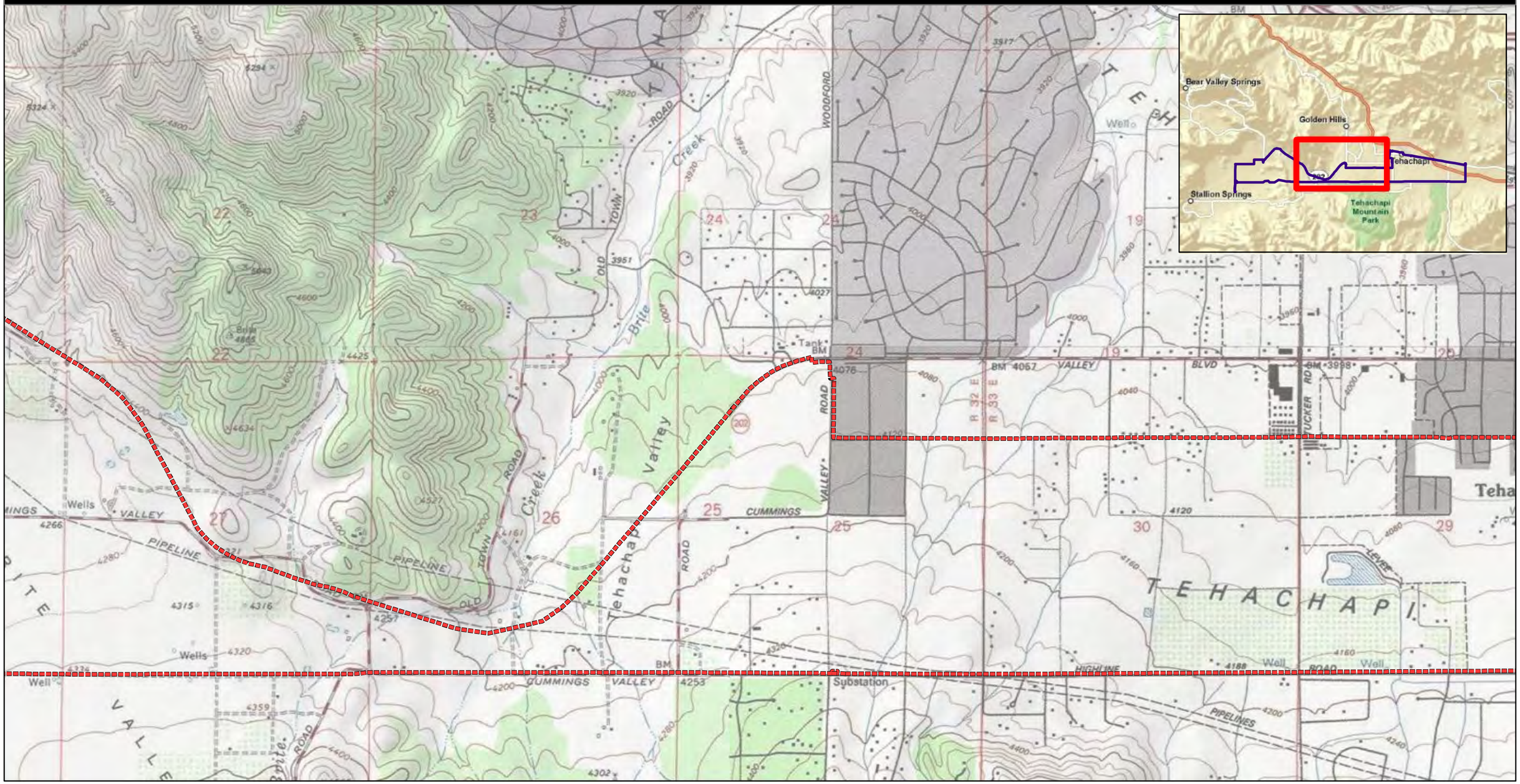


Legend

Subtransmission & Telecommunication Alignment Route

0 0.2 0.4 0.8 1.2 1.6
Miles

4-1b. Topography

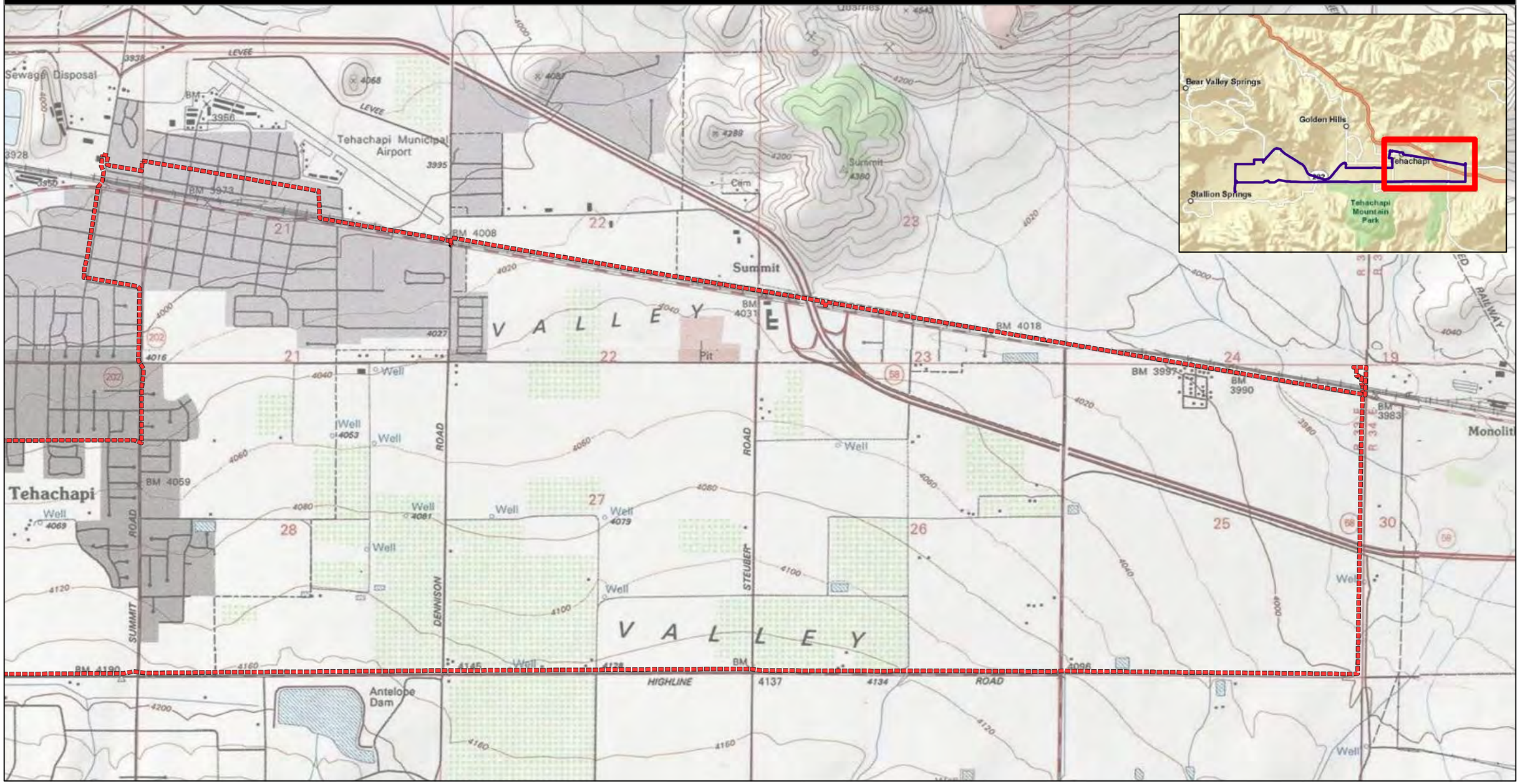


Legend

Proposed Project Alignment

0 0.25 0.5 1 1.5 2 Miles

4-1c. Topography

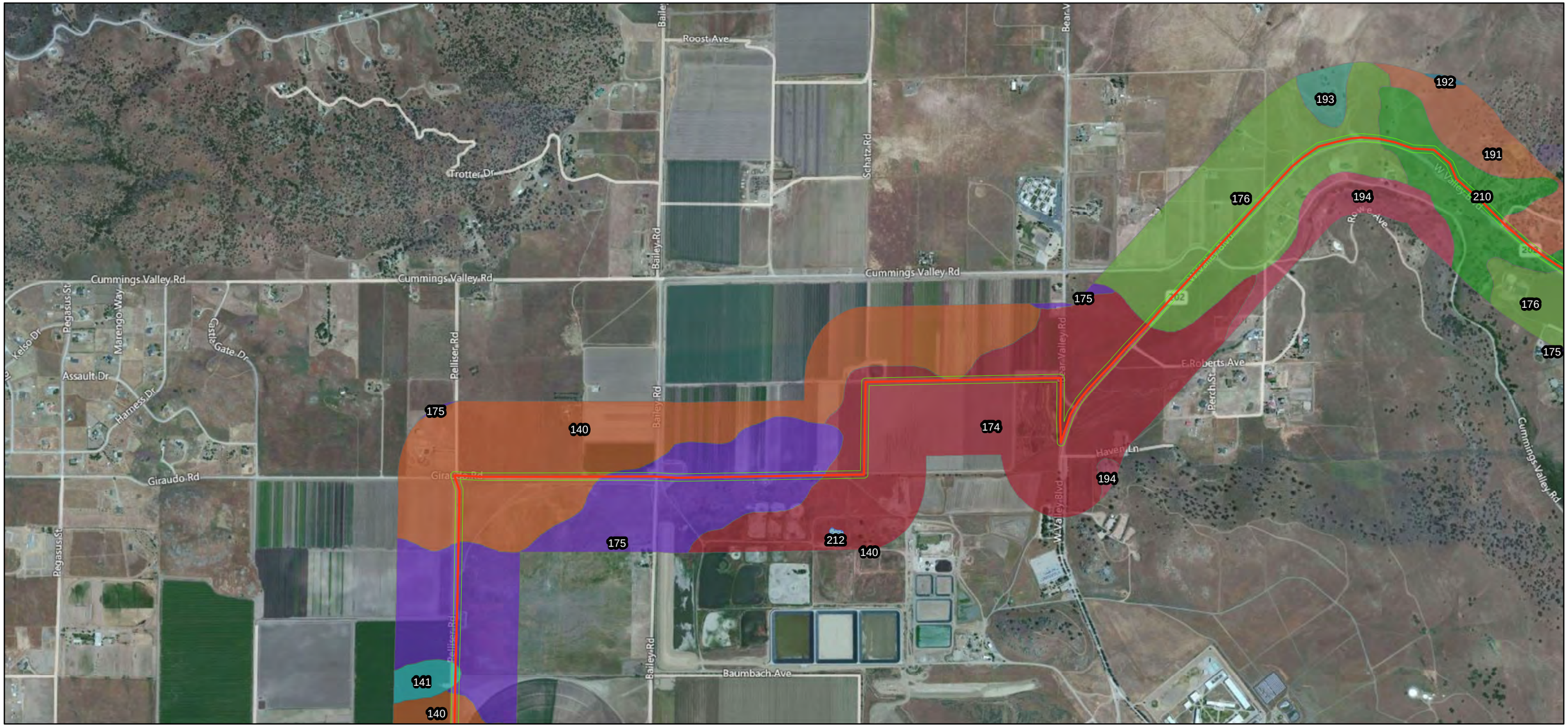


Legend

Proposed Project Alignment

0 0.25 0.5 1 1.5 2 Miles

Figure 4-2.a Soils



Legend

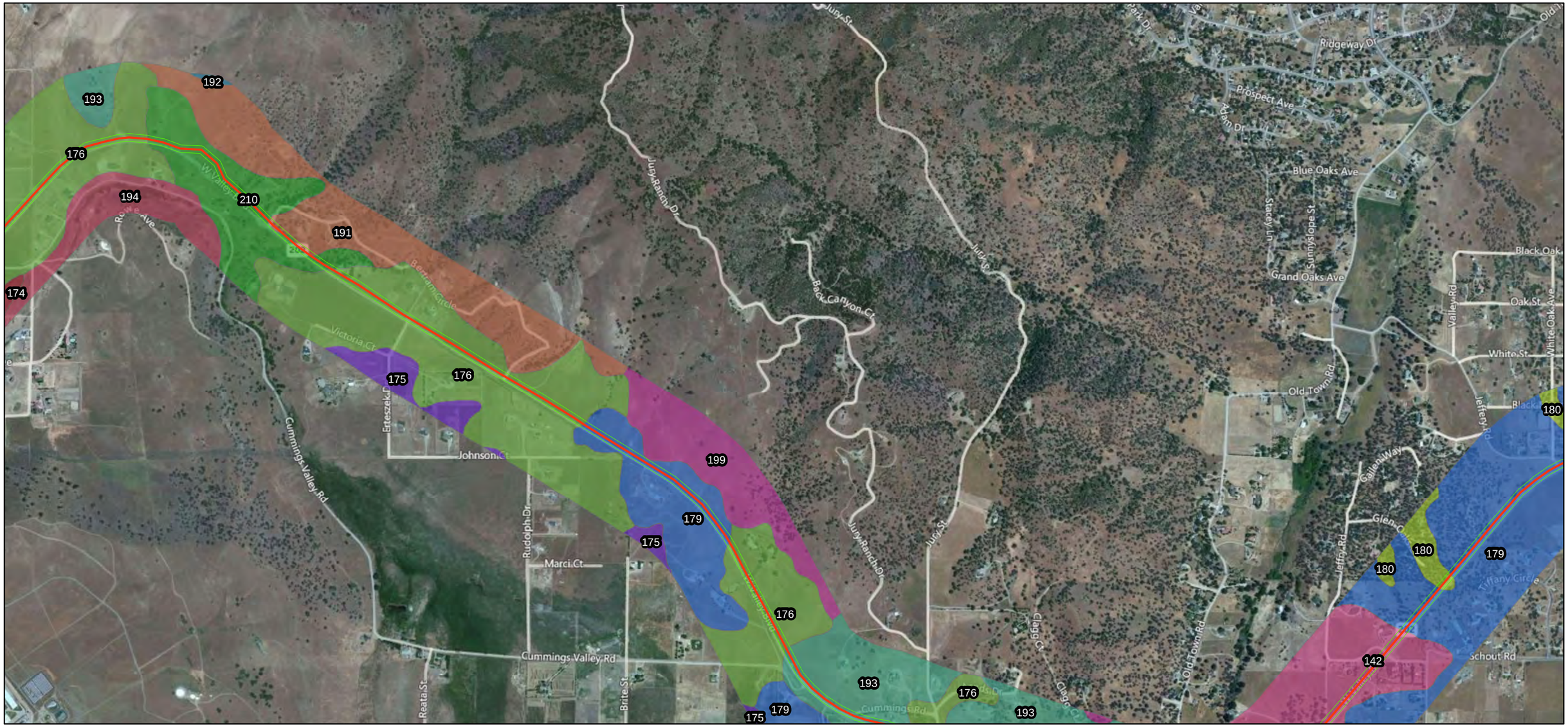
- Subtransmission & Telecommunication Alignment Route
- Project Survey Area

Soils

- 107-Arujo-Friant-Tunis complex, 15 to 50 percent slopes
- 108-Arujo-Friant-Tunis complex, 50 to 75 percent slopes
- 140-Havala sandy loam, 0 to 2 percent slopes
- 141-Havala sandy loam, 2 to 5 percent slopes
- 142-Havala sandy loam, 5 to 9 percent slopes
- 152-Nacimiento loam, 30 to 50 percent slopes, eroded
- 157-Pits
- 165-Psamments-Xerolls complex, nearly level
- 166-Quarries
- 174-Steuber sandy loam, 0 to 2 percent slopes
- 175-Steuber sandy loam, 2 to 5 percent slopes
- 176-Steuber sandy loam, 5 to 9 percent slopes
- 177-Steuber stony sandy loam, 5 to 9 percent slopes
- 179-Tehachapi sandy loam, 2 to 15 percent slopes
- 180-Tehachapi loam, 15 to 30 percent slopes, eroded
- 183-Tehachapi variant sandy clay loam, 15 to 50 percent slo pes
- 186-Tujunga loamy sand, 2 to 5 percent slopes
- 191-Tweedy-Anaverde complex, 30 to 50 percent slopes
- 192-Tweedy-Anaverde complex, 50 to 75 percent slopes
- 193-Walong sandy loam, 15 to 30 percent slopes
- 194-Walong sandy loam, 30 to 50 percent slopes
- 199-Walong-Edmundston association, steep
- 210-Xerorthents, loamy, very steep
- 212-Water

0 0.15 0.3 0.6 0.9 1.2 Miles

Figure 4-2.b Soils



Legend

- Subtransmission & Telecommunication Alignment Route
- Project Survey Area

Soils

- 107-Arujo-Friant-Tunis complex, 15 to 50 percent slopes
- 108-Arujo-Friant-Tunis complex, 50 to 75 percent slopes
- 140-Havala sandy loam, 0 to 2 percent slopes
- 141-Havala sandy loam, 2 to 5 percent slopes
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- 179-Tehachapi sandy loam, 2 to 15 percent slopes
- 180-Tehachapi loam, 15 to 30 percent slopes, eroded
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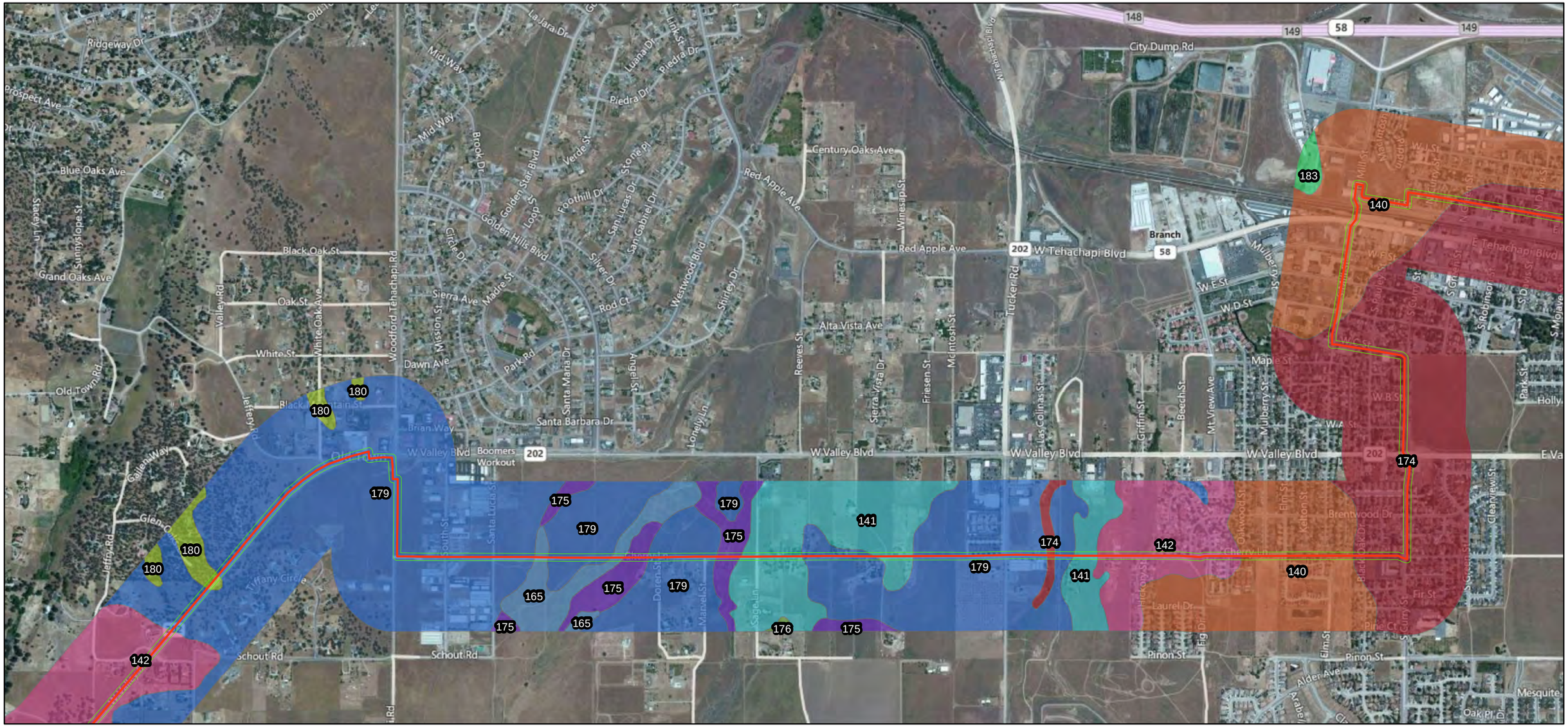
- 191-Tweedy-Anaverde complex, 30 to 50 percent slopes
- 192-Tweedy-Anaverde complex, 50 to 75 percent slopes
- 193-Walong sandy loam, 15 to 30 percent slopes
- 194-Walong sandy loam, 30 to 50 percent slopes
- 199-Walong-Edmundston association, steep
- 210-Xerorthents, loamy, very steep
- 212-Water

0 0.15 0.3 0.6 0.9 1.2 Miles

Figure 4-2.c Soils



Legend

- Subtransmission & Telecommunication Alignment Route
- Project Survey Area

Soils

- 107-Arujo-Friant-Tunis complex, 15 to 50 percent slopes
- 108-Arujo-Friant-Tunis complex, 50 to 75 percent slopes
- 140-Havala sandy loam, 0 to 2 percent slopes
- 141-Havala sandy loam, 2 to 5 percent slopes
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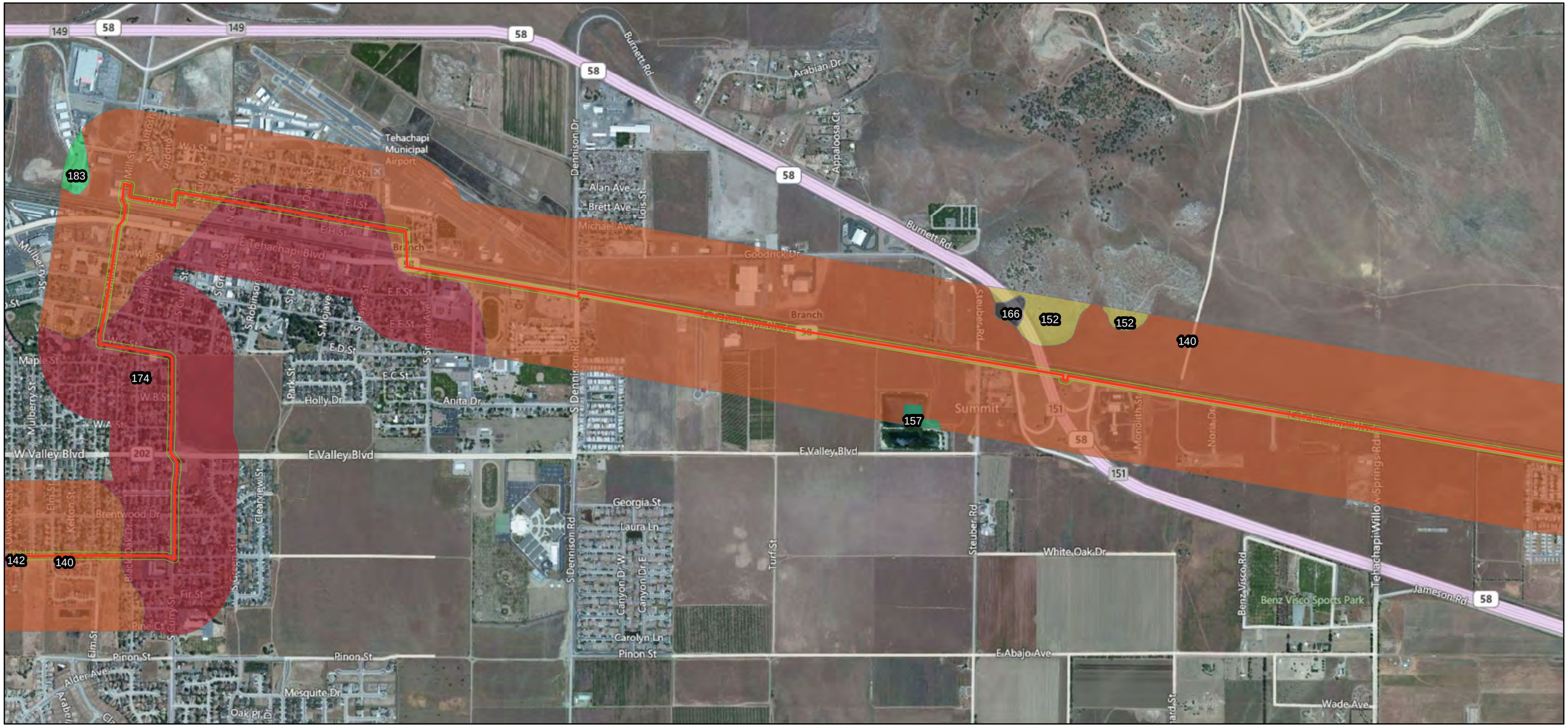
- 191-Tweedy-Anaverde complex, 30 to 50 percent slopes
- 192-Tweedy-Anaverde complex, 50 to 75 percent slopes
- 193-Walong sandy loam, 15 to 30 percent slopes
- 194-Walong sandy loam, 30 to 50 percent slopes
- 199-Walong-Edmundston association, steep
- 210-Xerorthents, loamy, very steep
- 212-Water

0 0.15 0.3 0.6 0.9 1.2 Miles

Figure 4-2.d Soils



Legend

Subtransmission & Telecommunication Alignment Route

Project Survey Area

Soils

- 107-Arujo-Friant-Tunis complex, 15 to 50 percent slopes
- 108-Arujo-Friant-Tunis complex, 50 to 75 percent slopes
- 140-Havala sandy loam, 0 to 2 percent slopes
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- 194-Walong sandy loam, 30 to 50 percent slopes
- 199-Walong-Edmundston association, steep
- 210-Xerorthents, loamy, very steep
- 212-Water

0 0.15 0.3 0.6 0.9 1.2 Miles

Figure 4-2.e Soils

Legend

- Subtransmission & Telecommunication Alignment Route
- Project Survey Area

Soils

- 107-Arujo-Friant-Tunis complex, 15 to 50 percent slopes
- 108-Arujo-Friant-Tunis complex, 50 to 75 percent slopes
- 140-Havala sandy loam, 0 to 2 percent slopes
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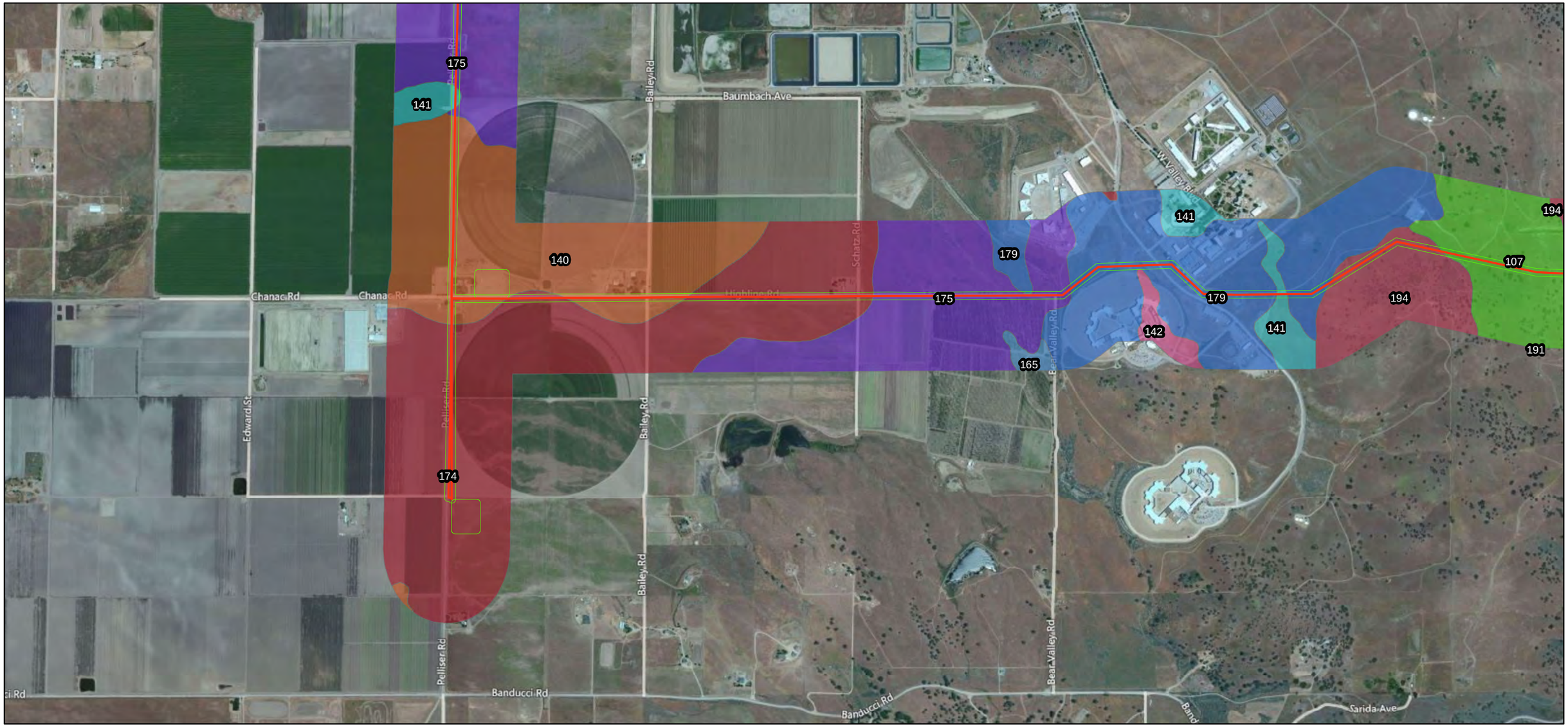
- 192-Tweedy-Anaverde complex, 50 to 75 percent slopes
- 193-Walong sandy loam, 15 to 30 percent slopes
- 194-Walong sandy loam, 30 to 50 percent slopes
- 199-Walong-Edmundston association, steep
- 210-Xerorthents, loamy, very steep
- 212-Water

0 0.15 0.3 0.6 0.9 1.2 Miles

Figure 4-2.f Soils



Legend

Subtransmission & Telecommunication Alignment Route

Project Survey Area

Soils

- 107-Arujo-Friant-Tunis complex, 15 to 50 percent slopes
- 108-Arujo-Friant-Tunis complex, 50 to 75 percent slopes
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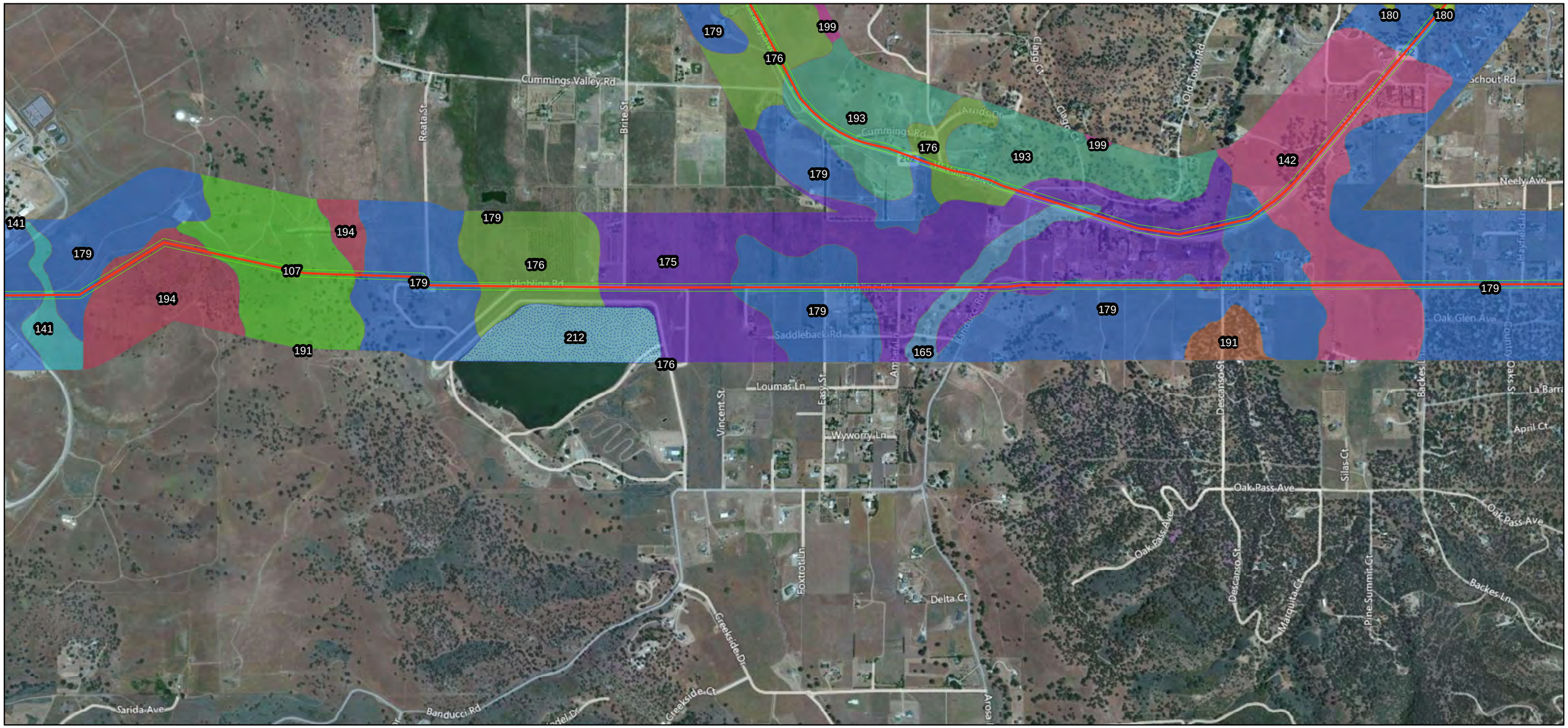
- 194-Walong sandy loam, 30 to 50 percent slopes
- 199-Walong-Edmundston association, steep
- 210-Xerorthents, loamy, very steep
- 212-Water

0 0.15 0.3 0.6 0.9 1.2 Miles

Figure 4-2.g Soils



Legend

- Subtransmission & Telecommunication Alignment Route
- Project Survey Area

Soils

- 107-Arujo-Friant-Tunis complex, 15 to 50 percent slopes
- 108-Arujo-Friant-Tunis complex, 50 to 75 percent slopes
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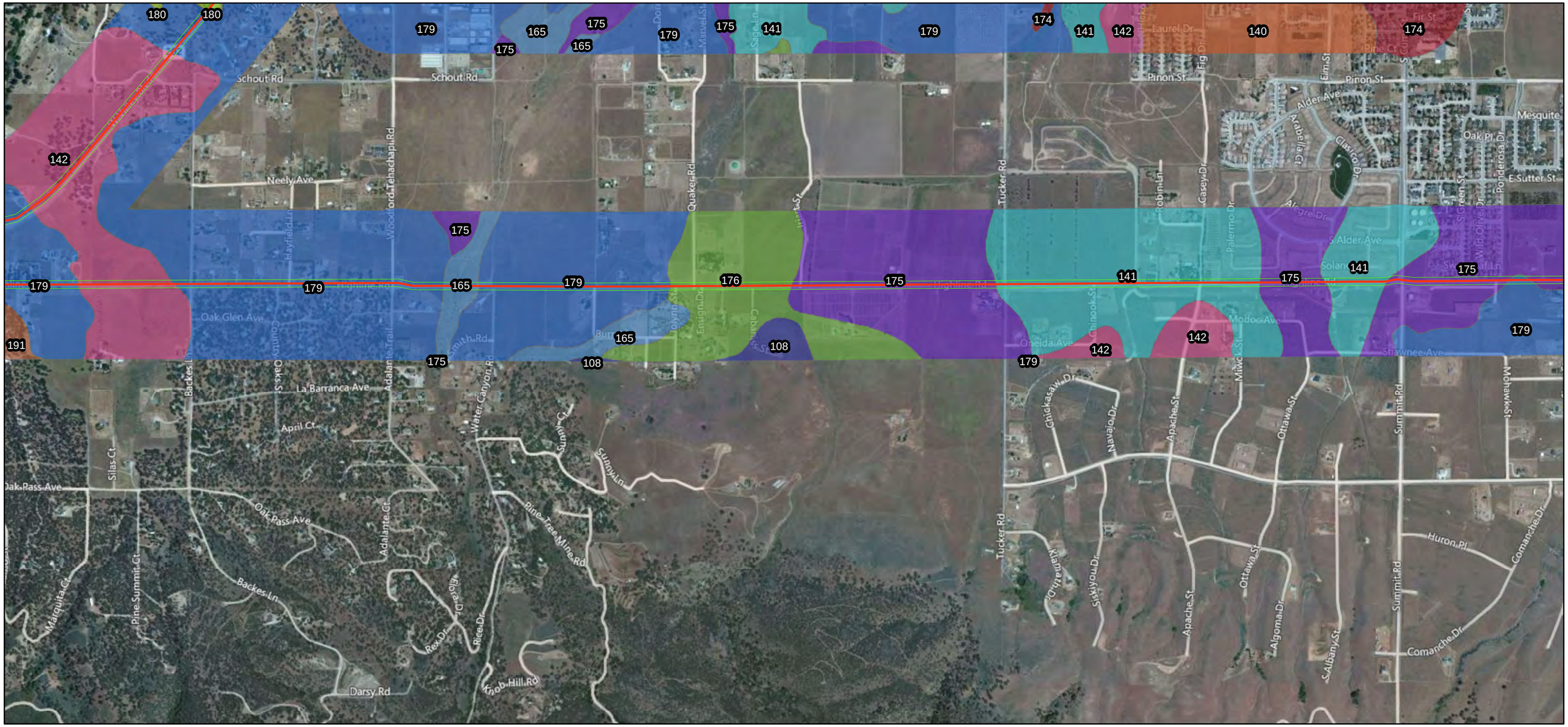
- 194-Walong sandy loam, 30 to 50 percent slopes
- 199-Walong-Edmundston association, steep
- 210-Xerorthents, loamy, very steep
- 212-Water

0 0.15 0.3 0.6 0.9 1.2 Miles

Figure 4-2.h Soils



Legend

- Subtransmission & Telecommunication Alignment Route
- Project Survey Area

Soils

- 107-Arujo-Friant-Tunis complex, 15 to 50 percent slopes
- 108-Arujo-Friant-Tunis complex, 50 to 75 percent slopes
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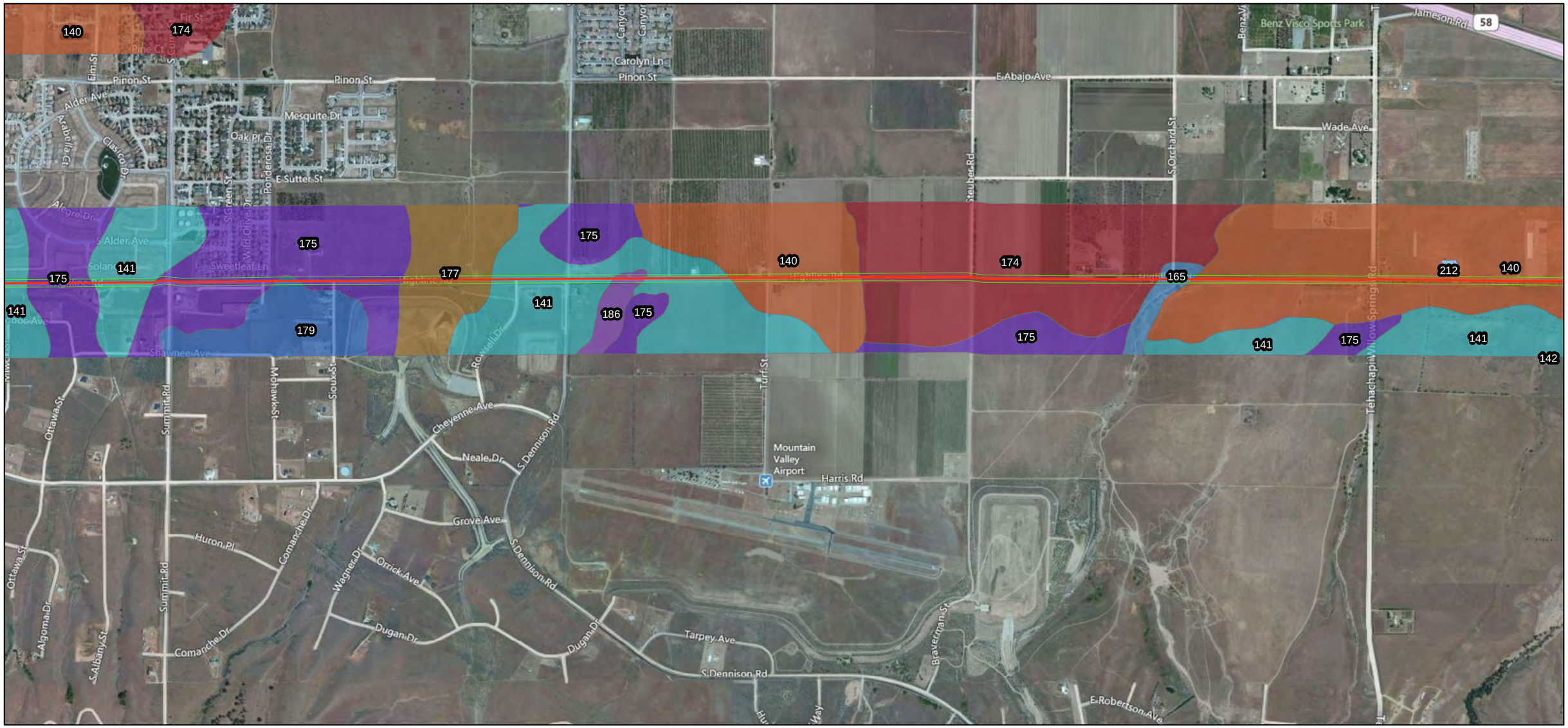
- 210-Xerorthents, loamy, very steep
- 212-Water

0 0.15 0.3 0.6 0.9 1.2 Miles

Figure 4-2.i Soils



Legend

- Subtransmission & Telecommunication Alignment Route
- Project Survey Area

Soils

- 107-Arujo-Friant-Tunis complex, 15 to 50 percent slopes
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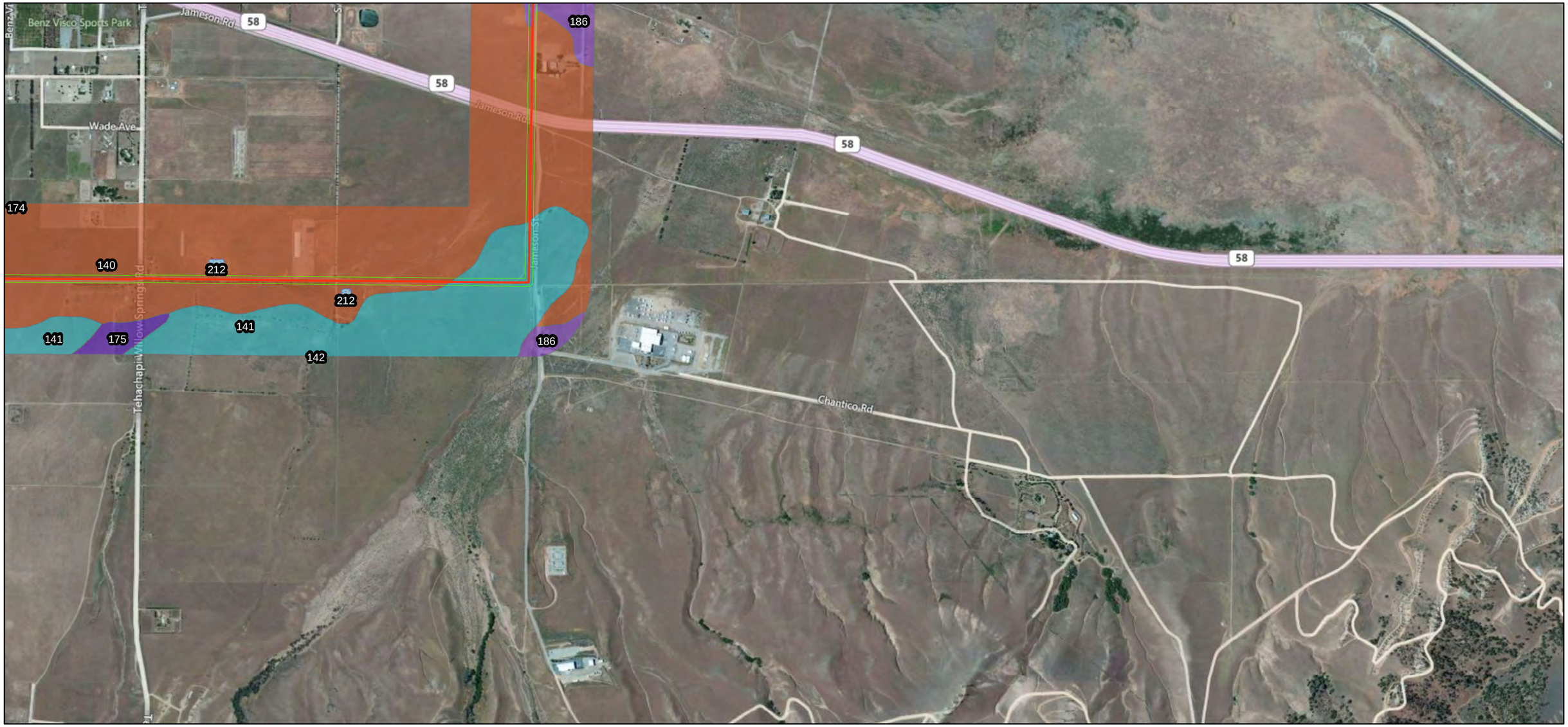
- 194-Walong sandy loam, 30 to 50 percent slopes
- 199-Walong-Edmundston association, steep
- 210-Xerorthents, loamy, very steep
- 212-Water

0 0.15 0.3 0.6 0.9 1.2 Miles

Figure 4-2.j Soils



Legend

Subtransmission & Telecommunication Alignment Route

Project Survey Area

Soils

- 107-Arujo-Friant-Tunis complex, 15 to 50 percent slopes
- 108-Arujo-Friant-Tunis complex, 50 to 75 percent slopes
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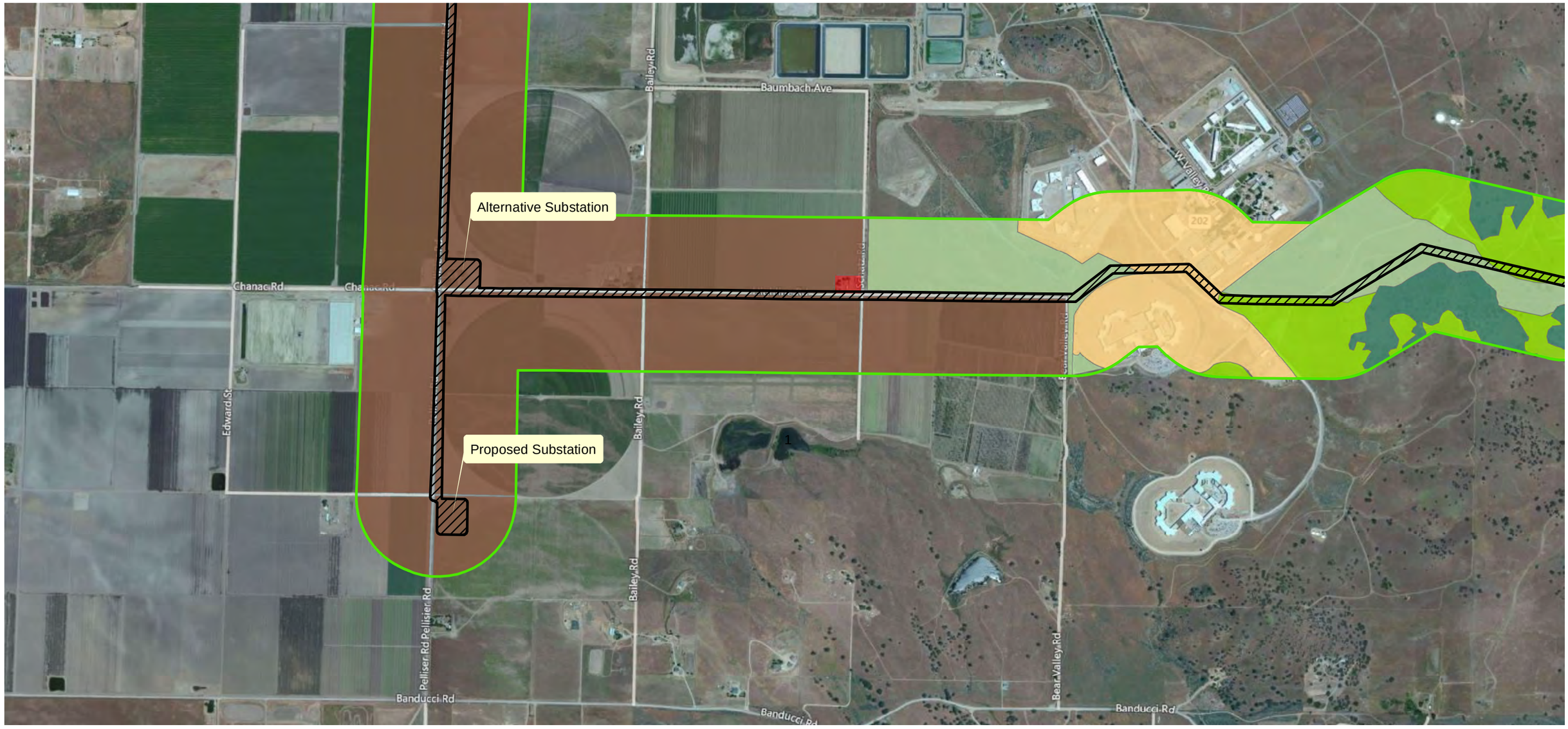
- 194-Walong sandy loam, 30 to 50 percent slopes
- 199-Walong-Edmundston association, steep
- 210-Xerorthents, loamy, very steep
- 212-Water

0 0.15 0.3 0.6 0.9 1.2 Miles

Figure 4-3.a Vegetation



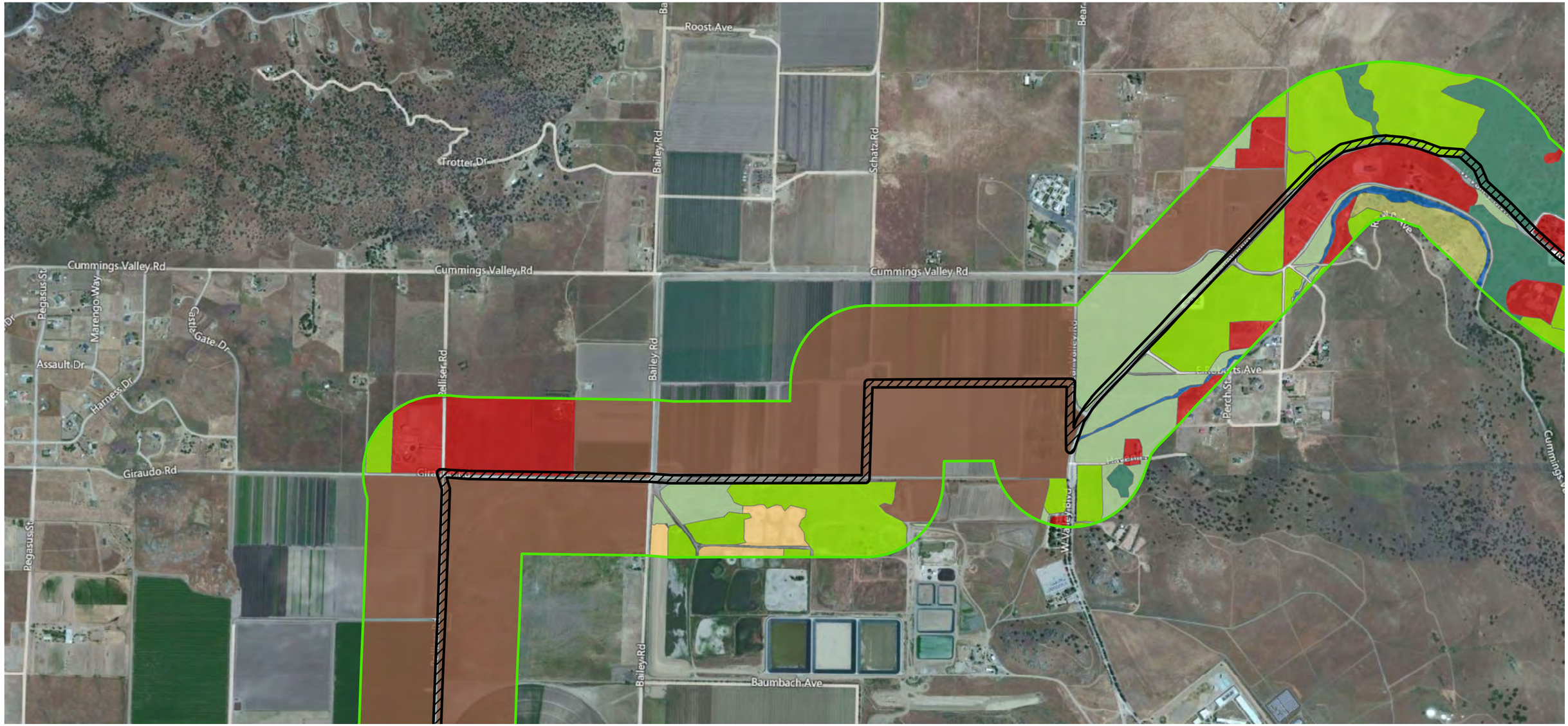
Legend

- Vegetation Mapping Limits
- Focused Survey Area/Area of Potential Effect*
- Open Water
- Grassland
- Blue Oak Woodland
- Agriculture
- Developed
- Rubber Rabbitbrush
- Rural
- Great Basin Sagebrush
- Foothill Pine-Oak Woodland
- Riparian

* Includes Substations and 50' Buffer on Subtransmission and Telecommunications Routes

0 3 6 12 18 24 Miles

Figure 4-3.b Vegetation



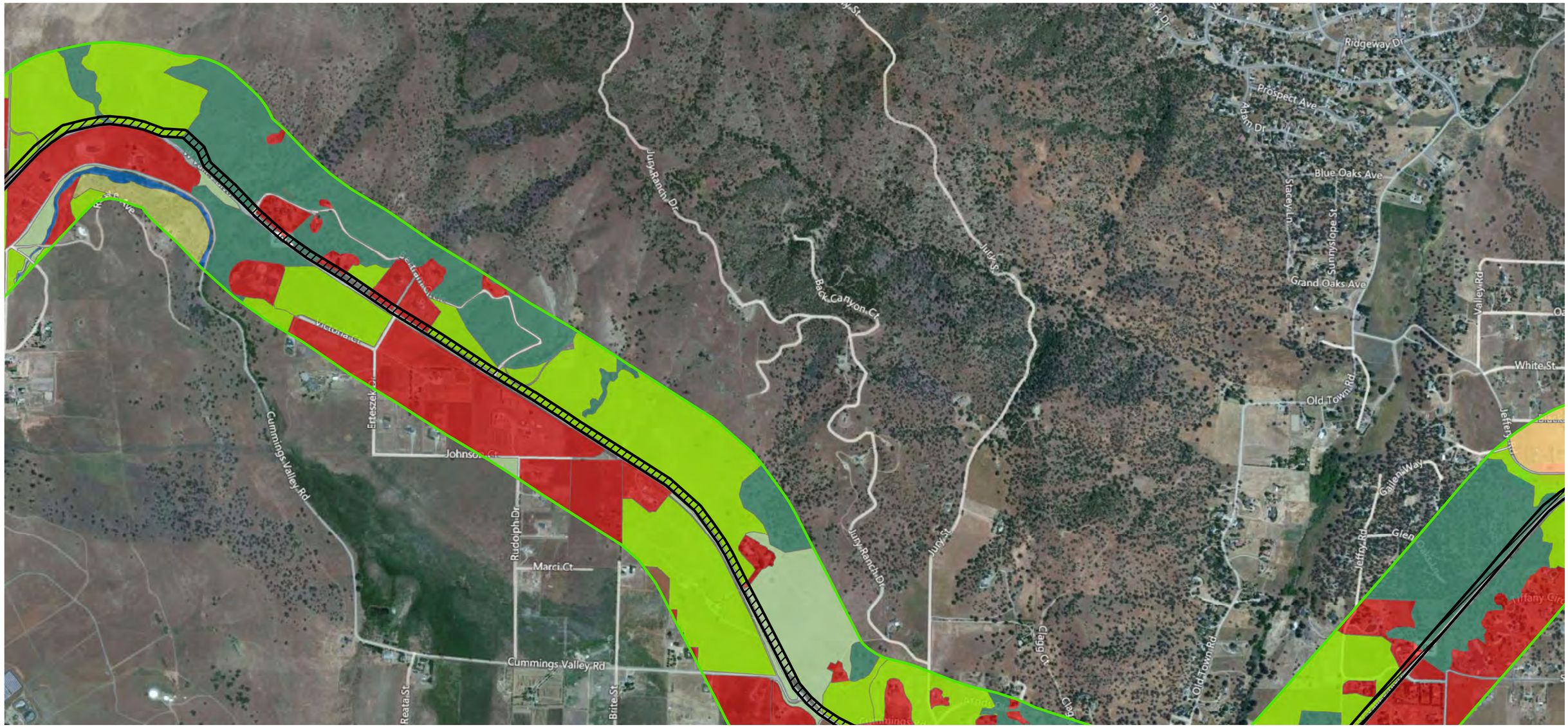
Legend

- Vegetation Mapping Limits
- Focused Survey Area/Area of Potential Effect*
- Open Water
- Grassland
- Blue Oak Woodland
- Agriculture
- Developed
- Rubber Rabbitbrush
- Rural
- Great Basin Sagebrush
- Foothill Pine-Oak Woodland
- Riparian

* Includes Substations and 50' Buffer on Subtransmission and Telecommunications Routes

0 3 6 12 18 24 Miles

Figure 4-3.c Vegetation



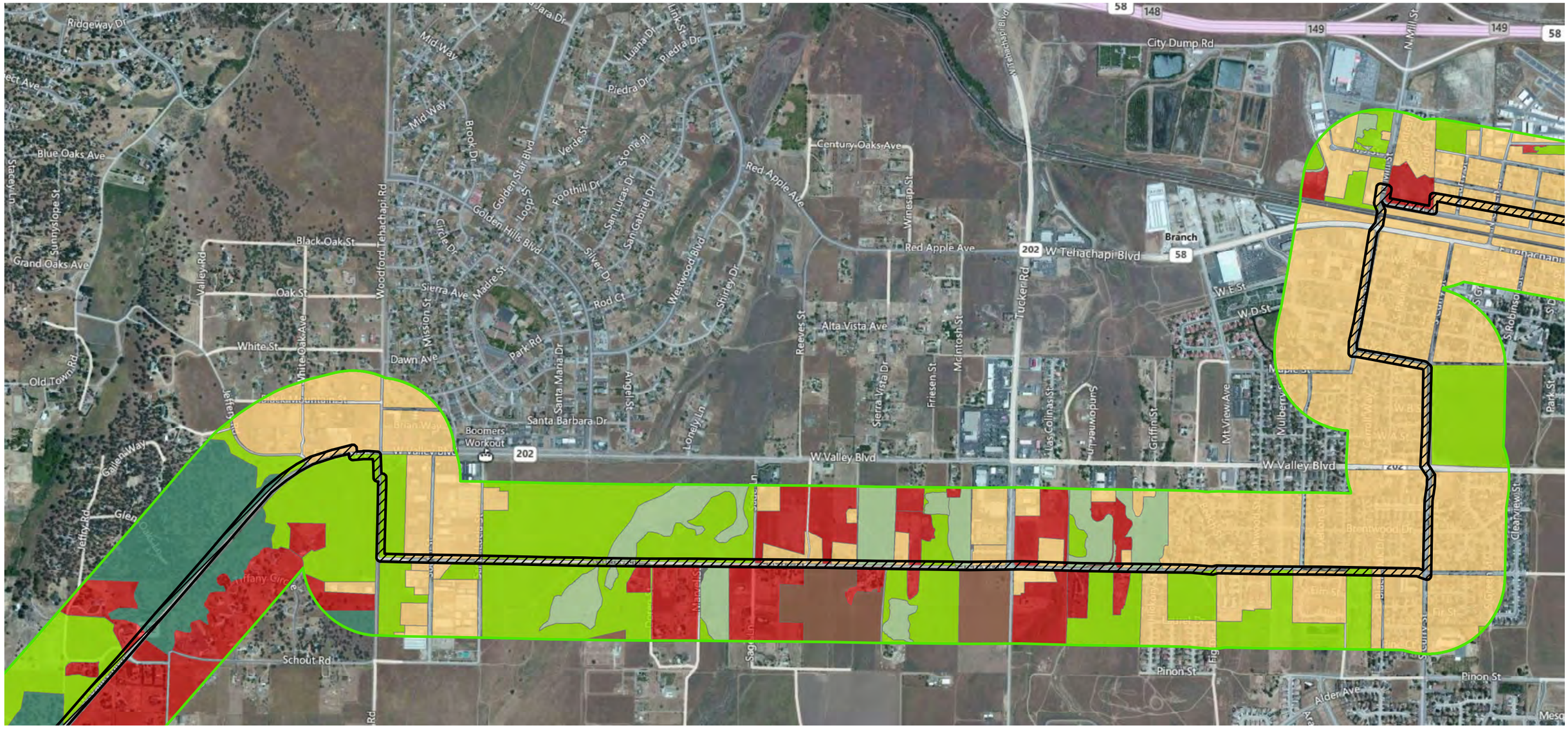
Legend

- Vegetation Mapping Limits
- Focused Survey Area/Area of Potential Effect*
- Open Water
- Grassland
- Blue Oak Woodland
- Agriculture
- Developed
- Rubber Rabbitbrush
- Rural
- Great Basin Sagebrush
- Foothill Pine-Oak Woodland
- Riparian

* Includes Substations and 50' Buffer on Subtransmission and Telecommunications Routes

0 3 6 12 18 24 Miles

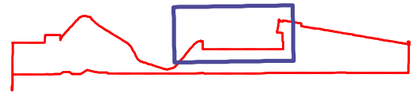
Figure 4-3.d Vegetation



Legend

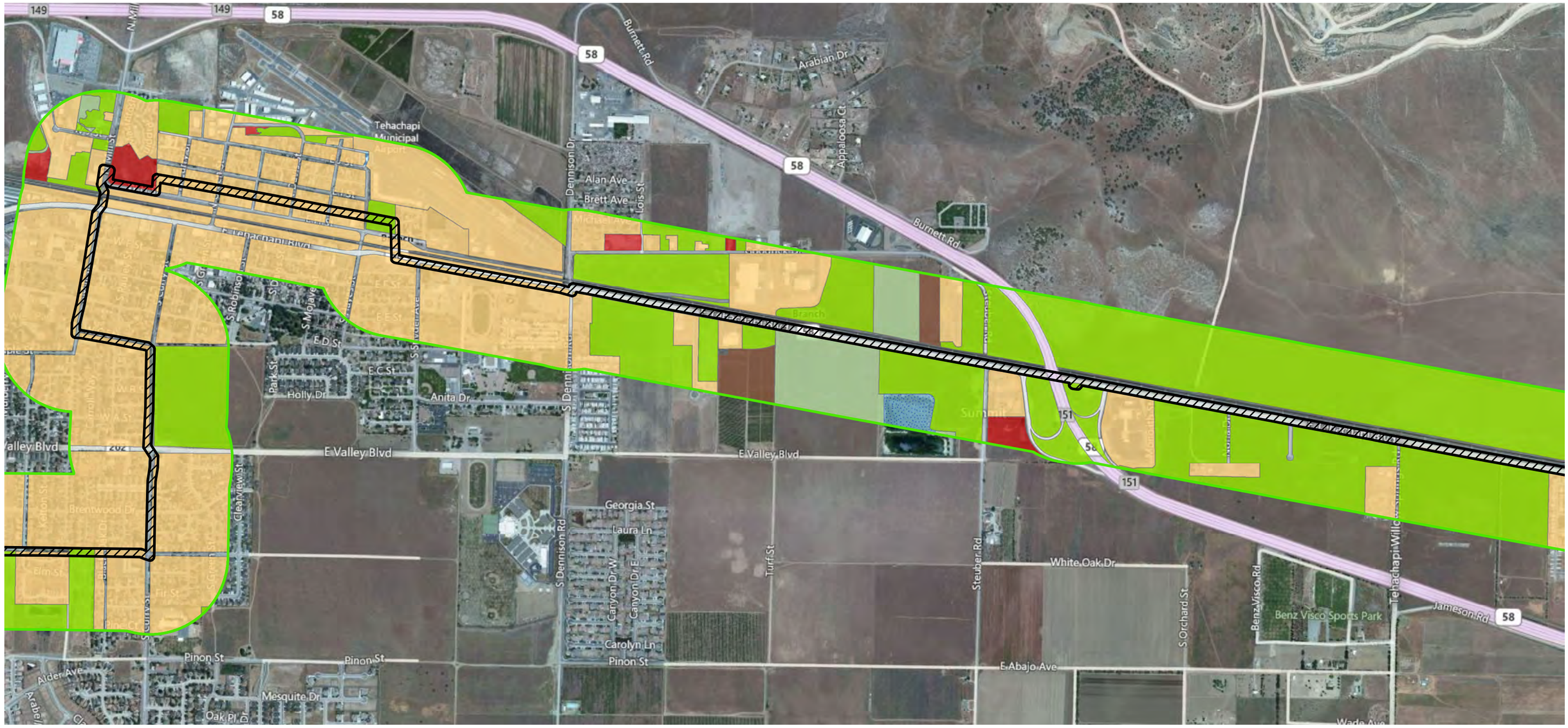
- Vegetation Mapping Limits
- Focused Survey Area/Area of Potential Effect*
- Open Water
- Grassland
- Blue Oak Woodland
- Agriculture
- Developed
- Rubber Rabbitbrush
- Rural
- Great Basin Sagebrush
- Foothill Pine-Oak Woodland
- Riparian

* Includes Substations and 50' Buffer on Subtransmission and Telecommunications Routes



0 3 6 12 18 24 Miles

Figure 4-3.e Vegetation



Legend

- Vegetation Mapping Limits
- Focused Survey Area/Area of Potential Effect*
- Open Water
- Grassland
- Blue Oak Woodland
- Agriculture
- Developed
- Rubber Rabbitbrush
- Rural
- Great Basin Sagebrush
- Foothill Pine-Oak Woodland
- Riparian

* Includes Substations and 50' Buffer on Subtransmission and Telecommunications Routes

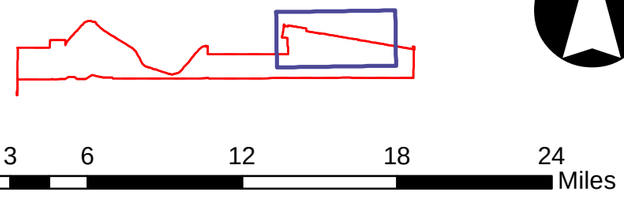


Figure 4-3.f Vegetation

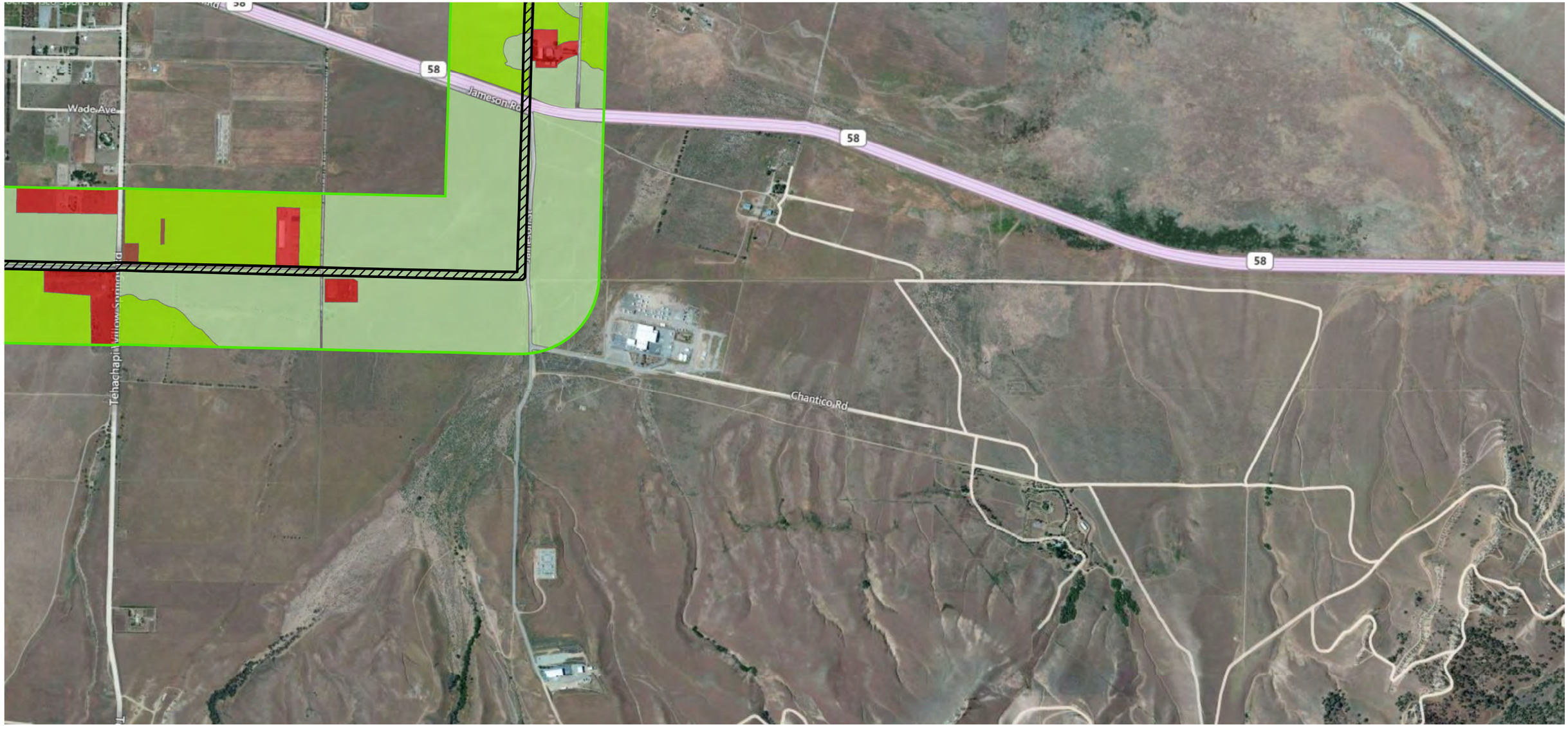
Legend

- Vegetation Mapping Limits
- Focused Survey Area/Area of Potential Effect*
- Open Water
- Grassland
- Blue Oak Woodland
- Agriculture
- Developed
- Rubber Rabbitbrush
- Rural
- Great Basin Sagebrush
- Foothill Pine-Oak Woodland
- Riparian

* Includes Substations and 50' Buffer on Subtransmission and Telecommunications Routes

0 3 6 12 18 24 Miles

Figure 4-3.g Vegetation



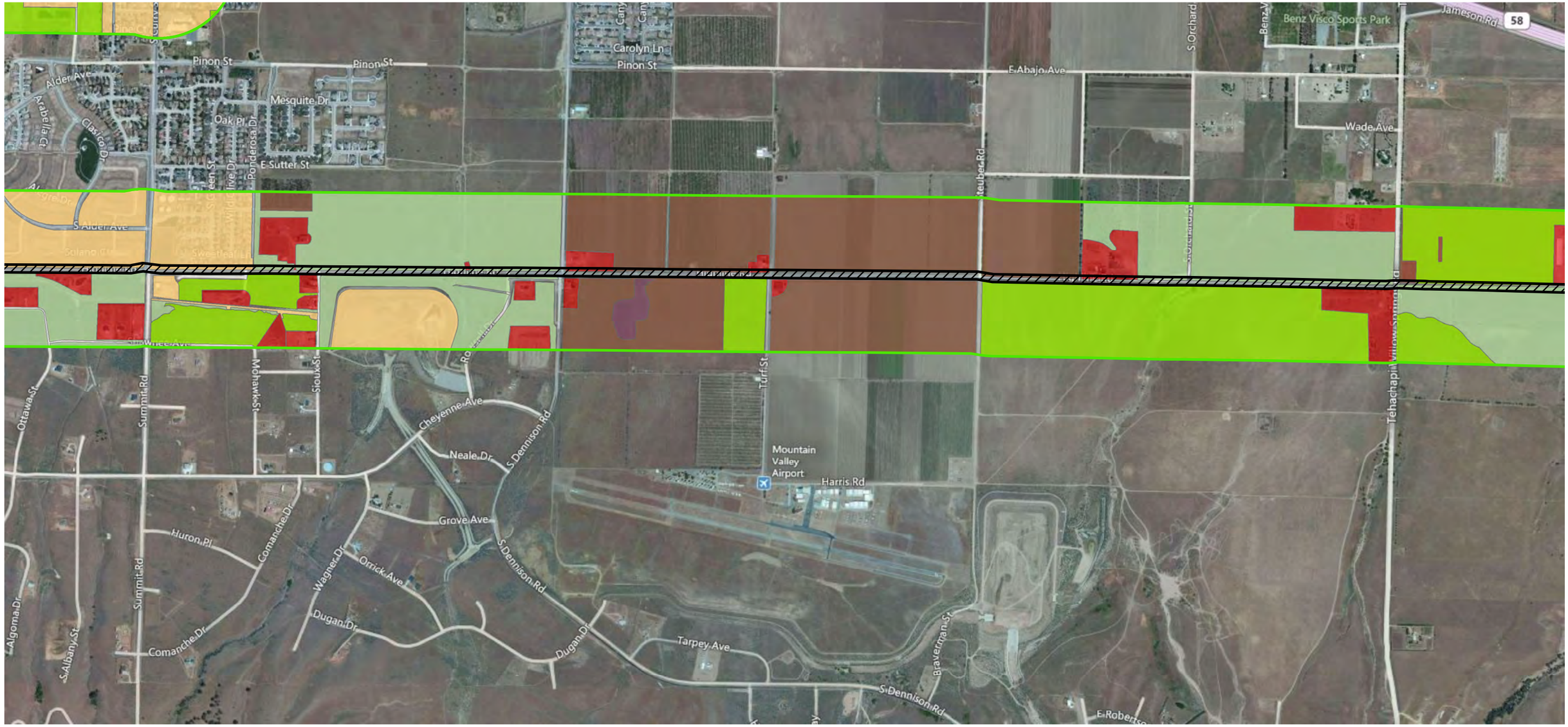
Legend

- Vegetation Mapping Limits
- Focused Survey Area/Area of Potential Effect*
- Open Water
- Grassland
- Blue Oak Woodland
- Agriculture
- Developed
- Rubber Rabbitbrush
- Rural
- Great Basin Sagebrush
- Foothill Pine-Oak Woodland
- Riparian

* Includes Substations and 50' Buffer on Subtransmission and Telecommunications Routes

0 3 6 12 18 24 Miles

Figure 4-3.h Vegetation



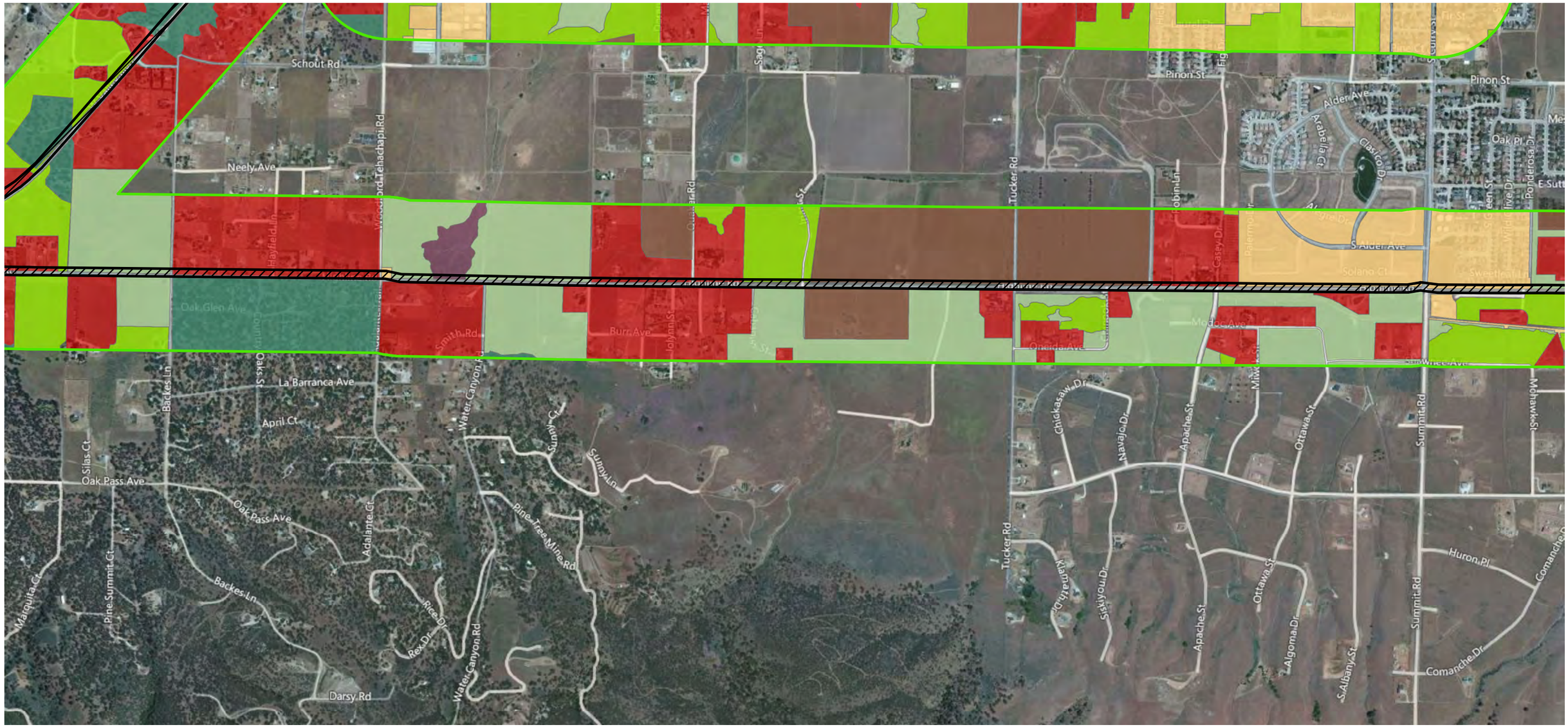
Legend

- Vegetation Mapping Limits
- Focused Survey Area/Area of Potential Effect*
- Open Water
- Grassland
- Blue Oak Woodland
- Agriculture
- Developed
- Rubber Rabbitbrush
- Rural
- Great Basin Sagebrush
- Foothill Pine-Oak Woodland
- Riparian

* Includes Substations and 50' Buffer on Subtransmission and Telecommunications Routes

0 3 6 12 18 24 Miles

Figure 4-3.i Vegetation



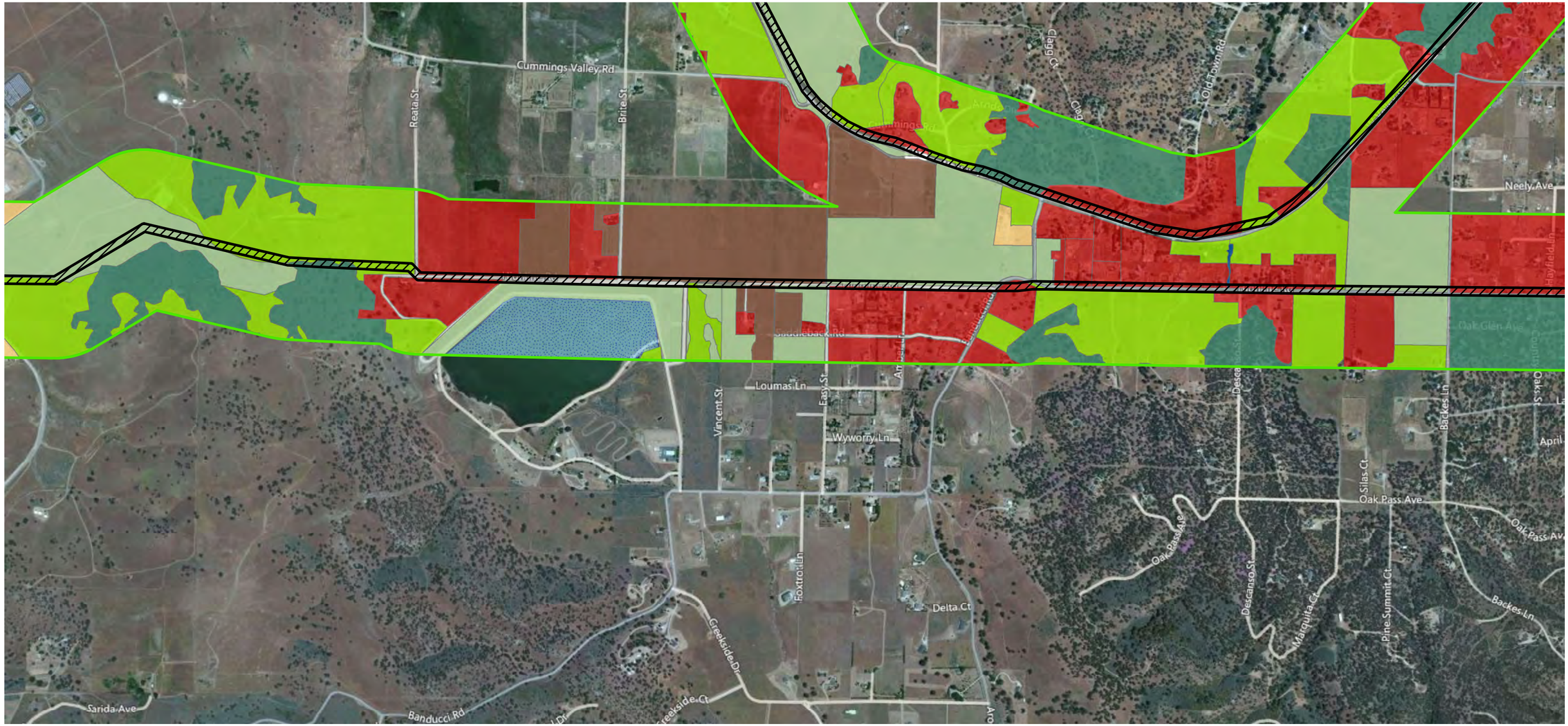
Legend

- Vegetation Mapping Limits
- Focused Survey Area/Area of Potential Effect*
- Open Water
- Grassland
- Blue Oak Woodland
- Agriculture
- Developed
- Rubber Rabbitbrush
- Rural
- Great Basin Sagebrush
- Foothill Pine-Oak Woodland
- Riparian

* Includes Substations and 50' Buffer on Subtransmission and Telecommunications Routes

0 3 6 12 18 24 Miles

Figure 4-3.j Vegetation



Legend

- Vegetation Mapping Limits
- Focused Survey Area/Area of Potential Effect*
- Open Water
- Grassland
- Blue Oak Woodland
- Agriculture
- Developed
- Rubber Rabbitbrush
- Rural
- Great Basin Sagebrush
- Foothill Pine-Oak Woodland
- Riparian

* Includes Substations and 50' Buffer on Subtransmission and Telecommunications Routes

0 3 6 12 18 24 Miles

Table 4-1. PSA Vegetation Acreage

Vegetation Type	Acres within the PSA
Blue Oak Woodland	54
Foothill Pine Woodland	1
Big Sagebrush Scrub	1
Rubber Rabbitbrush	275
Non-native Grassland	302
Agricultural and Rural Lands	232
Developed	280
TOTAL	1145

4.2.1 Blue Oak Woodland

Blue oak (*Quercus douglasii*) is native and endemic to California and dominates nearly half of all oak woodlands in the state (Pavlik et al, 1991). Blue Oak Woodland is a climax community of variable canopy cover and understory that ranges from open savannahs (often at lower elevations) to dense woodlands with shrubby understories (Holland, 1986). Although blue oak is the dominant species, it often occurs with foothill pine (*Pinus sabiniana*), coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), and interior live oak (*Quercus wislizenii*). This vegetation type occurs in well-drained soils below 3,000 to 4,000 feet (Holland, 1986).

Blue Oak Woodland occurs along the Proposed Telecommunications Route 2 from the Tehachapi city limits west to Cummings Valley along Valley Boulevard and Highline Road, and along the proposed Telecommunications Route 1 within the California Correctional Institution. Native species of oaks within this habitat may be protected under the County's oak tree conservation ordinance. No such habitat occurs near or within the proposed Banducci Substation.

4.2.2 Foothill Pine-Oak Woodland

Foothill Pine-Oak Woodlands are dominated by foothill pine and blue oak (Holland, 1986). These woodlands have a diverse mix of hardwoods, conifers, and shrubs, and widely variable overstories. Blue oak is usually the more abundant species, although foothill pine is taller. Other plant species that commonly occur within this habitat include California buckeye (*Aesculus californica*), coast live oak, black oak (*Quercus kelloggii*), toyon (*Heteromeles arbutifolia*), and coffeeberry (*Rhamnus californica*). Foothill Pine-Oak Woodlands occur in well-drained, rocky or exposed sites along ridges or canyons with poor or shallow soils usually below 6,000 feet (Holland, 1986). Native species of oaks within this habitat may be protected under the County's oak tree conservation ordinance.

The distribution of this community within the Proposed Project Study Area is restricted to the south- central portion of the alignment of Proposed Telecommunications Route 1.

4.2.3 Big Sagebrush Scrub

Great Basin Sagebrush (*Artemisia tridentata*) is a gray-leaved soft woody shrub that grows up to 5 feet tall, but is typically closer to 3 feet in height. It can occur in a variety of conditions, but often occurs in fine-textured soils with a high water table (Holland, 1986). Under certain conditions it grows as a dominant shrub that comprises Big Sagebrush Scrub. Distributed widely along the eastern Sierra Nevada Mountain Range, this vegetation type also occurs in scattered localities along the margins of the Mojave. Other common species in this vegetation type include cheatgrass (*Bromus tectorum*), rubber rabbitbrush (*Chrysothamnus nauseosus*), California juniper (*Juniperus californicus*), singleleaf pinyon (*Pinus monophylla*), Sandberg's bluegrass (*Poa secunda*), common sandaster (*Corethrogyne filaginifolia*), and antelope bush (*Purshia tridentata* var. *glandulosa*). This community is considered a rare habitat by the CNDDB (CDFG 2003).

This community has a very narrow distribution in the westernmost portion of the Proposed Project Study Area between Proposed Telecommunications Routes 1 and 2.

4.2.4 Rubber Rabbitbrush

Rabbitbrush scrub is a vegetation type that is generally less than 3 feet tall and is dominated by rubber rabbitbrush. It is typically associated with areas subject to frequent disturbance. Rubber rabbitbrush occurs in large relatively open fields with fine-textured soils with a high water table.

Within the Proposed Project Study Area, the Rubber Rabbitbrush community is common in fallow agricultural fields and pasture lands, such as those found near Monolith and Cummings Valley. This community occurs in various places within Proposed Telecommunications Routes 1 and 2.

4.2.5 Nonnative Grassland

Nonnative grassland is also referred to as California annual grassland. It consists of a dense to sparse cover of annual grasses and forbs between 0.5 to 1.5 feet tall. In years with sufficient rainfall, this habitat is often associated with species of showy annual wildflowers. Germination occurs at the start of the late fall rains and growth, flowering, and seed-set occur from winter through spring. Senescence is in early summer. This habitat occurs on fine-textured, usually clay, soils that are moist or water-logged in the winter and very dry during the summer. It is usually found below 3,000 feet but reaches 4,000 feet in the Tehachapi Mountains. The dominant species are variable in this community, but it is locally comprised of nonnative grass and forb species, such as red brome (*Bromus madritensis* ssp. *rubens*), cheatgrass (*Bromus tectorum*), slender wild

oats (*Avena barbata*), short-pod mustard (*Hirschfeldia incana*), and yellow starthistle (*Centaurea solstitialis*), and native species such as six weeks fescue (*Vulpia octoflora*), California poppy (*Eschscholzia californica*), common sandaster, doveweed (*Croton* [=*Eremocarpus*] *setigerus*), and purple needlegrass (*Nassella pulchra*).

This community is widely distributed throughout the Proposed Project Study Area.

4.2.6 Agricultural and Rural Lands

Agricultural and Rural Land is defined here as land used for the production of food and fiber, the feeding and maintenance of livestock, and housing in very low density. The interface between this and other vegetation types may be a transition zone between natural and semi natural areas and can be characterized more or less as open space. Such areas may support agricultural crops, such as alfalfa (*Medicago sativa*) or barley (*Hordeum vulgare*), Nonnative Grassland, or ornamental trees and plants, but are also often characterized by the presence of ruderal plants, such as telegraph weed (*Heterotheca grandiflora*) or annual sunflower (*Helianthus annuus*). Locally, these areas also occasionally support native communities such as oak woodlands or native grasses such as purple needlegrass.

Within the Proposed Project Study Area, Agricultural and Rural land is most common near the existing Monolith Substation and in Brite and Cummings Valleys. It is the dominant vegetation found on the proposed Banducci Substation site.

4.2.7 Developed

Developed lands include urban areas that have been largely built upon and that are generally absent of native vegetation. Urban areas may still include vacant lots with Nonnative Grassland and ruderal vegetation similar to that of Agricultural and Rural Lands, but often also supports a greater number of ornamental plants commonly used for landscaping.

This land use is prevalent in the City of Tehachapi and immediately surrounding areas in the eastern half of the Proposed Project Study Area.

4.2.8 Riparian

Riparian areas include the emergent vegetation found on perennial and ephemeral riverine water courses. Riparian vegetation is absent from the Focused Survey Area/Area of Potential Effect but occurs along water courses, such as Brite Creek which crosses the Proposed Telecommunication Routes near west of Tehachapi. Vegetation associated with Riparian areas includes trees such as willows (*Salix* spp.), Fremont cottonwood (*Populus fremontii*), and western sycamore (*Platanus racemopa*). Other emergent species such as baltic rush (*Juncus balticus*), sedges (*Carex* spp.), and nutgrass (*Cyperus* spp.), common cattail (*Typha latifolia*) and bulrush (*Scirpus* spp.) may also occur.

4.2.9 Open Water

Open water refers to all areas that support perennial or near perennial water. Such areas typically lack vegetation due to a lack of light penetration. Floating plants such as duckweed (*Lemna* spp.), water

buttercup (*Ranunculus aquatilis*), and mosquito fern (*Azolla filiculoides*) can occur under certain conditions. This mapped type includes inland depressions, ponds, lakes, reservoirs, and stream channels containing standing water, such as the reservoirs along the south- and north-central portions of the Proposed Telecommunications Routes.

4.3 Dominant Wildlife

Although the field verifications were largely used to compile data to complete vegetation mapping and the habitat suitability analysis, many wildlife species were detected. Diverse habitats available within the PSA support high wildlife diversity. Biologists observed numerous invertebrates, reptiles, birds, and mammal species.

4.3.1 Insects and other Invertebrates

Butterflies, such as painted lady (*Vanessa cardui*), western tiger swallowtail (*Papilio rutulus rutulus*), Pacific orange tip (*Anthocharis sara sara*), California dogface (*Zerene eurydice*), California sister (*Adelpha bredowii californica*), Lorquin's admiral (*Limenitis lorquini*), and monarch (*Danaus plexippus*) were among the common insects observed during the surveys. European honey bee (*Apis mellifera*) and several species of ants (Formicidae) were also detected.

4.3.2 Reptiles and Amphibians

Three reptile species were observed within the PSA during the surveys. The most common of these was side-blotched lizard (*Uta stansburiana*), an abundant species throughout southern California. Western whiptail (*Cnemidophorus tigris*) and gopher snake (*Pituophis melanoleuca*) were also observed, but far less frequently.

Amphibians likely to occur within the PSA include western toad (*Anaxyrus boreas*) and Pacific tree frog (*Pseuudacris regilla*). These species are likely to be associated with hydric features within the PSA. Other common reptiles in the PSA likely include coast horned lizard (*Phrynosoma coronatum*), glossy snake (*Arizona elegans*), and California king snake (*Lampropeltis getulus*).

4.3.3 Birds

Common birds observed during the survey included resident and wintering species. Among the common resident species in open areas were red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco spaerverius*), common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), and western meadowlark (*Sturnella neglecta*). Western scrub jay (*Aphelocoma californica*), oak titmouse (*Baeolophus inornatus*), California towhee (*Melozone crissalis*), California quail (*Callipepla californica*), and northern mockingbird (*Mimos polyglottos*) are among the common resident scrub and woodland bird species. Wintering bird species included white-crowned sparrow (*Zonotrichia leucophrys*) and yellow-rumped warbler (*Dendroica coronata*). Migratory and nesting species detected included Vaux's swift (*Chaetura vauxi*), Say's phoebe (*Sayornis saya*), and lark sparrow (*Condestes grammacus*).

4.3.4 Mammals

Sign (burrows, dens, tracks, or scat) of several mammal species was detected. This included natal dens and scat for coyote (*Canis latrans*), scat and tracks for black-tailed jackrabbit (*Lepus californicus*) and Audubon's cottontail (*Sylvilagus audubonii*), and tail drag and burrows for a number of small mice. Other mammals detected by sign or direct observation included mule deer (*Odocoileus hemionus*), Botta's pocket gopher (*Thomomys bottae*), Beechey ground squirrel (*Spermophilus beecheyi*), striped skunk (*Mephitis mephitis*), and bobcat (*Felis rufus*). Two individual pronghorn antelope (*Antilocapra americana*), members of a locally reintroduced experimental herd, were observed south of the Monolith Substation near Tehachapi–Willow Springs Road.

4.4 Wildlife Movement

Broad continuous expanses of vegetation facilitate free dispersal of species between local areas and at larger scales between regions. Natural processes, such as wildlife movement and plant dispersal, have formed and dynamically reshaped global floras and faunas for as long as species have been able to disperse. Certain species extinctions have been the result of geographic and other forms of isolation. Prior to accelerated human population growth and expansion these processes generally happened over millennia or longer. In many instances population shifts, isolation, and extinction resulted in speciation (evolution of new species).

Expanding human populations into previously undisturbed areas are fragmenting continuous expanses of vegetation and associated habitat at increasing rates. Habitat fragmentation is widely regarded as a major threat to wildlife population viability and plant community integrity

(Rolstad, 1991; Wiens, 1995). Isolated populations are then more vulnerable to local extinction because of stochastic events and gene flow problems, such as bottlenecks and inbreeding depression. These effects are often dramatic in urbanized and urbanizing areas, prompting conservation biologists to develop strategies for maintaining habitat connectivity to allow free movement of populations between otherwise isolated habitat patches.

The Proposed Project is located within a land use matrix of urban, agricultural, and residential areas. Adjacent open space, agricultural, and low-density development is prevalent on the western half of the Proposed Project. Although no specific wildlife corridors have been mapped in the immediate vicinity of the Proposed Project, natural open space and low density development in the survey area is contiguous with off-site habitats to the north and south. Open space adjacent to the Proposed Project provides opportunities for movement of mammals with large home ranges, such as mule deer, bobcat, mountain lion and pronghorn antelope. Moreover, the Tehachapi Mountains are recognized as an important wildlife connectivity area that links the Sierra Nevadas to the north and the Sierra Madres to the south (Beier et al, 2006; Penrod et al, 2006; and Block et al, 1992).

4.5 Special Status Species

Special-status plants and wildlife are species afforded protection or management by federal, state, or local resource agencies or organizations. Listed and special-status species are of limited distribution

and may require specialized habitat or other conditions. Special-status species normally meet one or more of the following criteria:

- Listed or proposed for listing under the California or Federal Endangered Species Acts
- Protected under other regulations such as the Migratory Bird Treaty Act
- California Species of Concern as identified on the State's Special Animal and Special Plants lists
- Listed as species of concern by CNPS, Bureau of Land Management (BLM), or U.S. Fish and Wildlife Service (USFWS)

Special-status species considered for this analysis are based on queries of the CNDDB, USFWS, and CNPS species lists for USGS 7.5-minute topographic quadrangles containing the project alignment as well as the other quadrangles that surround them. Other species likely to occur were included based on investigator familiarity with Tehachapi and surrounding areas.

The CNDDB lists and depicts the locations of sensitive resources in and near the Proposed Project Study Area. These resources are shown in Figure 4-4: CNDDB Occurrences. Special status species occurrences summarized in Table 4-2 (Special Status Species in PSA and Vicinity) are discussed in detail in Table 4-3: CNDDB Results for PSA and Adjacent Areas, and in the sections that follow that table.

Table 4-2. Special Status Species in PSA and Vicinity

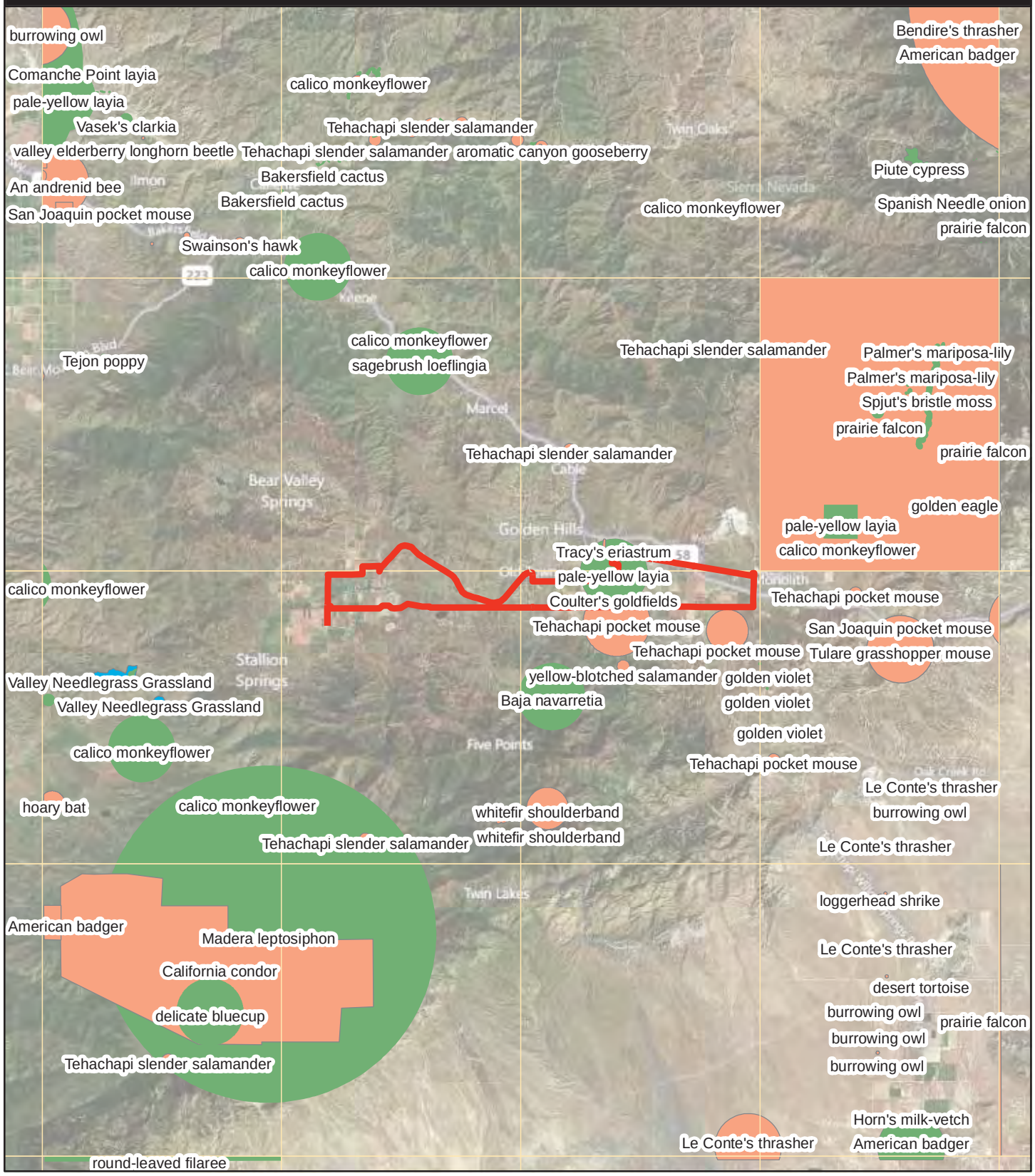
Taxonomic Group	Number of Species from CNDDB
Plants	25
Invertebrates	3
Fish	0
Amphibians	2
Reptiles	3
Birds	17
Mammals	8
Total	58

The following species were eliminated from consideration because range, elevation, or normal growing conditions do not exist in the PSA or because no suitable habitat exists within the PSA:

Plants

- Alkali Mariposa-lily (*Calochortus striatus*)
- Aromatic Canyon Gooseberry (*Ribes menziesii* var. *ixoderme*)
- Comanche Point Layia (*Layia leucopappa*)
- Coulter's Goldfields (*Lasthenia glabrata* ssp. *coulteri*)
- Golden Violet (Viola purpurea ssp. aurea)
- Horn's Milk-vetch (*Astragalus hornii* var. *hornii*)
- Kern Buckwheat (*Eriogonum kennedyi* var. *pinicola*)
- Piute Cypress (*Hesperocyparis nevadensis*)
- Piute Mountains Jewel-flower (*Streptanthus cordatus* var. *piutensis*)
- Piute Mountains Navarretia (*Navarretia setiloba*)

Figure 4-4. CNDDB Occurrences



Legend

- Proposed Project Alignment
- USGS 7.5-Minute Quadrangles
- Plants
- Animals
- Habitats

0 1.5 3 6 9 12 Miles

- Sagebrush Loeflingia (*Loeflingia squarrosa* var. *artemisiarum*)
- Spjut's Bristle Moss (*Orthotrichum spjutii*)
- Striped Adobe-lily (*Fritillaria striata*)
- Tejon Poppy (*Eschscholzia lemmonii* ssp. *kernensis*)
- White Pygmy-poppy (*Canbya candida*)

Invertebrates

- Comstock's Blue Butterfly (*Euphilotes battoides comstocki)*
- Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)
- Whitefir Shoulderband (*Helminthoglypta concolor*)

Amphibians

- Yellow-Blotched Salamander (*Ensatina eschscholtzii croceator*)

Reptiles

- Blunt-Nosed Leopard Lizard (*Gambelia sila*)
- Desert Tortoise (*Gopherus agassizii*)

Birds

- Bendire's Thrasher (*Toxostoma bendirei*)
- Le Conte's Thrasher (*Toxostoma lecontei*)

Mammals

- Mohave ground squirrel (*Xerospermophilus mohavensis*)
- San Joaquin pocket mouse (*Perognathus inornatus inornatus*)
- Tulare grasshopper mouse (*Onychomys torridus tularensis*)

4.5.1 Special-Status Plants

No special-status plants were detected during biological surveys conducted in 2010 and 2011. Of 25 special-status plants listed in the CNDDB, 12 have overlapping ranges with and suitable habitat within the Proposed Project Study Area:

- Baja navarretia (*Navarretia peninsularis*)
- Big Bear Valley woollypod (*Astragalus leucolobus*)
- Calico monkeyflower (*Mimulus pictus*)
- Delicate bluecup (*Githopsis tenella*)
- Madera leptosiphon (*Leptosiphon serrulatus*)
- Pale-yellow heterotricha (*Layia heterotricha*)
- Palmer’s Mariposa-lily (*Calochortus palmeri* var. *palmeri*)
- Round-leaved filaree (*California macrophylla*)

- Spanish needle onion (*Allium shevockii*)
- Tehachapi monardella (*Monardella linioides* ssp. *oblonga*)
- Tracy's eriastrum (*Eriastrum tracyi*)

4.5.2 Special-Status Wildlife

Three special-status wildlife species, Cooper's hawk (*Accipiter cooperii*), ferruginous hawk (*Buteo regalis*), and prairie falcon (*Falco mexicanus*), were detected during biological surveys conducted in 2011. Other special-status wildlife species may occur in the Proposed Project vicinity, including the State- listed threatened Tehachapi slender salamander (*Batrachoseps stebbinsi*). Other species that may occur include the following:

- American badger (*Taxidea taxus*)
- Burrowing owl (*Athene cunicularia*)
- California condor (*Gymnogyps californianus*)
- California horned lark (*Eremophila alpestris actia*)
- Coast horned lizard (*Phrynosoma coronatum*)
- Golden eagle (*Aquila chrysaetos*)
- Hoary bat (*Lasiurus cinereus*)
- Merlin (*Falco columbarius*)
- Mountain plover (*Charadrius montanus*)
- Northern harrier (*Circus cyaneus*)
- Swainson's hawk (*Buteo swainsoni*)
- Townsend's big-eared bat (*Corynorhinus townsendii*)
- Tricolored blackbird (*Agelaius tricolor*)
- White-tailed kite (*Elanus leucurus*)
- Yellow warbler (*Dendroica petechia brewsteri*)

681 **Table 4-3. CNDDB Results for PSA and Adjacent Areas**

Common Name *Scientific Name*	Federal Status	California Status	CDFG	CNPS Listing	Occurrence Likelihood and Description
Plants					
Baja Navarretia ***Navarretia peninsularis***	**None**	**None**	**-**	**1B.2**	**May Occur.** This species occurs in lower montane coniferous forest and chaparral. It often occurs in open forest areas from 5,000-8,000 feet. The PSA is at the lower elevation limits of this species' range and habitat is marginally suitable along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley.
Big Bear Valley Woollypod ***Astragalus leucolobus***	**None**	**None**	**-**	**1B.2**	**May Occur.** This species occurs in lower montane coniferous forests, pebble plains, pinyon and juniper woodlands, and upper montane coniferous forests. It is often associated with dry pine woods, gravelly knolls among sagebrush, or stony lake shores in the pine belt from 5,500-8,250 feet. The PSA is mostly below the lower elevation limits of this species' range and habitat is marginally suitable along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley.
Calico Monkeyflower ***Mimulus pictus***	**None**	**None**	**-**	**1B.2**	**Unlikely to Occur.** This plant occurs in broad-leafed upland forest and cismontane woodland. It grows in bare ground around gooseberry bushes or around granite rock outcrops from 1,000-4,200 feet. No suitable habitat for this species occurs within the PSA, but somewhat suitable habitat occurs nearby between the Tehachapi City limits and Cummings Valley.
Delicate Bluecup ***Githopsis tenella***	**None**	**None**	**-**	**1B.3**	**May Occur.** Delicate bluecup occurs in mesic sites within chaparral and cismontane woodlands from 3,600 to 6,200 feet. Marginally suitable habitat occurs along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley.

Common Name *Scientific Name*	Federal Status	California Status	CDFG	CNPS Listing	Occurrence Likelihood and Description
Madera Leptosiphon ***Leptosiphon serrulatus***	**None**	**None**	**-**	**1B.2**	**May Occur.** Madera leptosiphon occurs in cismontane woodlands and lower montane coniferous forests. It grows on dry slopes and often on decomposed granite in woodlands from 260 to 5,200 feet. No suitable habitat occurs within the PSA, but somewhat suitable habitat occurs nearby between the Tehachapi City limits and Cummings Valley.
Pale-yellow Heterotricha ***Layia heterotricha***	**None**	**None**	**-**	**1B.1**	**May Occur.** This species occurs in cismontane woodland, pinyon-juniper woodland, valley and foothill grassland on alkaline or clay soils in open areas from 900 to 5,000 feet. Marginally suitable habitat occurs on the eastern most undeveloped portions of Proposed Telecommunications Routes 1 and 2.
Palmer's Mariposa-lily ***Calochortus palmeri* var. *palmeri***	**None**	**None**	**-**	**1B.3**	**Unlikely to Occur.** Palmer's mariposa lily occurs in meadows and seeps within chaparral and lower montane coniferous forests. It requires vernally (springtime) moist places in yellow-pine forest and chaparral from 2, 000-7,400 feet. No suitable habitat for this species occurs within the PSA, but somewhat suitable habitat occurs nearby between the Tehachapi City limits and Cummings Valley.
Round-leaved Filaree ***California macrophylla***	**None**	**None**	**-**	**1B.1**	**May Occur.** This species occurs in cismontane woodlands and valley and foothill grasslands. It is often associated with clay soils below 4,000 feet. Suitable habitat occurs along much of the PSA and this species may occur there.
Spanish Needle Onion ***Allium shevockii***	**None**	**None**	**-**	**1B.2**	**Unlikely to Occur.** Spanish needle onion occurs in pinyon-juniper woodland and upper montane coniferous forests. It grows in soil pockets on rock outcrops and talus slopes where bulbs prefer outcrop margins between 6,600 to 7,500 feet. No suitable habitat for this species occurs within the PSA, but somewhat suitable habitat occurs nearby between the Tehachapi City limits and Cummings Valley.

Common Name *Scientific Name*	Federal Status	California Status	CDFG	CNPS Listing	Occurrence Likelihood and Description
Tehachapi Monardella ***Monardella linoides* ssp. *oblonga***	**None**	**None**	**-**	**1B.3**	**May Occur.** Tehachapi monardella grows in lower and upper montane coniferous forests and pinyon- juniper woodland. It grows on dry slopes of yellow pine forest in decomposed granitic soils and along disturbed roadsides from 5,600 to 8,100 feet. Marginally suitable habitat occurs along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley.
Tracy's Eriastrum ***Eriastrum tracyi***	**None**	**Rare**	**-**	**1B.2**	**Unlikely to Occur.** Tracy's eriastrum grows in chaparral and cismontane woodlands in gravelly shale or clay. Often found in open areas, it grows at elevations from 1,000 to 2,500 feet. The PSA is above the known elevation limits of this species' range; marginally suitable habitat occurs along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley.
Amphibians					
Tehachapi Slender Salamander ***Batrachoseps stebbinsi***	**None**	**Threatened**	**None**	**-**	**May Occur.** The Tehachapi slender salamander occurs in valley-foothill hardwood-conifer and valley-foothill riparian habitats. Populations of the species occur near the PSA, in wet talus slopes or log-strewn hillsides with a steep, north-facing exposure. Potential habitat occurs along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley.
Reptiles					
Coast Horned Lizard ***Phrynosoma coronatum blainvillii***	**None**	**None**	**SSC**	**-**	**May Occur.** A distinctive lizard of scrubby and open habitats, normally with scrub. Coast horned lizards require the nearby presence of native ants, their preferred prey. Suitable habitat occurs throughout Proposed Telecommunications Routes 1 and 2, with the best habitat occurring west of the City of Tehachapi and east of Cummings Valley.

682

Birds					
Burrowing Owl ***Athene cunicularia***	**None**	**None**	**SSC**	**-**	**May Occur.** This species is normally found in grasslands, shrub steppes, and savannas. It also occurs in other open areas such as agricultural lands, old fields, extensive forest clearings, airports, golf courses, and spacious residential zones. Suitable habitat for the species occurs within proposed subtransmission and telecommunications routes and at the preferred and alternate substation sites.
California Condor ***Gymnogyps californianus***	**Endangered**	**Endangered**	**None**	**-**	**May Occur.** California condors live in rocky scrubland, coniferous forests, and oak savannas. They are often near cliffs or large trees, which they use as nesting sites. While the PSA is within the species' historic range, and the species may forage within the PSA, California condors are not expected to nest within the PSA.
California Horned Lark ***Eremophila alpestris actia***	**None**	**None**	**SSC**	**-**	**May Occur.** This species occupies a variety of open, sparse, and low-growing habitats; normally on flat ground. Suitable foraging and nesting habitat for the California horned lark occurs in the flat and undeveloped portions of the Subtransmission and Telecommunications alignments. Suitable foraging habitat occurs on the Preferred and Alternate Substation sites, although farming activity likely precludes nesting for this species on both substation sites.
Cooper's Hawk ***Accipiter cooperii***	**None**	**None**	**SSC**	**-**	**Occurs.** This species occupies woodland habitats where small birds make up the majority of prey taken. Cooper's hawk will often search around bird feeders for prey (Garrett et. al 2006). Cooper's hawk nests and forages in woodland and semi-open habitats. One Cooper's hawk was detected on Valley Boulevard north of the Proposed Telecommunications route and just west of the Tehachapi City limits in April 2011.

Ferruginous Hawk ***Buteo regalis***	**None**	**None**	**SSC**	**-**	**Occurs.** This species forages over grasslands, agricultural areas, and scrublands. The ferruginous hawk winters in Southern California and does not breed within this region. Locally, it occurs in grasslands, scrublands, and agricultural areas near Tehachapi and in the Antelope Valley. Foraging habitat occurs throughout most of the undeveloped portions of the PSA. One ferruginous hawk flying over the Monolith substation in March 2011. This sighting likely constitutes a migrating or wintering bird and not a nesting individual.
Golden Eagle ***Aquila chrysaetos***	**None**	**FP**	**SSC**	**-**	**May Occur.** This species typically nests on cliff faces or in large trees or tall artificial structures such as power transmission towers. Golden eagles typically feed on small mammals, birds, and reptiles. Suitable foraging habitat exists for this species throughout the undeveloped portions of the PSA. No nesting habitat occurs within the PSA.
Merlin ***Falco columbarius***	**None**	**None**	**SSC**	**-**	**May Occur.** Merlin is a winter visitor that occurs in open country, from coasts to prairies to desert scrub; suitable foraging habitat occurs in the undeveloped portions of the PSA.
Mountain Plover ***Charadrius montanus***	**None**	**None**	**SSC**	**-**	**May Occur.** Mountain plovers winter locally in small flocks on dry, barren ground, smooth dirt fields, and shortgrass prairies (Sibley, 2003). No breeding occurrences have been documented in or near the PSA; wintering birds may nevertheless use the flat and undeveloped portions of the Subtransmission and Telecommunications alignments as foraging habitat.
Prairie Falcon ***Falco mexicanus***	**None**	**None**	**SSC**	**-**	**Occurs.** This species inhabits grasslands, desert, scrub, and agricultural lands, where it feeds on birds, mammals, and reptiles. This species uses dry, open areas with cliffs and bluffs for nesting. Prairie falcons have been observed at several locations near the PSA (CDFG 2011) and one was detected east of Tehachapi Willow Springs Road, south of the Monolith Substation. While no nesting habitat is available within the PSA, suitable foraging habitat exists for this species throughout the undeveloped portions of the PSA.

Swainson's Hawk ***Buteo swainsoni***	**None**	**Threatened**	**SSC**	**-**	**May Occur.** Grasslands and agricultural lands provide suitable foraging habitat for this species which is known to nest in the nearby San Joaquin and Antelope Valleys. There are several nesting records from the Antelope Valley, but no nesting records from Tehachapi. Suitable foraging habitat occurs throughout the PSA, but this species is unlikely to nest here.
Tricolored Blackbird ***Agelaius tricolor***	**None**	**None**	**SSC**	**-**	**May Occur.** Tricolored blackbirds feed in a variety of habitats, but breed near freshwater, preferably in emergent marsh areas with tall, dense cattails or willow thickets. Suitable foraging habitat exists for this species throughout the undeveloped portions of the PSA. No nesting habitat occurs within the PSA.
White-tailed Kite ***Elanus leucurus***	**None**	**Fully Protected**	**SA**		**May Occur.** White tailed kites occur in low elevation grassland, agricultural land, wetland, oak-woodland, and oak-savannah habitats, and riparian areas adjacent to open areas. They nest in the upper portions of trees and large shrubs. Suitable foraging habitat occurs throughout the PSA. Suitable nesting habitat occurs near undeveloped and rural portions of Proposed Telecommunications Routes 1 and 2
Yellow Warbler ***Dendroica petechia brewsteri***	**None**	**None**	**SSC**	**-**	**May Occur.** Yellow warblers occur in low, open-canopy riparian and wetland plant communities. The subspecies *D. p. brewsteri* prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging. They are also known to nest in suitable montane canyon habitats, including those in desert mountains. Yellow warblers likely forage within the PSA; however, no suitable nesting habitat occurs within the PSA. Suitable nesting habitat may occur near the PSA along Proposed Telecommunications Routes 1 and 2 between the Tehachapi City Limits and Cummings Valley.
Mammals					
American Badger ***Taxidea taxus***	**None**	**None**	**SSC**	**-**	**May Occur.** American badger habitat consists of grasslands, shrub, mountain meadow, and open stages of most habitats with dry soil. In montane areas, badgers use large, treeless meadows and expanses near timberline. This species may forage within undeveloped portions of the PSA.

Hoary Bat ***Lasiurus cinereus***	**None**	**None**	**SSC**	**-**	**May Occur.** This species is often associated with trees. Roosts are generally in woodlands with dense foliage. Suitable foraging habitat for this species occurs throughout the PSA; suitable roosting habitat occurs along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley.
Tehachapi Pocket Mouse ***Perognathus alticolis inexpectatus***	**None**	**None**	**SSC**	**-**	**May Occur.** The Tehachapi pocket mouse occupies native and non-native grasslands, Joshua tree woodland, pinyon-juniper woodland, yellow pine woodland and oak savannah. The PSA contains suitable habitat for this species on undeveloped portions of Proposed Telecommunications Routes 1 and 2 west of the Tehachapi City limits and south of the Monolith Substation.
Townsend's Big-eared Bat ***Corynorhinus townsendii***	**None**	**None**	**SSC**	**-**	**May Occur.** This species is most commonly associated with desert scrub, mixed conifer forest, and pinyon-juniper or pine forest habitat. Suitable foraging habitat for this species occurs throughout the PSA; suitable roosting habitat occurs on areas adjacent to the PSA.

Sources:
CNDDB 2011
Determination of occurrence probability for plants is based on the Jepson Manual (Hickman ed. 1993) and collection records from the Consortium of California Herbaria available at http://ucjeps.berkeley.edu/consortium/about.html

Abbreviations:
State:
FP = Fully Protected
SSC = California Species of Special Concern
SA=Special Animal

CNPS List Categories:
List 1A = plants presumed extinct in California
List 1B = plants rare, threatened, or endangered in California and elsewhere
List 2 = plants rare, threatened, or endangered in California, but common elsewhere
List 3 = plants about which we need more information
List 4 = plants of limited distribution

4.6 Sensitive Species Summaries

4.6.1 Sensitive Plants

Baja Navarretia

Navarretia peninsularis

Baja navarretia occurs in lower montane coniferous forest and chaparral. It often occurs in open forest areas from 5,000-8,000 feet. This plant is a hairy, glandular annual herb growing up to about 10 inches tall with long leaves that are divided into many very narrow linear or needlelike lobes. It has tiny lavender-colored flowers.

The PSA is at the lower elevation limits of this species' range and habitat is marginally suitable along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley.

Big Bear Valley Woollypod

Astragalus leucolobus

Big Bear Valley woollypod occurs in lower montane coniferous forests, pebble plains, pinyon and juniper woodlands, and upper montane coniferous forests. It is often associated with dry pine woods, gravelly knolls among sagebrush, or stony lake shores in the pine belt from 5,500-8,250 feet.

The PSA is mostly below the lower elevation limits of this species' range and habitat is marginally suitable along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley.

Calico Monkeyflower

Mimulus pictus

This plant occurs in broad-leafed upland forest and cismontane woodland. It grows in bare ground around gooseberry bushes or around granite rock outcrops from 330-4,200 feet. This is an annual herb that grows in small patches at ground level or that grows erect to a maximum height of about 15 inches. The stem is hairy and rectangular in cross-section. The oppositely arranged leaves are somewhat oval in shape and up to about two inches long. The five-lobed flower has a maroon throat and the circular face is white with stark maroon veining.

No suitable habitat for this species occurs within the PSA, but somewhat suitable habitat occurs nearby between the Tehachapi City limits and Cummings Valley.

Delicate Bluecup

Githopsis tenella

Delicate bluecup occurs in mesic sites within chaparral and cismontane woodlands from 3,600 to 6,200 feet. The plant is a small annual wildflower with white or purple white-throated blooms.

Marginally suitable occurs along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley.

Madera Leptosiphon

Leptosiphon serrulatus

Madera leptosiphon occurs in cismontane woodlands and lower montane coniferous forests. It grows on dry slopes and often on decomposed granite in woodlands from 260 to 5,200 feet. It is a small annual herb producing a thin, hairy stem up to about six inches tall. It has tiny leaves and a head of small flowers, each with a purplish tube and a white corolla.

No suitable habitat occurs within the PSA, but somewhat suitable habitat occurs nearby between the Tehachapi City limits and Cummings Valley.

Pale-yellow Heterotricha

Layia heterotricha

This species occurs in cismontane woodland, pinyon-juniper woodland, valley and foothill grassland on alkaline or clay soils in open areas from 900 to 5,000 feet. This is an annual herb producing a thick, erect stem to a maximum height near 30 inches. The stem and foliage are covered thinly in dark glandular hairs. The leaves are oval-shaped, fleshy, and sometimes slightly toothed. The flower head contains white to pale yellow ray florets each up to one inch long, and many yellow disc florets with yellow anthers.

Marginally suitable habitat occurs on the eastern most undeveloped portions of Proposed Telecommunications Routes 1 and 2.

Palmer's Mariposa-lily

Calochortus palmeri var. *palmeri*

Palmer's mariposa lily occurs in meadows and seeps within chaparral and lower montane coniferous forests. It requires vernally (springtime) moist places in yellow-pine forest and chaparral from 2, 000-7,400 feet. This plant erects a short stem and a long basal leaf which may lie flat on the ground. At least halfway up the stem it may branch and atop each branch grows a

bell-shaped lily bloom. The petals are light to very dark pink or purplish with darker pink or purple veining or mottling. The cup of the flower is somewhat hairy.

No suitable habitat for this species occurs within the PSA, but somewhat suitable habitat occurs nearby between the Tehachapi City limits and Cummings Valley.

Round-leaved Filaree

California macrophylla

This species occurs in cismontane woodlands and valley and foothill grasslands. It is often associated with clay soils below 4,000 feet. Round-leaved filaree is an annual herb that generally grows prostrate. The plants bloom between March and May, producing small white flowers less than one inch long.

Suitable habitat occurs along much of the PSA and this species may occur there.

Spanish Needle Onion

Allium shevockii

Spanish needle onion occurs in pinyon-juniper woodland and upper montane coniferous forests. It grows in soil pockets on rock outcrops and talus slopes where bulbs prefer outcrop margins between 6,600 to 7,500 feet. Spanish Needle Onion is known from only two populations, both in Kern County, on or near the crest of the southern Sierra Nevada Mountains.

No suitable habitat for this species occurs within the PSA, but somewhat suitable habitat occurs at higher elevations nearby between the Tehachapi City limits and Cummings Valley.

Tehachapi Monardella

Monardella linoides ssp. *oblonga*

Tehachapi monardella grows in lower and upper montane coniferous forests and pinyon-juniper woodland. It grows on dry slopes of yellow pine forest in decomposed granitic soils and along disturbed roadsides from 5,600 to 8,100 feet. Tehachapi Monardella is a perennial herb in the mint family. It is a gray-green perennial herb producing a slender erect stem up to about 20 inches tall with a head of several flowers blooming in a cup of pale whitish or pink-tinged papery bracts; the flowers are just over a centimeter long and light purple in color.

Marginally suitable habitat occurs along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley.

Tracy's Eriastrum

Eriastrum tracyi

Tracy's eriastrum grows in chaparral and cismontane woodlands in gravelly shale or clay. Often found in open areas, it grows at elevations from 1,000 to 2,500 feet. This species is an annual herb with a thin, woolly stem, usually up to ten inches tall. The leaves are divided into several narrow, threadlike linear lobes. The inflorescence is a woolly cluster of narrow leaf-like bract, laced with webby fibers. The small flowers have white to light blue corollas.

The PSA is above the known elevation limits of this species' range; marginally suitable occurs along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley.

4.6.2 Sensitive Reptiles and Amphibians

Tehachapi Slender Salamander

Batrachoseps stebbinsi

The Tehachapi slender salamander occurs in valley-foothill hardwood-conifer and valley-foothill riparian habitats. Populations of the species occur near the PSA, in wet talus slopes or log-strewn hillsides with a steep, north-facing exposure. This species has short limbs, a narrow head, long slender body, very long tail, and conspicuous grooves on the sides and tail that give this species a worm-like appearance. It is distinguishable from other related species by its relatively large size and robustness. Tehachapi slender salamanders are reddish or brownish with light beige, tan, black, patches and blotches that may form an indistinct dorsal stripe with uneven edges.

Potential habitat occurs along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley.

Coast Horned Lizard

Phrynosoma coronatum blainvillii

The coast (San Diego) horned lizard occurs in open or sparse scrub and chaparral communities and prefers loose soils for burrowing at elevations from sea level to 8,000 feet (Stebbins 2003). It forages mainly on native ant species, and has declined, at least in part, because of introduction of non-native ants, competition from which has resulted in declines in native ant populations. Collecting, development, and off-road vehicle use have also contributed to this species' decline. The coast horned lizard is a California Species of Special Concern (CDFG 2009).

Suitable habitat occurs throughout Proposed Telecommunications Routes 1 and 2, with the best habitat occurring west of the City of Tehachapi and east of Cummings Valley.

4.6.3 Sensitive Birds

Burrowing Owl

Athene cunicularia

Burrowing owls are a California Species of Special Concern and yearlong residents in suitable habitats throughout California, although some populations undergo local movements. In California, burrowing owls are restricted to the central valley extending from Redding south to Grapevine, east through the Mojave Desert and west to San Jose, the San Francisco Bay area, the outer coastal foothills area which extend from Monterey south to San Diego and the Sonoran Desert. It is a resident in the open areas of the lowlands over much of the southern California region. Formerly fairly common in central and southern California coastal habitats, smaller interior valleys, and in the Central Valley, but urbanization and agriculture have eliminated it from many parts of its historic range. It is rare in the undisturbed desert areas of the eastern and southeastern portion of California. In recent years, their numbers have declined in southern California; remnant populations persist in isolated agricultural areas and grasslands throughout, particularly in the high desert, Chino Hills/Prado Basin, rural areas of San Bernardino, Riverside, and San Diego counties. However, they are still common around the agricultural areas of the Imperial Valley (Small 1994).

The availability of burrows is an essential component of burrowing owl habitat and provides protection, shelter, and nests. They generally use abandoned burrows dug by other mammals, particularly the California ground squirrel (*Spermophilus beecheyi*). They may also use artificial burrows as well as exposed pipes, cement pads, and other human structures that provide cover (Trulio 1995, CBOC 1993). Their preferred habitat is annual and perennial grasslands, deserts, and scrublands characterized by low- growing vegetation with less than 30 percent cover by larger trees and shrubs (Kaufman 1996).

Other suitable habitats include agricultural lands, drainage ditches, levees, disturbed vacant lots, and other habitats with low growing or disturbed vegetation with adequate access to food resources. They are crepuscular hunters feeding on a variety of foods but mostly invertebrates and small vertebrates (Coulombe 1971). The western burrowing owl may qualify for State or Federal listing as Threatened or Endangered if the population continues to decline. Intense pressure for development of open, flat grasslands in California, are reducing burrowing owl habitat. Urban development within suitable burrowing owl nesting and foraging habitat in California creates conflicts between owls and development projects often occur. Owl survival can be adversely affected by disturbance and foraging habitat loss even when disturbance to individual birds and nest/burrows are avoided (CDFG 1995, RCIP 2003).

Plegadis LLC conducted surveys for burrowing owl in 2010 and 2011consistent with accepted survey guidelines. Although no owls were detected during the survey, suitable habitat occurs for

the species within proposed Telecommunication and Subtransmission routes. Suitable habitat also occurs within the preferred and alternative substation sites.

California Condor

Gymnogyps californianus

The California condor is a very large (46 to 55 inches from head to tail with a wingspan of up to 9.8 feet) new world vulture. It has an orange-red head and neck which is bare except for sparse black feathers on the forehead. The body is black with large white patches on the underside of the wings; a black feather ruff rings the neck. Like other vultures, this species feeds on carrion. Once extirpated from the wild, successful reintroduction of this species has occurred in California.

While the PSA is within the species' historic range, California condors are not expected to nest within the PSA.

California Horned Lark

Eremophila alpestris actia

The horned lark is a small gregarious bird species common to abundant resident in a variety of open habitats generally devoid of trees and large shrubs (Zeiner, et al. 1990). It is characterized by a tan to rusty back, a white underside, black markings on the face, and two feather tufts atop the head that resemble horns. Within southern California, California horned larks breed primarily in open fields, (short) grasslands, and rangelands (Garrett and Dunn 1981; Hamilton and Willick 1996). Behle (1942) described the races of horned lark in the western United States. According to that work, the forms that occur in the vicinity of Tehachapi are the mesic condition adapted California horned lark (*Eremophila alpestris actia*) and its desert counterpart (*E. a. ammophila*). The California horned lark is a California Species of Concern.

Suitable foraging and nesting habitat for the California horned lark occurs in the flat and undeveloped portions of the Subtransmission and Telecommunications alignments. Suitable foraging habitat also occurs on the Preferred and Alternate Substation sites, although farming activity likely precludes nesting for this species on either substation site.

Cooper's Hawk

Accipiter cooperii

The Cooper's hawk is one of three woodland species of hawks in the Accipiter family, the Accipitridae. These hawks have disproportionately long tails and short rounded wings. The flight pattern consists of several quick wingbeats followed by a short glide (Dunn & Alderfer 2008). A

blackish cap covers the top (crown) of the head. The back is dark grey and the breast, legs and abdomen are whitish, crossed by reddish bars (Garrett, et. al 2006).

The Cooper's hawk occupies woodland habitats where small birds make up the majority of prey taken. Cooper's hawk will often search around bird feeders for prey (Garrett et. al 2006). Cooper's hawk nests and forages in woodland and semi-open habitats. Preferred habitats include riparian groves, oak and conifer woodlands, as well as woodlands and groves in urban areas parks and the desert (Garrett, et. al 2006). Cooper's hawk is present year-round in southern California, but is also a partial migrant in some areas.

Woodland habitats suitable for this species occur along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley. One Cooper's hawk was detected on Valley Boulevard north of the Proposed Telecommunications route and just west of the Tehachapi City limits in April 2011.

Ferruginous Hawk

Buteo regalis

The ferruginous hawk is a California Watch List Species (CDFG 2011). This is the largest of the California native hawks. It has a white chest, grayish head, white tail, and rufous feathers on the legs. It forages over grasslands, agricultural areas, and scrublands. Development has reduced suitable habitat within their wintering grounds. This species winters in Southern California and does not breed within this region. They occur in grasslands, scrublands, and agricultural areas near Tehachapi and in the Antelope Valley.

Plegadis biologists observed one ferruginous hawk flying over the Monolith substation in March 2011. This sighting likely constitutes a migrating or wintering bird and not a nesting individual. Suitable foraging habitat exists for this species throughout the undeveloped portions of the PSA.

Golden Eagle

Aquila chrysaetos

Golden eagles are North America's largest predatory bird. They are dark brown raptors with long, broad wings. Males and females are similar in appearance, but females are much larger than males. Adults are largely dark brown, except for a golden area near the crown, nape and sides of the neck and face. The tail is grayish brown. From below, the large flight feathers of the wings appear to be brownish gray, while the head, body and smaller feathers on the forepart of the open wings are blackish. The eyes of adults are dark brown. The bills and claws are black, while the cere and feet are yellow. The legs are feathered all the way down to the toes.

Juvenile golden eagles appear similar to adults, except for light patches on the tips of the wings, and a wide white band on the tail and a terminal band of black. Golden eagles occur throughout California in a variety of habitats including grasslands, open scrublands, and woodlands. Golden eagles are a federal and state species of Special Concern and are fully protected species in the state of California. This species typically nests on cliff faces or in large trees or tall artificial structures such as power transmission towers. Golden eagles typically feed on small mammals, birds, and reptiles.

Suitable foraging habitat exists for this species throughout the undeveloped portions of the PSA. No nesting habitat occurs within the PSA.

Merlin

Falco columbarius

The Merlin is a small falcon with long wings and a long, banded tail. It has brown streaking on the chest and belly. Merlin is a winter visitor that occurs in open country, from coasts to prairies to desert scrub;

Suitable foraging and nesting habitat for the Merlin occurs in the flat and undeveloped portions of the Subtransmission and Telecommunications alignments. Suitable foraging habitat also occurs on the Preferred and Alternate Substation sites.

Mountain Plover

Charadrius montanus

Mountain plover is a medium-sized bird with a tan back and pale underbelly. Mountain plovers winter locally in small flocks on dry, barren ground, smooth dirt fields, and shortgrass prairies (Sibley, 2003).

No breeding occurrences have been documented in or near the PSA; wintering birds may nevertheless use the flat and undeveloped portions of the Subtransmission and Telecommunications alignments as foraging habitat.

Northern Harrier

Circus cyaneus

Northern harrier is a large brown bird of prey that occurs in a wide variety of treeless habitats that provide both vegetative cover and suitable prey items. This species occurs in marshes, meadows, weedy areas, grasslands, sagebrush flats, desert sinks, and scrub habitat (Shuford et al. 2008). Harriers feed on small rodents and birds. They normally nest on the ground within patches of dense, often tall, undisturbed vegetation (Shuford et al 2008).

Suitable northern harrier foraging habitat occurs throughout the undeveloped portions of the PSA.

Prairie Falcon

Falco mexicanus

Prairie falcons are large falcons of open country. Compared to other falcon species in the United States, prairie falcons are plainer and lighter colored. Their breasts are spotted and they have white behind their eyes. Their rounded wingtips, dark axillaries and coverts, and frequent wing beat aid in the identification of the species in flight. Sexes have similar plumage but males are smaller (Steenhof 1998).

Prairie falcons inhabit grasslands, desert, scrub, and agricultural lands, where they pursue birds, mammals, and reptiles (Polite and Pratt 2005). California ground squirrel is likely a common prey item where this mammal is abundant, although research suggests that diet varies regionally and seasonally; they often move to higher elevations following the breeding season and move to agricultural fields in the winter. Steenhof (1998) reports seasonal movements may correspond with changes in food availability throughout the year. Garrett and Mitchell (1973) report that horned lark is an important winter prey item.

Prairie Falcons use dry, open areas with cliffs and bluffs for nesting (Evans 1982). They prefer cliffs with a sheltered ledge with loose debris or gravel for a nest, but may also nest in caves or other cavities and crevices (Snow 1974). Prairie falcons reuse nest sites in subsequent years (Tesky 1994).

Prairie falcons have been observed at several locations near the PSA (CDFG 2011) and one was detected east of Tehachapi Willow Springs Road, south of the Monolith Substation. While no nesting habitat is available within the PSA, suitable foraging habitat exists for this species throughout the undeveloped portions of the PSA.

Swainson's Hawk

Buteo swainsoni

Swainson's hawk is listed as Threatened in California (CDFG 2011). The preferred breeding habitat of this raptor consists of large trees, which serve as nesting sites, proximate to extensive areas of grassland and/or open fields, which serve as foraging habitat. Locally, they are known to nest in large trees near ranch houses, windrows, riparian areas, and in large Joshua trees and junipers. Grasslands and agricultural lands (with the exception of orchards and vineyards) provide suitable foraging habitat for this species.

There are several nesting records from the Antelope Valley, but no nesting records from Tehachapi. Suitable foraging habitat occurs throughout the PSA, but this species is unlikely to nest here.

Tricolored Blackbird

Agelaius tricolor

The tricolored blackbird is a colonial nester of marshy areas throughout the Central Valley, coastal California, and portions of inland Southern California. They breed near freshwater, preferably in emergent marsh areas with tall, dense cattails (*Typha* sp.) but will also nest in willow (*Salix* sp.) thickets. Nests are usually located a few feet over water or may be hidden on the ground in vegetation. Blackbirds build nests of mud and plant material. Blackbirds are highly colonial; nesting areas must be large enough to support a minimum colony of at least 50 pairs. Tricolored blackbirds are omnivorous and often shift their diet from insects and spiders during the spring season, to seeds, cultivated grains, rice and oats during fall and winter months. Blackbirds forage on the ground in croplands, grassy fields, and flooded rice fields. This species may occur on adjacent farmlands and may forage on the site, but is unlikely to nest or roost there to due lack of suitable nesting and roosting habitat. Tricolored blackbirds are a California Species of Special Concern but do not have any other federal or state designations.

Suitable foraging habitat exists for this species throughout the undeveloped portions of the PSA. No nesting habitat occurs within the PSA.

White-tailed Kite

Elanus leucurus

The white-tailed kite is a bird of prey considered both a California State Species of Special Concern and a Fully Protected Species (CDFG 2011). Adults are white underneath and gray on back from crown to upper tail coverts, with red eyes. They occur in low elevation grassland, agricultural, wetland, oak- woodland, and oak-savannah habitats, and riparian areas adjacent to open areas. Nests are placed in trees and large shrubs; most nests are on habitat edges and are placed in upper third of the tree. They forage on small mammals, birds, lizards, and insects (Dunk 1995). In recent years, this species has become increasingly less common in southern California.

Suitable foraging habitat occurs throughout the PSA. Suitable nesting habitat occurs near undeveloped and rural portions of Proposed Telecommunications Routes 1 and 2.

Yellow Warbler

Dendroica petechia brewsteri

The yellow warbler is a bright yellow bird with yellow spots on the tail (Sibley 2003). The preferred food of the yellow warbler is small insects, which it gleans from leaves and twigs. The yellow warbler also feeds on some berries and nectar (Sibley 2003).

Yellow warblers occur in low, open-canopy riparian and wetland plant communities. The subspecies *D. p. brewsteri* prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging. They are also known to nest in suitable montane canyon habitats, including those in desert mountains (Garrett & Dunn 1981). The yellow warbler has been found throughout southern California as a transient species, and is an uncommon summer resident in the lowland and foothill riparian woodlands (Garrett & Dunn 1981).

The yellow warbler breeds in southern California, arriving in April and mostly gone by October. Some individuals overwinter in lowland habitats (Garrett & Dunn 1981). Threats to this species include the degradation, destruction and loss of riparian and woodland nesting habitats, as well as increasing parasitism by cowbird species, especially the brown-headed cowbird (*Molothrus ater*) (Garrett et al. 2006).

Yellow warblers likely forage within the PSA; however, no suitable nesting habitat occurs within the PSA. Suitable nesting habitat may occur near the PSA along Proposed Telecommunications Routes 1 and 2 between the Tehachapi City Limits and Cummings Valley.

4.6.4 Sensitive Mammals

American Badger

Taxidea taxus

The American badger occurs from Alberta southward to central Mexico and eastward from the Pacific coast to Ohio. They range throughout the state of California in suitable habitat. Their habitat consists of grasslands, shrub, mountain meadow, and open stages of most habitats with dry soil. In montane areas, badgers use large, treeless meadows and expanses near timberline. They dig burrows in soil for cover, or reuse old burrows (Williams 1986). Their prey includes gophers, ground squirrels, marmots, and kangaroo rats, mice, woodrats, birds and insects (Williams 1986). Badgers declined drastically from California in the last century throughout their range mostly due to habitat loss and hunting. They have declined in coastal basins of southern California (Williams 1986). The American badger is a California Species of Special Concern and a U.S. Forest Service Sensitive Species (CDFG 2011).

No American badger sign was detected during the surveys within the PSA; the species may forage within undeveloped portions of the PSA.

Hoary Bat

Lasiurus cinereus

The hoary bat is one of the most widespread bat species in North America occurring in every state except Alaska (Tuttle 1988). In California, this normally solitary species is often associated with trees. Roosts are generally in woodlands with dense foliage. This habitat type is also preferred breeding habitat. In Southern California migrating hoary bats separate by sex with males typically in foothills, deserts and mountains and females in lowlands and coastal valleys (Vaughan and Krutzsch 1954).

Suitable foraging habitat for this species occurs throughout the PSA; suitable roosting habitat occurs along the Proposed Telecommunications Routes 1 and 2, west of the City of Tehachapi and east of Cummings Valley.

Tehachapi Pocket Mouse

Perognathus alticolus inexpectatus

The Tehachapi pocket mouse is a yellowish-brown and black-backed small rodent. The belly and throat of this is species is usually lighter (white). Tehachapi pocket mice have a bi-colored tail that is usually only slightly longer than body. This species occurs from Tehachapi Mountains from Tehachapi Pass southwest towards Gorman, as far west as Cuddy Valley near Mount Pinos, and east along the lower slopes of the San Gabriel Mountains to Elizabeth Lake. The Tehachapi

pocket mouse occupies native and non-native grasslands, Joshua tree woodland, pinyon-juniper woodland, yellow pine woodland and oak savannah (Williams et al.,1993).

The PSA contains suitable habitat for this species on undeveloped portions of Proposed Telecommunications Routes 1 and 2 west of the Tehachapi City limits and south of the Monolith Substation.

Townsend's big-eared bat

Corynorhinus townsendii

Townsend's big-eared bat is a medium-sized brown to gray bat with long ears and glands on either side of its snout. Townsend's big-eared bats hibernate throughout their range during winter months when cold temperatures prevail. The bats hibernate in tight clusters, which may help stabilize body temperature against external changes in temperature. Records of the species exist from throughout the state, but specific details on its distribution are poorly understood. It occurs in a variety of habitats throughout California, but it is most commonly associated with desert scrub, mixed conifer forest, and pinyon- juniper or pine forest habitat.

Suitable foraging habitat for this species occurs throughout the PSA; suitable roosting habitat occurs on areas adjacent to the PSA.

4.7 Sensitive Habitats

4.7.1 Special-Status Vegetation Types

Special-Status Vegetation Types are plant associations sometimes afforded special legislative protection. Such vegetation types are normally considered of management priority because of their rarity or imperilment, the sensitivity of the species that they support, or because these areas serve multiple functions as is often the case with wetlands. Special-Status Vegetation Types are normally rare plant communities but can also refer to a number of environments, such as tidal areas, dunes, or pebble plains.

Small patches of willow riparian vegetation near, but downstream of the Proposed Project alignment would likely be considered special-status vegetation. The conditions that support this vegetation are discussed further in the following section.

4.7.2 Jurisdictional Areas

The Proposed Telecommunications Routes 1 and 2 cross several drainage features, including Brite Creek and several unnamed blue line streams (Figure 4-3). Brite Creek connects to Tehachapi Creek, which is considered waters of the United States under the Federal Clean Water Act (CWA). The Federal CWA limits federal jurisdiction to "navigable waters," which it defines as "waters of the United States." Waters of the United States are further subdivided into seven

categories, two of which are wetlands and adjacent wetlands (33 CFR §§ 328.3[a] and [a][7]). In places, Brite Creek supports facultative hydrophytes (plants that normally grow in water) that may indicate the presence of jurisdictional wetlands subject to the CWA and the specific rules that apply to wetlands. Wetlands are defined under 33 CFR Part 328.3 (b) as "[T]hose areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, prevalence of vegetation typically adapted for life in saturated soil conditions."

The U.S. Army Corps of Engineers (USACE) is charged, in cooperation with the U.S. Environmental Protection Agency (EPA), with the responsibility for issuing permits under Section 404 of the CWA. Section 404 of the CWA imposes restrictions on and requires permits for any action that involves the placement of fill material, dredges material from, or results in flooding of wetlands or other waters of the United States. In accordance with U.S. EPA regulations issued under Section 404(b)(1), the permitting of fill will not be approved unless the following conditions are met: no practicable, less environmentally damaging alternative to the action exists; the activity does not cause or contribute to violations of state water quality standards (as described under Section 401 of the CWA); the activity does not jeopardize federally listed threatened or endangered species or sensitive cultural resources (as required by 33 CFR Part 320.3e and g); the activity does not contribute to significant degradation of waters of the United States; and all practicable and appropriate steps have been taken to minimize potential adverse impacts to the aquatic ecosystem (40 CFR Part 230.10).

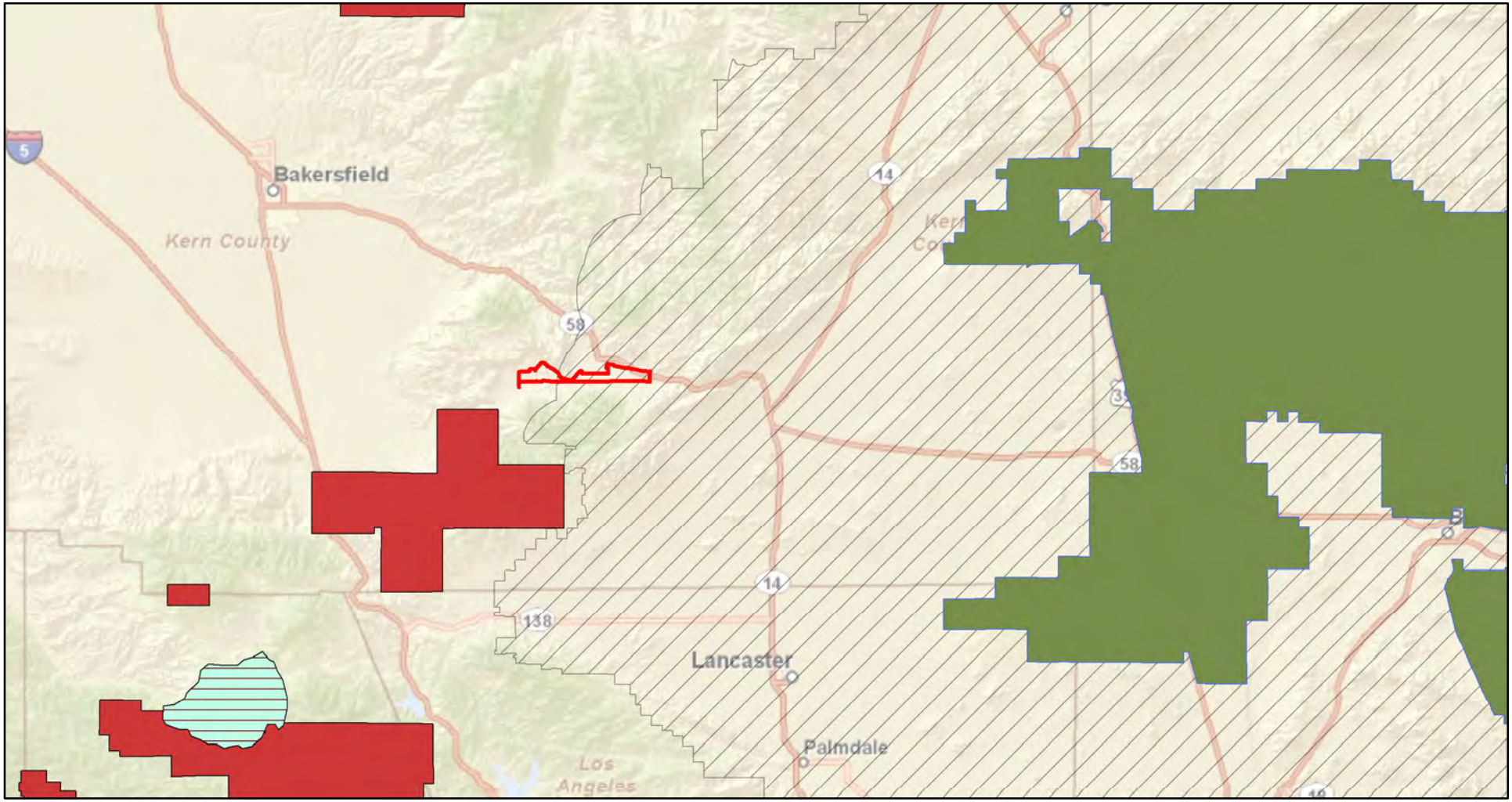
The Federal CWA and California's Porter-Cologne Water Quality Control Act (Porter-Cologne Act) regulate discharge of surface water by the Proposed Project. These laws establish the Regional Water Quality Control Board (RWQCB) as the responsible agency for protecting water quality within California. The RWQCB's jurisdiction extends to all "Waters of the State" and to all "Waters of the U.S.," including wetlands (isolated and non-isolated). Section 401 of the CWA provides the RWQCB with the authority to regulate, through a Water Quality Certification, any proposed federally permitted activity that may affect water quality. Section 401 permitting from RWQCB is required to obtain Section 404 permits under the CWA from the USACE.

Intermittent drainages are also afforded protection as streambeds subject to the limitations of California Fish and Game Code Sections 1600 et seq. Under the Fish and Game code, the CDFG is authorized to recommend mitigation for projects that obstruct the flow or that otherwise result in the alteration of the bed, channel, or bank of a stream or river possessing fish and wildlife resources. The law extends the CDFG's jurisdiction to permanent, ephemeral (nonpermanent), and intermittent streams. Applicants whose projects are likely to affect these resources are required to enter into a Streambed Alteration Agreement with the CDFG.

4.8 Critical Habitat and Other Special Management Areas

The closest designated critical habitat to the PSA is habitat for California condor and is located west of the PSA; no designated critical habitat overlaps the Proposed Project site. Approximately two-thirds (eastern portions) of the Banducci Telecommunications route falls within the boundaries of the proposed DRECP planning area. Figure 4-5 (Critical Habitat and Special Management Areas) shows the location of designated Critical Habitat and the DRECP boundaries.

Figure 4-5. Critical Habitat and Other Special Management Areas



Legend

Subtransmission and Telecommunication Routes

DRECP

Critical Habitat

California Condor

Conservancy Fairy Shrimp

Desert Tortoise

Vernal Pool Fairy Shrimp

0 3.757.5 15 22.5 30

Miles

5 DISCUSSION

5.1 Project Impact Analysis

This section presents a biological resources impact analysis based on the current design of the Proposed Project.

The Proposed Project could result in two types of impacts: direct and indirect. Direct impacts may be short-term or long-term alterations or losses during the course of project implementation and operation. Examples of activities that result in direct impacts include grading, vegetation brushing, filling drainages, driving over existing vegetation and other actions that result in habitat loss. Direct impacts are likely to occur within the expected grading limits of permanent sites and temporary access areas (pulling stations etc.). Indirect impacts occur when project-related activities affect biological resources in a manner other than a direct loss of the resource. Noise, lighting, erosion, siltation, substantial reduction in water quality, dust, and increased human activity in or directly adjacent to sensitive habitat areas are examples of potential indirect impacts.

The biological resources impact analysis evaluates possible effects to:

- Federally- and state-listed species
- Non-listed species that meet the criteria in the definition of Rare or Endangered in the CEQA guidelines
- Streambeds, wetlands, and associated vegetation
- Suitable habitat for federally or state-listed plant or wildlife species
- California Species of Concern
- Habitat, other than wetlands, considered special status by regulatory agencies (USFWS, CDFG) or resource conservation organizations
- Other species or issues of concern to regulatory agencies or conservation organizations (e.g., CNPS)

The following section provides describes the potential impact to plants and animals based on the best information available and in accord with the guidelines described above.

5.1.1 Vegetation

The Proposed and Alternative substation locations are on agricultural lands. Proposed Subtransmission and Telecommunication Routes are along established roads and on existing pole lines with available road access. The PSA is also largely within urban areas impacted by past human activities. Nevertheless, portions of the Telecommunication Routes support some native and non-native vegetation. Vegetation impacts could result directly from site grubbing and

clearing and indirectly from soil surface modification that potentially results in topsoil removal and deposition in areas not directly disturbed by project activities. Soil accumulation could impact plants by burying stems and leaves thereby affecting photosynthesis and other processes that plants require to survive. Introduction and creation of conditions suitable for noxious weed proliferation are other potential impacts to vegetation.

5.1.2 Wildlife

Once completed, a jurisdictional delineation effort would also serve to help site pulling stations and other staging areas to avoid native vegetation and sensitive habitats by placing them in previously disturbed areas, such as existing roads, resulting in negligible impacts to native vegetation. Unavoidable impacts to native vegetation will be temporary; non-native vegetation disturbed by project activities would likely recover naturally. Therefore it is anticipated that this impact to vegetation would be less than significant.

Most wildlife activity within the PSA is restricted to areas that support vegetation. Therefore, if vegetation protection or avoidance is incorporated into the project design, the impacts to wildlife are expected to be minimal.

If site plans require complete or partial removal of native vegetation, impacts to wildlife could include direct impacts such as mortality, habitat loss, and loss of nests, roosts or middens. The indirect impacts discussed in Section 5.1.1 Vegetation could also affect wildlife through habitat loss. Sensitive wildlife including species afforded legislative protection (i.e., Federal Endangered Species Act, the State Endangered Species Act, or the Migratory Bird Treaty Act) might also be affected. Such species are discussed in the following Section.

5.1.3 Sensitive Species

Table 5-1 (Potential Impacts to Sensitive Species) summarizes potential impacts to species from implementation of the proposed Banducci project. The sections that follow describe these impacts in greater detail.

Table 5-1. Potential Impacts to Sensitive Species

Species or Taxon	Potential Impacts from Project Implementation
Sensitive Plants	• Damage from vehicular access and siting of pulling stations to undetected plant populations or individually occurring sensitive plants • Indirect damage by vehicular access and siting of pulling stations to adjacent and upstream areas that also affect nearby sensitive plant Populations

Tehachapi Slender Salamander	• Loss of foraging habitat • Soil and vegetation removal and deposition in adjacent potentially occupied habitat • Potential mortality (e.g., vehicle or equipment strike) during telecommunications cable installation and from maintenance activities • Temporary indirect impacts from increased human activity in certain remote areas that also increase predator species associated with humans such as canids and ravens
Burrowing Owl	• Loss of potential foraging and nesting habitat • Soil removal and deposition in adjacent potentially occupied habitat that results in either burrow disturbance or destruction • Potential mortality during telecommunications cable installation and from maintenance activities (e.g., vehicle strike or entrapment of parents, eggs or offspring in burrow) • Temporary impacts from lighting and noise associated with night-time project activities that interrupt breeding functions and increase the chance of predation • Temporary impacts to prey items from project related activities • Temporary indirect impacts from increased human activity in certain remote areas that also increase in predator species associated with humans such as canids and ravens
Coast Horned Lizard	• Potential impacts to occupied habitat • Potential mortality during telecommunications cable installation and from maintenance activities • Temporary or permanent impacts to prey items as a result of crushing ant hills
Foraging Bird Species	• Loss of potential foraging and nesting habitat and disturbance of prey species or food items • Lighting and noise associated with telecommunications line installation that interrupts breeding functions and increases the chance of predation • Damage to nests and mortality of nesting individuals, nestlings, or fledglings
Sensitive Mammals	• Potential damage to dens or nests from vehicular access and siting of pulling stations • Potential mortality during telecommunications cable installation and from maintenance activities • Temporary or permanent impacts to drinking sites near streambeds • Alteration of foraging habitat or impacts to prey • Temporary indirect impacts from increased human activity in certain remote areas that also increase in predator species associated with humans such as canids and ravens
Nesting Birds	• Damage to nests and mortality of nesting individuals, nestlings, or fledglings

5.1.3.1 Special Status Plants

Baja navarretia, Big Bear Valley woollypod delicate bluecup, Madera leptosiphon, pale yellow heterotricha, round-leaved filaree, and Tehachapi monardella are sensitive plants that could occur within the PSA. As discussed in Section 4, none of these species were detected during the surveys, and they are not expected to occur; however, annual plants not detected during the survey, including the aforementioned sensitive species may still occur within the alignment.

Construction of the proposed Banducci or Alternate Substation would not have a substantial adverse effect either directly or through habitat modifications on any special-status plant species. The proposed Banducci Substation site would be located on disturbed land that does not support suitable site conditions or soils for any such species. (Table 4-3 and section 4.6.1 provide soil and other requirements for individual species) Therefore, construction and operation of the proposed Banducci Substation (and alternate) site would not impact special-status plant species.

The proposed new 66 kV subtransmission line poles on Pellisier Road south of Dale Road and pole replacements on Highline Road would be constructed on agricultural land and nonnative grassland. Therefore, construction and operation of the Proposed 66kV Subtransmission Line would not impact special-status plant species.

Suitable habitat for special-status plants is present along Proposed Telecommunication Route 2 where extant native vegetation exists on West Valley Boulevard west of the Tehachapi city limits to Cummings Valley. Suitable habitat for special-status plants is present along Proposed Telecommunications Route 1 on patches of extant native vegetation along Highline Road and the easternmost segment of this route within the California Correctional Institution. Construction activities along the Proposed Telecommunications Routes would have the potential to impact the identified special-status plants and their habitats. These impacts would be similar to those described for vegetation in Section 5.1.1: Vegetation. Impacts on these species or their habitat, if present, would be reduced to less than significant levels through the implementation of the outlined Applicant Proposed Measures, described at the end of this document.

5.1.3.2 Special Status Wildlife

Prairie falcon, Cooper's hawk and ferruginous hawk are known to occur within the PSA. Additionally, American badger, burrowing owl, California condor, California horned lark, coast horned lizard, golden eagle, hoary bat, Merlin, mountain plover, northern harrier, Swainson's hawk, Townsend's big-eared bat, tricolored blackbird, white-tailed kite, and yellow warbler potentially occur within the PSA.

The proposed Banducci and Alternative Substation sites include agricultural land that contains suitable foraging habitat (but not suitable nesting habitat) for California horned lark, ferruginous hawk, prairie falcon, golden eagle, Swainson's hawk, mountain plover, northern harrier, white-

tailed kite, Merlin, California condor, and American badger. Construction of the Subtransmission Line is expected to result in the temporary loss of 6.5 acres of foraging habitat. Construction of the substation is expected to result in the permanent loss of 6.3 acres of foraging habitat. Temporary and permanent habitat losses represent a relatively minor part (or 0.05 percent of temporary and 0.05 percent of permanent loss) of the over 13,000 acres of potential habitat for these species in the region, and no impacts to nesting habitat would be expected to occur, impacts to these species would be considered adverse but less than significant.

Surveys for burrowing owl conducted in 2010 and 2011 did not produce evidence of burrowing owl on or near the proposed Banducci Substation site. Although some suitable habitat for this species occurs on the site, and this species may occur occasionally as a migrant or winter visitor, the site appears to be subject to frequent disturbance that precludes the presence of the species at some locations. Any impacts to burrowing owls would be reduced to less than significant levels through the implementation of the APMs described below.

Limited habitat for the state-listed Tehachapi slender salamander occurs along the Proposed Telecommunication Route 1 between the Tehachapi city limits and Cummings Valley and on Proposed Telecommunications Route 2 within the California Correctional Institution. Construction activities along the proposed telecommunications routes would have the potential to impact the Tehachapi slender salamander. Impacts to this species, if present, would be reduced to less than significant levels through the implementation of the APMs described below.

Coast horned lizard may occur along the Proposed Telecommunication Route 1 between the Tehachapi city limits and Cummings Valley and on Proposed Telecommunications Route 2 within the California Correctional Institution. Potential impacts to this species would be less than significant through the implementation of the APMs outlined below. Hoary bat, Townsend's big-eared bat, yellow warbler and tricolored blackbird are only expected to forage over the PSA and are unlikely to be affected by project activities.

5.2 Sensitive Habitats and Regulated Waters Requirements

No federally protected wetlands as defined by Section 404 of the CWA are present on the Proposed 66 kV Subtransmission Line routes. Construction and operation of the Proposed Subtransmission Line would not have a substantial adverse effect on federally protected wetlands.

Hydrophytic vegetation present in certain drainages and tributaries to Brite Creek likely meet the definition of wetland under Section 404 of the CWA, such as those that cross the Proposed Telecommunications Route 2 along West Valley Boulevard, west of the City of Tehachapi. Additionally, small pockets of Big Sagebrush Scrub (a sensitive habitat) occur in the eastern half of the Proposed Telecommunications Route 2.

If the Proposed Project design changes and impacts to jurisdictional areas are determined to be necessary, a jurisdictional delineation shall be conducted to describe the type and extent of waters of the United States, including wetlands, and/or waters of the State within the proposed impact area. The presence or absence of wetlands shall be verified through an analysis of any hydrological conditions, hydrophytic vegetation, and hydric soils pursuant to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE, 2008). Prior to any impacts to jurisdictional areas, permits/agreements from the USACE, the CDFG, and the RWQCB would be obtained for direct and indirect impacts to areas within these agencies' jurisdictions. Acquisition and implementation of the permit/agreement may constrain proposed activities.

SCE would implement all measures required by the permits/agreements as issued by the resource agencies. Mitigation may include restoration of disturbed jurisdictional areas. A minimum replacement ratio of 1:1, or as otherwise agreed to by the resource agencies, may be required to ensure no net loss of habitat value. Construction activities may have the potential to impact these hydrologic features. Implementation of the appropriate delineation process, permitting, and mitigation would offset these impacts.

5.3 Applicant Proposed Mitigation

The following Applicant Proposed Measures (APMs) are intended to inform mitigation program planning. These APMs are expected to avoid, minimize, or mitigate Project-related impacts to biological resources to less than significant levels. These APMs are derived from, and are meant to satisfy permitting requirements such as those required under ESA, CESA, CWA, California Fish and Game Code, and CEQA.

APM BIO-1 Pre-construction Surveys and Construction Monitoring. To the extent feasible, biological monitors would monitor construction activities in areas with special-status species, native vegetation, wildlife habitat, or unique resources to ensure such resources are avoided.

APM BIO-2 Pre-Construction Surveys for Nesting Birds/Raptors. SCE would conduct project-wide nesting bird surveys and remove trees and other vegetation if feasible outside of the nesting season. If a tree or pole containing a raptor nest must be removed during nesting season, or if work is scheduled to take place in close proximity to an active nest on an existing transmission tower or pole, SCE biologists would determine appropriate nesting buffers based on a project specific nesting bird management plan or consultation with the appropriate agencies.

APM BIO-3 Burrowing Owl. Biologists would conduct a preconstruction burrowing owl survey of the Proposed Project Study Area no more than 30 days prior to construction.

Construction activities will be scheduled and planned to avoid burrowing owls and their burrows. A 250-foot buffer will be placed around active nest and the site will be avoided, where feasible. If occupied burrows cannot be avoided, an appropriate relocation strategy would be developed in conjunction with the CDFG and may include collapsing burrows outside of nesting season and

using exclusionary devices to reduce impacts to the burrowing owl. Biological monitors would monitor all construction activities that have the potential to impact active burrows.

APM BIO-4 Tehachapi Slender Salamander. If project activities would be located within oak woodlands and ravines, construction activities would avoid displacement of rocks, logs, bark, and other debris in thick leaf litter, near talus slopes. For these areas, a biologist would be present to ensure that construction activities do not impact this species, particularly during periods of peak activity, such as rainy or wet nights with moderate temperatures.

APM BIO-5 Avoidance of Sensitive Habitats. SCE would minimize impacts and permanent loss of Big Sagebrush Scrub, oak woodlands, and aquatic features at construction sites by flagging native vegetation to be avoided. If unable to avoid impacts to native vegetation, a project revegetation plan would be prepared in coordination with the appropriate agencies for areas of native habitat temporarily impacted during construction.

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APPENDIX A

PLANTS AND WILDLIFE DETECTED

SEED-FREE VASCULAR PLANTS FERNS, HORSETAILS, AND CLUB MOSSES	
Lycopodiophyta	
Selaginellaceae	**Spikemoss Family**
Selaginella bigelovii	Bushy Spikemoss
GYMNOSPERMS NAKED SEEDED PLANTS	
Coniferophyta	
Cupressaceae	**Cypress Family**
Juniperus californica	California Juniper
Pinaceae	**Pine Family**
Pinus monophylla	Single-leaf Pinyon
Pinus sabiniana	California Foothill Pine
Gnetophyta	
Ephedraceae	**Ephedra Family**
Ephedra nevadensis	Mormon Tea
ANGIOSPERMS FLOWERING PLANTS	
DICOTYLEDONS	
Amaranthaceae	**Amaranth Family**
Amaranthus albus	Prostrate Pigweed
Anacardiaceae	**Cashew Family**
Toxicodendron diversilobum	Poison Oak
Asteraceae	**Sunflower Family**
Acroptylon repens	Russian Knapweed*
Ambrosia acanthicarpa	Annual Burweed
Artemisia douglasiana	Mugwort
Artemisia tridentata subsp. parishii	Great-basin Sagebrush
Centaurea solstitialis	Yellow Star Thistle*
Chamomilla occidentalis	Western Pineappleweed
Chrysothamnus nauseosus	Rubber Rabbitbrush
Chrysothamnus nauseosus subsp. consimilis	Rabbitbrush
Chrysothamnus nauseosus subsp. hololeucus	Ghostly Rubber Rabbitbrush
Cirsium arvense	Canada Thistle*
Conyza canadensis	Canadian Horseweed
Coreopsis bigelovii	Bigelow's Coreopsis

Ericameria cooperi var. cooperi	Cooper's Goldenbush
Ericameria linearifolia	Linear Leaved Goldenbush
Filago californica	California Cottonrose
Gnaphalium luteo-album	Everlasting Cudweed
Helianthus annuus	Western Sunflower
Heterotheca grandiflora	Telegraph Weed
Lasthenia californica	California Goldfields
Layia glandulosa	White Tidy Tips
Lessingia [*Corethrogyne*] *filaginifolia*	Common Sandaster
Malacothrix glabrata	Desert Dandelion
Boraginaceae	**Forget-me-not Family**
Amsinckia menziesii var. menziesii	Fiddleneck
Amsinckia tessellata var. tessellata	Devil's Lettuce
Cryptantha sp	Cryptantha
Pectocarya penicillata	Winged Pectocarya
Brassicaceae	**Mustard Family**
Brassica tournefortii	Asian Mustard*
Capsella bursa-pastoris	Shepherd's Purse*
Descurainia pinnata subsp. intermedia	Tansymustard
Erysimum capitatum var. capitatum	Western Wallflower
Hirschfeldia incana	Short-pod Mustard*
Lepidium nitidum var. nitidum	Shining Peppergrass
Sisymbrium irio	London Rocket*
Chenopodiaceae	**Goosefoot Family**
Atriplex canescens subsp. canescens	Four-winged Saltbush
Chenopodium album	Pigweed*
Salsola tragus	Russian Thistle*
Cucurbitaceae	**Gourd Family**
Cucurbita foetidissima	Stinking Melon
Marah fabaceus	Manroot
Euphorbiaceae	**Spurge Family**
Chamaesyce polycarpa	Small-seeded Spurge
Eremocarpus setigerus	Doveweed
Fabaceae	**Pea Family**
Lotus strigosus	Strigose Bird's Foot Trefoil
Lupinus excubitus var. excubitus	Grape Soda Lupine
Lupinus grayi	Gray’s Lupine
Medicago sativa	Alfalfa*
Melilotus indicus	Annual Yellow Sweetclover*
Melilotus officinalis	Yellow Sweetclover*

Fagaceae	**Beech Family**
Quercus agrifolia	California Coast Live Oak
Quercus douglasii	Blue Oak
Quercus kelloggii	Black Oak
Quercus lobata	Valley Oak
Quercus wislizenii	Interior Live Oak
Geraniaceae	**Geranium Family**
Erodium cicutarium	Red-stemmed Filaree*
Grossulariaceae	**Currant Family**
Ribes malvaceum var. malvaceum	Chaprral Currant
Hippocastanaceae	**Horse Chestnut Family**
Aesculus californica	California Buckeye
Hydrophyllaceae	**Waterleaf Family**
Nemophila menziesii var. menziesii	Baby Blue Eyes
Phacelia cicutaria	Caterpillar Phacelia
Phacelia distans	Distant Phacelia
Phacelia ramosissima var. ramosissima	Branching Phacelia
Lamiaceae	**Mint Family**
Marrubium vulgare	Horehound*
Salvia columbariae	Chia
Onagraceae	**Evening-primrose Family**
Camissonia boothii	Suncup
Epilobium ciliatum subsp. ciliatum	Fringed Willowherb
Papaveraceae	**Poppy Family**
Argemone munita	Prickly Poppy
Eschscholzia californica	California Poppy
Plantaginaceae	**Plantain Family**
Plantago major	Plantain*
Polygonaceae	**Buckwheat Family**
Eriogonum deflexum var. deflexum	Flatcrown Buckwheat
Eriogonum fasciculatum	Buckwheat
Polygonum aviculare	Prostrate Knotweed*
Rumex crispus	Curly Dock*
Portulacaceae	**Purslane Family**
Claytonia perfoliata	Miner's Lettuce
Rhamnaceae	**Buckthorn Family**
Rhamnus californica subsp. californica	California Coffeeberry
Rosaceae	**Rose Family**
Heteromeles arbutifolia	Toyon
Purshia tridentata var. glandulosa	Antelope Bush

Rubiaceae	**Madder Family**
Galium angustifolium subsp. gracillimum	Narrow-Leaf Bedstraw
Galium aparine	Stickywilly
Salicaceae	**Willow Family**
Salix exigua	Narrowleaf Willow
Salix gooddingii	Gooding's Willow
Scrophulariaceae	**Figwort Family**
Scrophularia californica	California Figwort
Solanaceae	**Nightshade Family**
Chamaesaracha coronopus	Greenleaf Five Eyes
Datura wrightii	Sacred Thorn Apple
Nicotiana glauca	Tree Tobacco*
Solanum elaeagnifolium	Silverleaf Nightshade*
Solanum xanti	Purple Nightshade
Tamaricaceae	**Salt Cedar Family**
Tamarix aphylla	Athel Tamarisk*
Tamarix ramosissima	Saltcedar*
MONOCOTYLEDONS	
Poaceae	**True Grass Family**
Avena barbata	Slender Wild Oats*
Bromus diandrus	Ripgut Brome*
Bromus madritensis subsp. rubens	Red Brome*
Bromus tectorum	Cheatgrass*
Cynodon dactylon	Bermuda Grass*
Hordeum jubatum	Foxtail Barley*
Hordeum vulgare	Common Barley*
Leptochloa uninervia	Mexican Sprangletop
Lolium perenne	Perennial Ryegrass*
Nassella pulchra	Purple Needlegrass
Parapholis incurva	Semaphore Grass*
Poa annua	Annual Bluegrass
Poa pratensis subsp. pratensis	Kentucky Bluegrass*
Poa secunda subsp. secunda	Pine Bluegrass
Polypogon monspeliensis	Rabbitsfoot Grass*
Schismus barbatus	Beardgrass*
Secale cereale	Cereal Rye*
Sorghum bicolor	Sorghum*
Triticum aestivum	Wheat*
Vulpia octoflora var. hirtella	Sixweeks Fescue

*Non-native Species

Insects and Other Invertebrates	
Insects (Class Insecta)	
Pieridae	**White Butterflies**
Anthocharis sara sara	Pacific Orange Tip
Zerene Eurydice	California Dogface
Limenitidinae	**Admiral Butterflies**
Adelpha bredowii californica	California Sister
Limenitis lorquini	Lorquin's Admiral
Daniidae	**Monarch and Viceroy Butterflies**
Danaus plexippus	Monarch
Nymphalidae	**Brush-footed Butterflies**
Vanessa cardui	Painted Lady Butterfly
Papilionidae	**Swallowtail Butterflies**
Papilio rutulus rutulus	Western Tiger Swallowtail
Formicidae	**Formicid Ants**
Pogonomyrmex sp.	Harvester Ant
Vertebrates	
Reptiles (Class Reptilia)	
Phrynosomatidae	**Phrynosomid Lizards**
Uta stansburiana	Side-blotched Lizard
Teiidae	**Whiptail Lizards**
Aspidoscelis [=*Cnemidophorus*] *tigris*	Western Whiptail
Colubridae	**Egg-laying Snakes**
Pituophis melanoleucus	Gopher Snake
Birds (Class Aves)	
AVES	**BIRDS**
Cathartidae	**New World Vultures**
Cathartes aura	Turkey Vulture
Anatidae	**Swans, Geese and Ducks**
Anas platyrhynchos	Mallard
Accipitridae	**Hawks, Old World Vultures and Harriers**
Buteo jamaicensis	Red-tailed Hawk
Buteo regalis	Ferruginous Hawk
Accipiter cooperii	Cooper's Hawk
Falconidae	**Caracaras and Falcons**
Falco mexicanus	Prairie Falcon
Falco sparverius	American Kestrel
Odontophoridae	**New World Quail**
Callipepla californica	California Quail
Charadriidae	**Plovers and Relatives**

Charadrius vociferus	Killdeer
Columbidae	**Pigeons and Doves**
Zenaida macroura	Mourning Dove
Columba livia *	Rock Pigeon
Tytonidae	**Barn Owls**
Tyto alba	Barn Owl
Apodidae	**Swifts**
Chaetura vauxi	Vaux's Swift
Aeronautes saxatalis	White-throated Swift
Trochilidae	**Hummingbirds**
Calypte anna	Anna's Hummingbird
Calypte costae	Costa's Hummingbird
Picidae	**Woodpeckers and Wrynecks**
Colaptes auratus	Northern Flicker
Melanerpes formicivora	Acorn Woodpecker
Picoides pubescens	Downy Woodpecker
Tyrannidae	**Tyrant Flycatcher**
Tyrannus verticalis	Western Kingbird
Tyrannus vociferans	Cassin's Kingbird
Myiarchus cinerascens	Ash-throated Flycatcher
Sayornis saya	Say's Phoebe
Empidonax difficilis	Pacific-slope Flycatcher
Sayornis nigricans	Black Phoebe
Laniidae	**Shrikes**
Lanius ludovicianus	Loggerhead Shrike
Corvidae	**Jays, Magpies and Crows**
Aphelocoma californica	Western Scrub-Jay
Corvus corax	Common Raven
Alaudidae	**Larks**
Eremophila alpestris	Horned Lark
Hirundinidae	**Swallows**
Tachycineta bicolor	Tree Swallow
Petrochelidon pyrrhonota	Cliff Swallow
Tachycineta thalassina	Violet-green Swallow
Hirundo rustica	Barn Swallow
Stelgidopteryx serripennis	Northern Rough-winged Swallow
Aegithalidae	**Bushtit**
Psaltriparus minimus	Bushtit
Troglodytidae	**Wrens**
Salpinctes obsoletus	Rock Wren
Thryomanes bewickii	Bewick's Wren

Turdidae	**Thrushes**
Sialia mexicana	Western Bluebird
Turdus migratorius	American Robin
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	Northern Mockingbird
Sturnidae	**Starlings and Allies**
Sturnus vulgaris *	European Starling
Ptilogonatidae	**Silky Flycatchers**
Phainopepla nitens	Phainopepla
Parulidae	**Wood Warblers and Relatives**
Geothlypis trichas	Common Yellowthroat
Wilsonia pusilla	Wilson's Warbler
Vermivora celata	Orange-crowned Warbler
Dendroica coronata	Yellow-rumped Warbler
Dendroica nigrescens	Black-throated Gray Warbler
Emberizidae	**Emberizines**
Melospiza melodia	Song Sparrow
Zonotrichia leucophrys	White-crowned Sparrow
Junco hyemalis	Dark-eyed Junco
Chondestes grammacus	Lark Sparrow
Melazone crissalis	California Towhee
Passerculus sandwichensis	Savannah Sparrow
Icteridae	**Blackbirds, Orioles and Allies**
Euphagus cyanocephalus	Brewers Blackbird
Sturnella neglecta	Western Meadowlark
Fringillidae	**Finches**
Carduelis tristis	American Goldfinch
Carduelis psaltria	Lesser Goldfinch
Carpodacus mexicanus	House Finch
Passeridae	**Old World Sparrows**
Passer domesticus *	House Sparrow
Mammals (Class Mammalia)	
Leporidae	**Rabbits and Hares**
Lepus californicus	Black-tailed Jackrabbit
Sylvilagus audubonii	Desert Cottontail
Sciuridae	**Squirrels, Chipmunks and Marmots**
Spermophilus beecheyi	California Ground Squirrel
Geomyidae	**Gophers**
Thomomys bottae	Botta's Pocket Gopher
Mephitidae	**Skunks and Allies**
Mephitis mephitis	Striped Skunk

Canidae	**Foxes, Wolves and Relatives**
Canis latrans	Coyote
Canis lupus familiaris (=*Canis familiaris*)	Domestic Dog
Felidae	**Cats**
Lynx rufus	Bobcat
Antilocapridae	**Antelope**
Antilocapra americana	PronghornAntelope*
Cervidae	**Deer, Elk and Relatives**
Odocoileus hemionus	Mule Deer

* Non-native and introduced species

APPENDIX B

QUADRANGLES QUERIED FOR CNDDB

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