

APPENDIX L
Agricultural Resources Report

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**Agricultural Resources Report
for the Campo Wind Project with Boulder Brush Facilities
PDS2019-MUP-19-002PDS2019-ER-19-16-001**

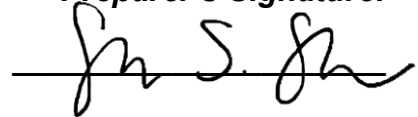
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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
amsl	above mean sea level
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
CEQA	California Environmental Quality Act
County	County of San Diego
DOC	Department of Conservation
FMMP	Farmland Mapping and Monitoring Program
kV	kilovolt
LARA	Local Agricultural Resource Assessment
MW	megawatt
NEPA	National Environmental Policy Act
O&M	operations and maintenance
Project	Campo Wind Project with Boulder Brush Facilities
SDG&E	San Diego Gas & Electric
USDA	U.S. Department of Agriculture
ZOI	Zone of Influence

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EXECUTIVE SUMMARY

The Campo Wind Project with Boulder Brush Facilities (Project) would involve construction and operation of a renewable wind energy generation facility and associated infrastructure to connect energy generated by the Project to the existing San Diego Gas & Electric (SDG&E) Sunrise Powerlink.

The Project consists of both the Campo Wind Facilities, which would be located on land within the Campo Band of Diegueño Mission Indians Reservation (Reservation) Boundary under the jurisdiction of the Bureau of Indian Affairs (BIA), and the Boulder Brush Facilities, which would be located on adjacent private lands within the Boulder Brush Boundary. The Campo Wind Facilities would be located within the approximately 2,200-acre Campo Corridor inside the Reservation Boundary, whereas the Boulder Brush Facilities would be located within the approximately 320-acre Boulder Brush Corridor inside the Boulder Brush Boundary. Collectively, the Campo Corridor and the Boulder Brush Corridor comprise the approximately 2,520-acre Project Site.

The Boulder Brush Facilities would be located in the McCain Valley area of unincorporated San Diego County, California, north of the community of Boulevard. The Campo Wind Facilities, under the jurisdiction of the BIA, are outside the County of San Diego (County) and state's authority. The Boulder Brush Facilities are proposed on private land, which are under the land use and permitting jurisdiction of the County and, therefore, are analyzed in this Agricultural Resources Report. The Boulder Brush Facilities would be located within Boulevard portion of the Mountain Empire Subregional Planning Area. Regional access to the Project Site is provided via Interstate (I) 8 at the intersection of State Route 94 (Figure 1, Project Location). Primary access to the Project Site is provided by Crestwood Road, BIA 10/Church Road, and Ribbonwood Road.

The Campo Corridor totals approximately 2,200 acres within the Reservation Boundary. The Boulder Brush Corridor totals approximately 320 acres within the approximately 2,000 acres of Private Lease land inside the Boulder Brush Boundary and is located within Assessor's Parcel Numbers 529-050-01, 529-060-01, 529-090-02, 529-100-02, 529-100-03, 529-120-01, 529-120-03, 529-130-01, 611-010-01, 611-010-02, 611-010-03, 611-020-01, 611-050-05, 528-220-02, 528-220-03, 529-090-03, 611-050-04, and 529-100-01.

Existing uses within the Boulder Brush Boundary include vacant, undeveloped land, portions of which were historically grazed by cattle. Based on environmental field surveys conducted within the Boulder Brush Boundary, no evidence of current cattle grazing was found. There is also evidence of motocross, all-terrain vehicle (ATVs) use, and other off-highway vehicle use. Numerous 'No Trespassing' signs have been posted at locations along the Boulder Brush Boundary to deter unauthorized motocross, ATV, and other off-highway vehicle access.

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In the County's General Plan, the Boulder Brush Boundary is designated as Rural Lands 80 (RL-80) (County of San Diego 2011a). The Boulder Brush Boundary is zoned General Rural (S92), which allows for residential uses, civic uses, essential services (fire protection and law enforcement services), and agricultural uses by right (County of San Diego 1999). The County does not have land use jurisdiction over Reservation land.

As concluded in this Agricultural Resources Report, land within the Boulder Brush Boundary has been determined by the County's Local Agricultural Resource Assessment (LARA) Model to not be an important agricultural resource. The Boulder Brush Facilities would impact approximately 38.39 acres of County-designated candidate soils for Prime Farmland or Farmland of Statewide Importance. These soils designated by the County include a broader range of soils than the Prime Agricultural Land definition in Government Code 51201(c). The Boulder Brush Facilities would impact County-designated candidate soils for Prime Farmland or Farmland of Statewide Importance that were historically used for ranching and cattle grazing, and are currently available for agricultural use. However, land within the Boulder Brush Boundary has not been historically used for irrigated agricultural production and is not designated by the Department of Conservation (DOC) as Prime Farmland or Farmland of Statewide Importance. Furthermore, the LARA Model determined that land within the Boulder Brush Boundary has a soil quality rating of "low;" therefore, impacts to agricultural resources would not be significant, and mitigation is not required. The LARA Model determined that the Boulder Brush Facilities would have less-than-significant indirect impacts on surrounding agricultural resources based on the criteria evaluated in Chapter 2, On-Site Agricultural Resources – Boulder Brush Facilities.

Although the County, as Lead Agency, is analyzing the Project as a whole, the County's land use jurisdiction is limited to the Boulder Brush Facilities. The Campo Wind Facilities are outside the County and state's authority. The Campo Wind Facilities are not subject to the County's LARA Model. Potential agricultural impacts from the Campo Wind Facilities are evaluated pursuant to the Campo Band of Mission Indians Land Use Plan, and applicable tribal regulations. The BIA has jurisdiction over the Campo Wind Facilities and has prepared an Environmental Impact Statement to evaluate potential impacts under the National Environmental Policy Act (NEPA).

Two cumulative projects occur on land designated as an agricultural preserve; however, none of the cumulative projects occur on land under a Williamson Act Contract. A cumulatively significant conversion of agricultural land to a nonagricultural use would not occur. Cumulative projects occur in proximity to existing agricultural operations; however, it is not anticipated that cumulative projects would have adverse indirect impacts to the viability of surrounding agricultural land. Impacts to agricultural land would not be cumulatively considerable, and no mitigation measures are required. Further analysis is provided in Section 5.2, Analysis of Project Effects.

Agricultural Resources Report for the Campo Wind Project with Boulder Brush Facilities

1 INTRODUCTION

1.1 Purpose of the Report

The purpose of this report is to determine the importance of agricultural resources based on County of San Diego (County) criteria and to assess the potential impacts to those resources due to development of the Campo Wind Project with Boulder Brush Facilities (Project). This report also defines and determines potential impacts to surrounding active agricultural operations, addresses consistency with general plan policies pertaining to agriculture, and determines the significance of cumulative impacts to agricultural resources.

1.2 Project Location and Description

1.2.1 Location and Physical Setting

The Campo Wind Facilities would be located within the approximately 2,200-acre Campo Corridor inside the Campo Band of Diegueño Mission Indians Reservation (Reservation) Boundary while the Boulder Brush Facilities would be located within the approximately 320-acre Boulder Brush Corridor inside the Boulder Brush Boundary. Collectively, the Campo Corridor and the Boulder Brush Corridor comprise the approximately 2,520-acre Project Site.

The Boulder Brush Boundary consists of 18 parcels in southeastern San Diego County, California within Assessor's Parcel Numbers 529-050-01, 529-060-01, 529-090-02, 529-100-02, 529-100-03, 529-120-01, 529-120-03, 529-130-01, 611-010-01, 611-010-02, 611-010-03, 611-020-01, 611-050-05, 528-220-02, 528-220-03, 529-090-03, 611-050-04, and 529-100-01. The Boulder Brush Facilities would be located in the McCain Valley area of unincorporated San Diego County, north of the community of Boulevard and Interstate (I) 8. The Boulder Brush Corridor is composed of undeveloped ranch land, a portion of which was historically grazed by cattle, and is surrounded by rural residential homes, ranches scattered throughout the region, existing wind energy facilities, and the existing San Diego Gas & Electric (SDG&E) Sunrise Powerlink (Figure 1). There is also evidence of motocross, all-terrain vehicle (ATV), and other off-highway vehicle use within the Boulder Brush Boundary. Regional access to the Project Site is provided by I-8. Local access is provided by Crestwood Road, BIA 10/Church Road, and Ribbonwood Road.

1.2.2 Project Description

The Project is a wind energy generation project proposed to be located in southeastern San Diego County, California (Figure 2, Project Components). The Project Site includes approximately 2,520 acres and consists largely of undeveloped land.

Agricultural Resources Report for the Campo Wind Project with Boulder Brush Facilities

The Project would involve construction and operation of a renewable wind energy generation facility and associated infrastructure to connect energy generated by the Project to the existing SDG&E Sunrise Powerlink. The Campo Wind Facilities would include up to 60 wind turbines, collector lines, collector substation, an approximately 5-mile On-Reservation portion of the generator tie line (gen-tie line) with support pole structures, an operations and maintenance (O&M) facility, meteorological towers, a temporary concrete batch plant and laydown yard, and site access roads. The Boulder Brush Facilities would include an approximately 3.5-mile Off-Reservation portion of the gen-tie line with support pole structures, a high-voltage substation, a 500-kilovolt switchyard and in and out connection lines to the existing SDG&E Sunrise Powerlink, and access roads. Eventual decommissioning of Project components would occur at the end of the Project's useful life cycle; except for the components that would be owned and operated by SDG&E, which include the switchyard and the loop-in/out lines.

1.2.3 Existing and Surrounding Land Uses

Existing Project Site Conditions

The Project Site is largely undeveloped land. The Project Site is flat and hilly with terrain generally rising in elevation from south to north. The Project Site lies between two major drainage divides: the Tecate Divide to the west and the In-Ko-Pah Mountains to the east.

Boulder Brush Facilities

The terrain of land within the Boulder Brush Boundary is characterized by sparsely developed, high-desert rolling hills. The elevation ranges from approximately 3,280 feet above mean sea level (amsl) to approximately 4,120 feet amsl. The Sunrise Powerlink traverses the northern portion of the Boulder Brush Boundary. Existing wind energy facility infrastructure is located on adjacent lands to the northwest, north, and east.

Native vegetation communities within the Boulder Brush Boundary are montane buckwheat scrub, big sagebrush scrub, granitic northern mixed chaparral, chamise chaparral, granitic chamise chaparral, red shank chaparral, semi-desert chaparral, wildflower field, emergent wetland, southern arroyo willow riparian forest, and coast live oak woodland. Two non-native vegetation communities, disturbed habitat and eucalyptus woodland, and two land cover types (unvegetated stream channel and urban/developed). Semi-desert chaparral, red shank chaparral, Montane buckwheat scrub, and granitic northern mixed chaparral communities are the most common plant communities on and adjacent to the Boulder Brush Boundary. The Boulder Brush Facilities are located in an area with historically fire adapted vegetation communities, including chaparral, scrub, and oak woodlands, which are vegetation communities that experience occasional wildfire and can burn in an extreme manner under the occasional severe fire weather (dry and windy) conditions that occur in the area.

Agricultural Resources Report for the Campo Wind Project with Boulder Brush Facilities

There is evidence of motocross, ATV use, and other off-highway vehicle use. Numerous ‘No Trespassing’ signs have been posted at locations along the Boulder Brush Boundary to deter public off-highway vehicle use within the Boundary Brush Boundary. The Bureau of Land Management (BLM)-managed McCain Valley Recreation Management Zone (RMZ) is located directly north of the Boulder Brush Boundary. Off-Highway Vehicle (OHV) use is considered a primary activity in the McCain Valley RMZ as identified in the Eastern San Diego County Resource Management Plan (BLM 2008).

Campo Wind Facilities

The terrain on the Reservation is characterized by sparsely developed, high-desert rolling hills. The elevation ranges from approximately 3,100 feet amsl to approximately 4,200 feet amsl.

The Reservation Boundary is in a desert transition zone, which supports a variety of habitat types and vegetation communities and is dominated by chamise chaparral with both a monotypic phase and a mixed chaparral phase. Additional vegetation communities found throughout this area and especially along ridges and slopes include red shank chaparral, big sagebrush scrub, and upper Sonoran subshrub scrub. A series of ridges running north to south is located throughout the Reservation separated by shallow valleys consisting of coast live oak woodland, non-native grassland, and southern willow scrub vegetation. Various large rock-outcrops of light-colored boulders are scattered throughout this area but are primarily located along the ridgelines.

Uses within the Reservation include rural residential, wind energy facilities, the Golden Acorn Casino, tribal facilities, and Campo Materials aggregate activities. The Reservation Boundary includes scattered residences and some moderate development near the Tribal Administration Center, the Southern Indian Health Center Clinic, the current Campo Materials sand-mining operation, and Golden Acorn Casino. Three highways cross the region: I-8, Old Highway 80, and State Route 94. An existing rail line, operated by San Diego and Imperial Valley Railroad, also extends to this area.

Land Use Designations and Zoning

In the County’s General Plan, the land within the Boulder Brush Boundary is designated as RL-80 (County of San Diego 2011a). The land within the Boulder Brush Boundary is zoned General Rural (S92) by the County Zoning Map (County of San Diego 1999). The S92 zone allows for residential uses, civic uses, essential services (fire protection and law enforcement services), and agricultural uses by right (County of San Diego 1999). The County does not have jurisdiction over Reservation land. The Project would require a Major Use Permit and does not require a change in land use designation or zoning.

Agricultural Resources Report for the Campo Wind Project with Boulder Brush Facilities

Surrounding Land Uses

The Project Site is surrounded by rural residential homes and ranches scattered throughout the region. Land ownership surrounding the Project Site consists of a mixture of private, State of California, BLM, and tribal lands. The surrounding area also includes existing nearby wind turbine facilities (Kumeyaay Wind and Tule Wind), and transmission infrastructure (SDG&E's Sunrise Powerlink). The 500-kilovolt Sunrise Powerlink transmission line traverses the northeast portion of the Boulder Brush Boundary, and the Kumeyaay Wind and Tule Wind facilities are located to the west and northeast, respectively. The Reservation is surrounded by open space and rural residential developments in unincorporated communities. The Manzanita Reservation borders the northern portion of the Campo Reservation and the La Posta Reservation is located to the northeast.

1.3 Analysis Methods

The agricultural study area includes the land within the Boulder Brush Boundary and the Zone of Influence (ZOI)¹ according to the County Department of Planning and Land Use's Local Agricultural Resource Assessment (LARA) Model, within the Boulevard Portion of the Mountain Empire Subregional Area. Data sources used in this analysis include the U.S. Department of Agriculture (USDA) Soil Conservation Service Soil Surveys, the Department of Conservation's (DOC's) Farmland Mapping and Monitoring Program (FMMP) Farmlands maps for the County, and the County's Geographic Information Source (SanGIS). Google Earth maps were used for aerial photo interpretations of the Boulder Brush Boundary and the surrounding area.

The Campo Wind Facilities are outside the County and state's authority and not subject to the LARA Model. Potential agricultural impacts from the Campo Wind Facilities are evaluated pursuant to the Campo Band of Mission Indians Land Use Plan, and applicable tribal regulations. The BIA has jurisdiction over the Campo Wind Facilities and has prepared an Environmental Impact Statement to evaluate potential Project effects under the National Environmental Policy Act (NEPA); therefore, environmental impacts analyzed under CEQA in this report are focused on those resulting from the Boulder Brush Facilities only. Any information provided on the Campo Wind Facilities are provided for informational purposes.

¹ The ZOI methodology is taken from the Department of Conservation's Land Evaluation Site Assessment model and includes a minimum area of 0.25 miles beyond project boundaries and includes the entire area of all parcels that intersect the 0.25-mile boundary. The ZOI developed by the Department of Conservation is the result of several iterations during development of the Land Evaluation Site Assessment model for assessing an area that would generally be a representative sample of surrounding land use (County of San Diego 2007).

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1.4 Environmental Setting

1.4.1 Regional Context

The land within the Boulder Brush Boundary is located within the Boulevard Portion of the Mountain Empire Subregional Plan, one of 23 planning subregions identified within the County General Plan. The Mountain Empire Subregion Plan (County of San Diego 1979) is composed of subregional areas with unique identities: Boulevard, Tecate, Potrero, Campo/Lake Morena, Jacumba, the Mountain Empire Balance, and the remainder of the plan area. The Boulevard Subregional Planning Area has adopted specific vision statements, goals, and policies (County of San Diego 2011b).

The Mountain Empire Subregional Plan supplements the existing elements of the County General Plan and provides a basis for regulation for this specific unincorporated area. The subregion is rural, but the topography, lack of water, and poor soil quality offer little opportunity for instituting any large-scale agricultural operations. However, the Mountain Empire Subregional Plan determined a possible benefit of promoting agricultural uses in the subregion, specifically in Tecate (County of San Diego 1979). Section 1.4.3, Off-Site Agricultural Resources, provides a description of agricultural resources within the region.

1.4.2 On-Site Agricultural Resources – Boulder Brush Boundary

The land within the Boulder Brush Boundary is in the McCain Valley area of the unincorporated County, north of the community of Boulevard and I-8 and is surrounded by rural residential homes and ranches scattered throughout the region. Land ownership surrounding the Boulder Brush Boundary consists of a mixture of private, BLM, and tribal lands. The Boulder Brush Boundary is surrounded by rural land use designations.

Agricultural Uses

The land within the Boulder Brush Boundary is primarily undeveloped and does not contain DOC FMMP important farmland or irrigated croplands. There is evidence of a historic small cattle grazing operation located on land within the southwestern portion of the Boulder Brush Boundary. However, based on site visits and environmental field surveys conducted for the Project, there is no evidence of current cattle grazing occurring within the Boulder Brush Boundary. As seen in Figure 3, Zone of Influence Important Farmland, the land within the Boulder Brush Boundary is designated under the state FMMP as “Other Land,” defined as land which does not meet the criteria of any other FMMP category (California Department of Conservation 2010), and no farmland designations exist on site. Common examples of land designated as Other Land include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confirmed livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres (California Department of Conservation 2017).

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Soils

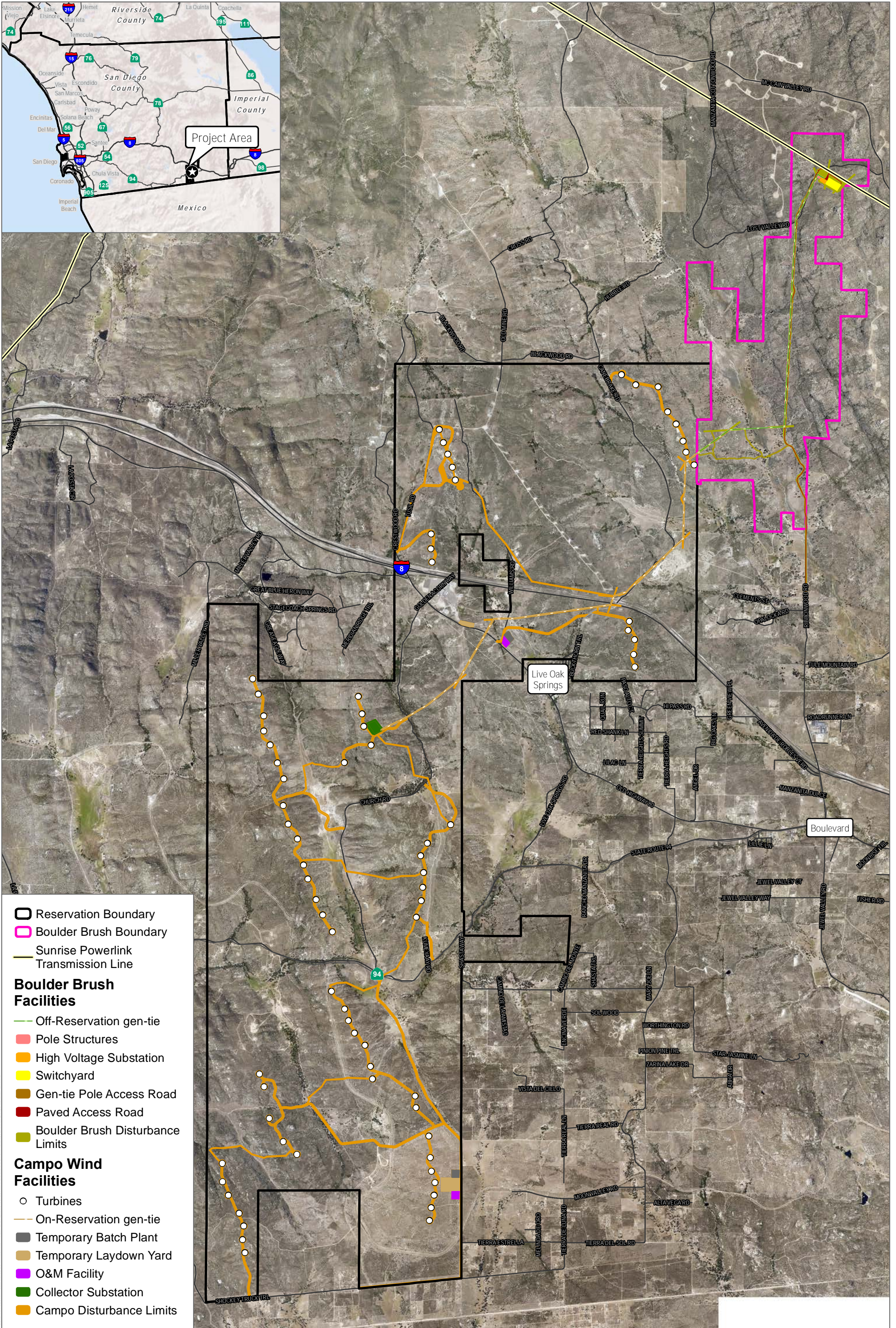
According to the USDA Natural Resources Conservation Service (USDA NRCS 2014), eight soil types are mapped within the Boulder Brush Boundary (Figure 4, Soils):

- Calpine coarse sandy loam, 5%–9% slopes
- Calpine coarse sandy loam, 5%–9% slopes, eroded
- La Posta loamy coarse sand, 5%–30% slopes, eroded
- La Posta rocky loamy coarse sand, 5%–30% slopes, eroded
- Loamy alluvial land
- Mottsville loamy coarse sand, 2%–9% slopes
- Tollhouse rocky coarse sandy loam, 5%–30% slopes, eroded
- Riverwash

Calpine soils contain deep, well-drained soils formed in alluvium from granitic rocks. Soils within the Calpine series are associated with alluvial fans, fan remnants, and stream terraces and are composed of coarse sand. La Posta soils contain brown, slightly acidic and neutral, loamy coarse sand formed from weathered acidic igneous rock. Mottsville soils contain deep, excessively drained soils formed in alluvium from granitic rocks. Soils within the Mottsville series are associated with alluvial fans, fan remnants, and fan aprons and are composed of loamy coarse sand. Tollhouse soils contain shallow, excessively drained soils formed in material weathered from granitic rock. Soils within the Tollhouse series are associated with strongly sloping to very steep mountain slopes and are composed of coarse sandy loam (USDA NRCS 2014). Table 1, Soil Classifications within the Boulder Brush Boundary, identifies on-site soils, Land Capability Classifications, and FMMP designations.

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SOURCE: SANGIS 2017

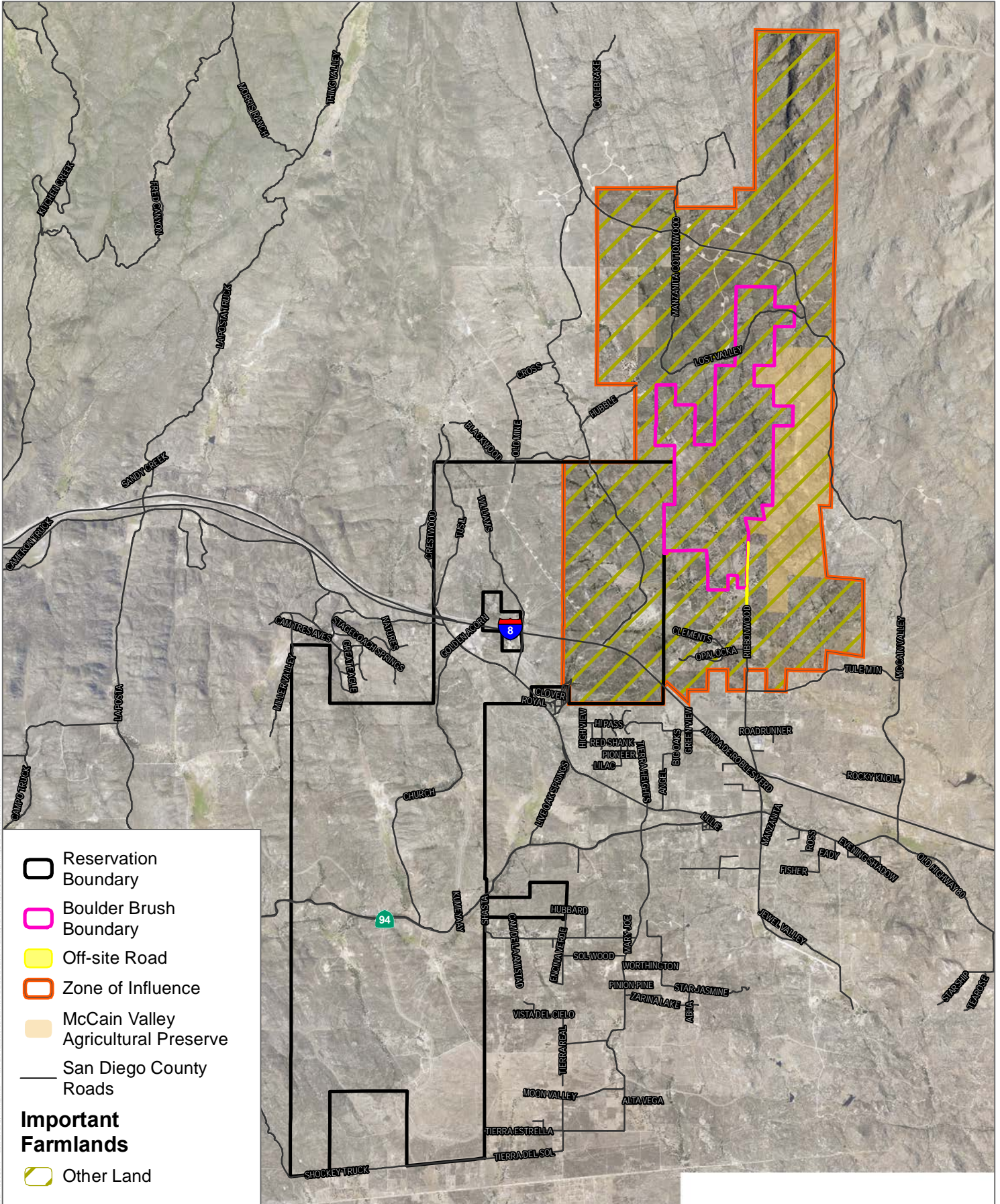


FIGURE 2
Site Plan

Campo Wind Project with Boulder Brush Facilities

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Boulder Brush Facilities**

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SOURCE: California Department of Conservation 2016; SANGIS 2017

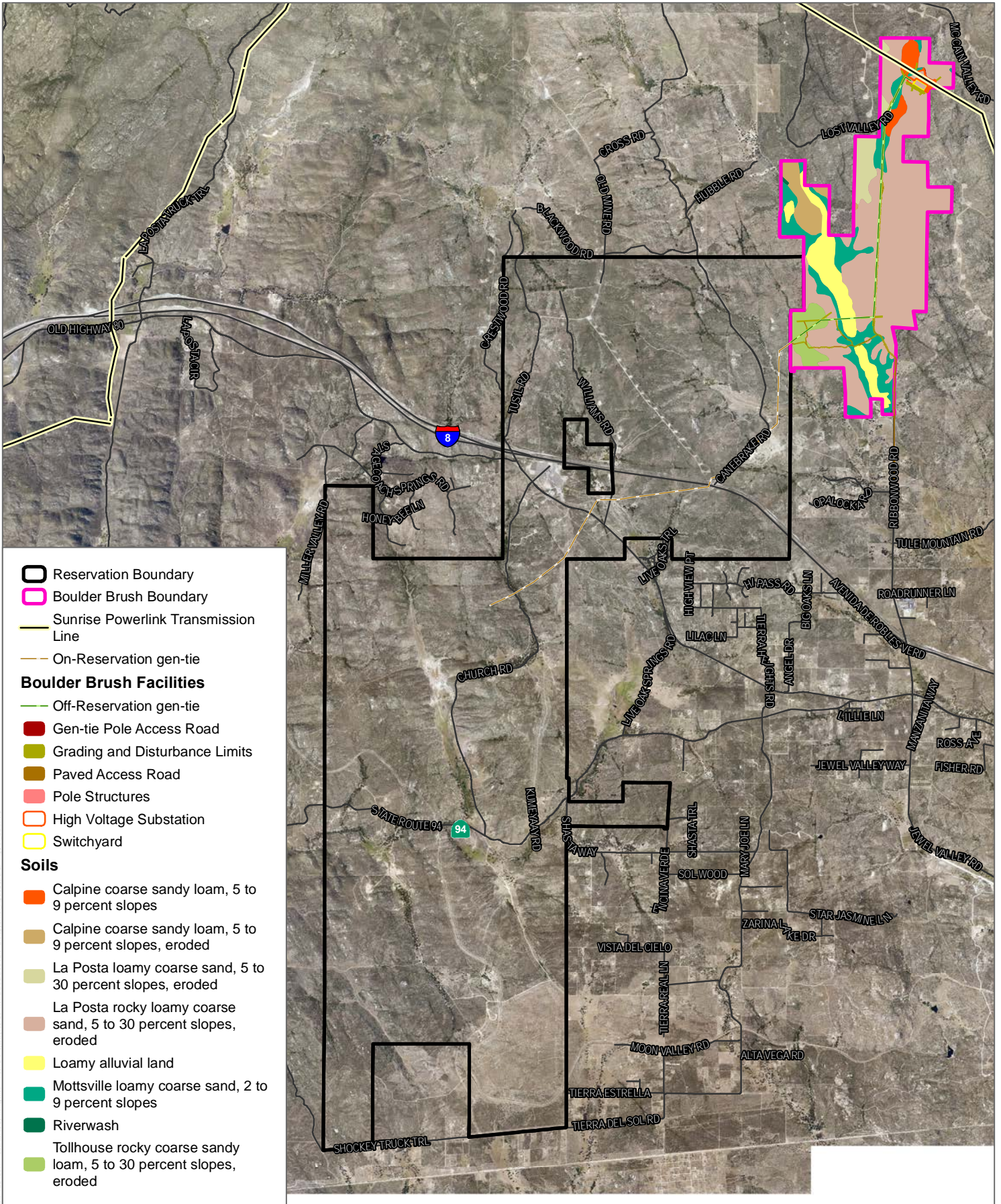
FIGURE 3

Zone of Influence Important Farmland

Campo Wind Project with Boulder Brush Facilities

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SOURCE: SSURGO 2018; SANGIS 2017

FIGURE 4

Soils

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Land Capability Classification

The USDA developed grouping of soils into capability units, or Land Capability Classification, to serve as an introduction of the soil map to farms and other land users developing conservation plans (USDA NRCS 1961). The Land Capability Classification organizes soils according to their limitations when cultivated and according to the way they respond to management practices. Class I soils have no significant limitation for raising crops. Classes VI through VIII have severe limitations that limit or preclude their use for agriculture. Capability subclasses are also assigned by adding a small letter to the class designation. Capability subclasses consist of the letters e, w, s, or c. The letter “e” shows that the main limitation is risk of erosion. The letter “w” indicates that water in or on the soil interferes with plant growth or cultivation. The letter “s” indicates that the soil is limited mainly because it is shallow, droughty, or stony. The letter “c” is used only in some parts of the United States where cold or dry climates are a concern. Groupings are made according to the limitation of the soils when used to grow crops and the risk of damage to soils when they are used in agriculture. Productive agriculture in the County typically occurs on soils having Land Capability Classification ratings of III and IV, and a substantial number of local soils have the class designations e and c, indicating limitations related to erosion and shallow soils (County of San Diego 2007).

Storie Index

Developed by University of California, Berkeley, Professor R. Earl Storie, the Storie Index is a method of soil rating based on soil characteristics that govern the land’s potential utilization and productive capacity (Storie and Weir 1978). The Storie Index is a commonly used and accepted traditional measure of soil quality in California and expresses numerically on a 100-point scale the relative degree of suitability or value of a soil for general intensive agriculture. Higher Storie Index ratings indicate higher-quality soils. The Storie Index rating is based on several factors, including profile characteristics (affecting root penetration); surface soil texture (affecting ease of tillage and capacity of soil to hold water); slope (affecting soil erosion); and other unique limiting factors of the soil such as poor drainage, high water table, salts, and acidity. Productive agriculture in the County typically occurs on soils with low Storie Index ratings (typically in the 30s) (County of San Diego 2007). On-site Storie Index ratings are shown in Table 1.

Crop Suitability

The USDA Soil Survey report for the San Diego area classifies crop suitability for various soil types. Calpine soils comprise 4% of the total on-site soil type and are principally used for livestock grazing. Common vegetation types occurring on Calpine soils include irrigated agriculture, alfalfa hay, and pasture. La Posta soils comprise 70% of the total on-site soil type and are mainly used

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for range, watershed, and recreation. Mottsville soils comprise 11% of the total on-site soil type and are used for rangeland and urban development. Tollhouse soils comprise 5% of the total on-site soil type and are primarily used for limited grazing, wildlife, and watershed (USDA 2018).

Prime Farmland Soils and Soils of Statewide Importance

The State of California DOC FMMP categories are based on local soil characteristics and irrigation status, with the best quality land identified as Prime Farmland or Farmland of Statewide Importance. Some soils in the County are listed as Candidate Soils for Prime Farmland or Statewide Importance, but these soils include a much broader range of soils than the Prime Agricultural Land definition in California Government Code Section 51201(c) (County of San Diego 2007).

The DOC has classified land in California into the following Important Farmlands categories (California Department of Conservation 2017):

- **Prime Farmland.** Land with the best combination of physical and chemical characteristics, which are able to sustain long-term production of agricultural crops.
- **Farmland of Statewide Importance.** Land with a good combination of physical and chemical characteristics for agricultural production, having only minor shortcomings, such as less ability to store soil moisture, compared to Prime Farmland.
- **Unique Farmland.** Land used for production of the state's major crops on soils not qualifying for Prime Farmland or Farmland of Statewide Importance. This land is usually irrigated, but may include non-irrigated fruits and vegetables as found in some climatic zones in California.
- **Farmland of Local Importance.** Land that meets all the characteristics of Prime Farmland and Farmland of Statewide Importance, with the exception of irrigation.
- **Grazing Land.** Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.
- **Urban and Built-Up Land.** Residential land with a density of at least six units per 10-acre parcel, as well as land used for industrial and commercial purposes, golf courses, landfills, airports, sewage treatment, and water control structures.
- **Other Land.** Land that does not meet the criteria of any other category. In certain rural counties, the DOC has identified sub-categories of Other Land. This does not apply to San Diego County.
- **Water.** Perennial water bodies with an extent of at least 40 acres.

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As shown in Figure 3, the land within the Boulder Brush Boundary is designated as Other Land and, therefore, does not meet the criteria for any other FMMP category. In addition, it is not designated as Prime Farmland or Farmland of Statewide Importance, defined by the DOC and California Government Code Section 15201(c).

History of Agricultural Use

Much of the land within the Boulder Brush Boundary appears to have remained vacant, undeveloped land since 1939 according to historical aerial photographs (Dudek 2018). A structure, presumed to be a residence potentially associated with ranching activity, was depicted in historical topographic maps south of the site starting in 1939. However, it is dilapidated, unlivable, and not currently being used as a residence (Dudek 2018). In addition, the assumed historical residence was never serviced by a water supplier, which would have installed a meter. The land within the southwestern portion of the Boulder Brush Boundary may have been used as agricultural land (for ranching) in the past, although the dates of this potential land use are unknown. A feature labeled “Airway Beacon” was depicted on the northern portion of the land within the Boulder Brush Boundary on historical topographic maps from 1959–1997. According to the historical aerials prepared by NETR Online (2018), the land within the Boulder Brush Boundary was undeveloped in 1994, with the exception of a small cattle grazing operation in the southwest portion. By 2017, the area north, northwest, and east of the Boulder Brush Boundary was developed with two large commercial wind projects, along with some rural residential homes and ranches scattered throughout the region.

Climate

The McCain Valley is characterized as Mediterranean-style climate, with long, hot, dry summers and moderate winters. The closest weather station is located 6 miles north of Campo, California. Average temperatures at this station range from approximately 31°F to 94°F throughout the year. Maximum average precipitation occurs in January, the coolest month is generally February, and the warmest month is August (NOAA 2018).

There are two generally used climate rating systems that can be applied to a particular area to determine what plants and agricultural crops are appropriate for that area: the USDA Hardiness Rating and the Sunset Climate Zone, described as follows.

USDA Hardiness Rating. The land within the Boulder Brush Boundary is in USDA Hardiness Zone 9a (U.S. National Arboretum 2011). This zone is defined as having average minimum temperatures between 20°F and 25°F. Popular plants that tend to grow very well in Zone 9a include spinach, carrots, tomatoes, potatoes, cucumbers, sweet potatoes, peppers, beans, onions, and lettuce (National Gardening Association 2011).

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Sunset Climate Zone. The County has assigned climate zones as a way of accounting for the variability of microclimate conditions and climate suitability throughout the County. The land within the Boulder Brush Boundary is located within Climate Zone 13 on the County’s Area Climates and Generalized Western Plant Climate Zones (“Sunset Zones”) map (County of San Diego 2006). Zone 13 is a “Moderate” LARA Model Rating. Zone 13 covers low-elevation desert areas (considered subtropical) and is the most extensive of the County’s desert climate zones. Zone 13 includes the extensive agricultural uses in the Borrego Valley. Zone 13 is assigned a moderate rating due to the temperature extremes characteristic of this zone. These temperature extremes exclude some of the subtropical plants grown in Zones 22 to 24, but numerous subtropicals with high heat requirements thrive in this climate such as dates, grapefruit, and beaumontia and thevetia (ornamentals) (County of San Diego 2007).

Water

There are five wells within the Boulder Brush Boundary; however, all five wells are not in use and appear to be in disrepair (Dudek 2018). There is no surface water infrastructure or meter currently located within the Boulder Brush Boundary. Water for the Boulder Brush Facilities would be imported from On- and Off-Reservation facilities such as production wells on the Reservation and nonpotable water obtained from commercial sellers such as Jacumba Community Services District (JCSD) and Padre Dam Municipal Water District (PDMWD). The water would be transported to the site by water trucks. Water supplied by JCSD would be derived from groundwater in the Jacumba Valley Groundwater Basin. If necessary, the PDMWD would serve as a back-up water supply.

It is anticipated that on-site groundwater from existing wells On-Reservation would be used for Project operations, otherwise water would be trucked in from JCSD or PDMWD, as discussed further below.

During construction, water would be used for road construction, concrete foundations, dust suppression, and fire protection. For construction of the Boulder Brush Facilities, a total of approximately 50 acre-feet (AF) of water would be used, and for construction of the Campo Wind Facilities, a total of approximately 123 AF of water would be used. A breakdown of water usage for construction of the Project (Campo Wind Facilities and Boulder Brush Facilities) is as follows:

Boulder Brush Facilities

1. **Foundation Concrete Mixing** – It is estimated approximately 15 AF of water would be required for concrete mixing during construction, to be prepared at the temporary batch plant to be located on the Reservation.

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2. **Dust Suppression** – It is estimated that a total of 35 AF would be used for dust suppression during construction, including access road grading and construction. Magnesium chloride, a natural element, would be applied during construction of access roads to reduce fugitive dust and the need for water during this phase.
3. **Fire Protection** – The Project would be equipped with up to three water trucks each of 4,000-gallon capacity during construction.

Campo Wind Facilities

1. **Foundation Concrete Mixing** – It is estimated approximately 36 AF of water would be required for concrete mixing during construction, to be prepared at the temporary batch plant.
2. **Dust Suppression** – It is estimated that a total of 87 AF would be used for dust suppression during construction, including access road grading and construction. Magnesium chloride would be applied during construction of access roads to reduce fugitive dust and the need for water during this phase.
3. **Fire Protection** – The Project would be equipped with up to three water trucks each of 4,000-gallon capacity during construction.

To operate the Project, the Developer would employ approximately 10 to 12 staff members. Employees would be present on site during normal business hours and would work out of the O&M building that would be located on the Reservation. The O&M building would include a groundwater well for non-potable water use, and a septic system would service the O&M building restroom facilities. In the event an On-Reservation groundwater well at the O&M building is determined not to be viable to service the facility, a water storage tank would be installed at the O&M building and would be filled using water trucked from another existing On-Reservation well to the southwest. Otherwise, water would be trucked in from JCSD or PDMWD. Estimated water use and wastewater generation during operation of the O&M building would be approximately 210 gallons per day each.

Regarding fire protection during operation, it is estimated that two 10,000-gallon water tanks would be installed at the O&M facility and collector substation within the Campo Corridor, and three 10,000-gallon tanks would be installed near the high-voltage substation within the Boulder Brush Corridor dedicated for firefighting purposes.

Williamson Act Contracts

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of

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restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments that are much lower than normal, because they are based on farming and open space uses as opposed to full market value. The goal of the Williamson Act Program is to encourage the preservation of California's agricultural land and to prevent its premature conversion to urban uses (County of San Diego 2007). Land within the Boulder Brush Boundary is not under a Williamson Act Contract.

Agricultural Preserve

An agricultural preserve is an area devoted to agricultural use, open space use, recreational use, or any combination of such uses, and compatible uses that are designated by the County. Preserves are established for defining the boundaries of those areas where the County will be willing to enter into contracts pursuant to the Williamson Act. Landowners within a preserve may enter into a contract with the County to restrict their land to the uses previously stated, whereby the assessment on their land will be based on its restricted use rather than on its market value. As shown in Figure 3, land within the Boulder Brush Boundary is not designated as an agricultural preserve (County of San Diego 2007).

1.4.3 Off-Site Agricultural Resources

The Guidelines for Determining Significance and Report Format and Content Requirements Agricultural Resources (County Guidelines) (County of San Diego 2007) requires that agricultural operations within 0.25 miles of a project site be identified, including lands under Williamson Act contracts, FMMP designations, agricultural preserves, or any active agricultural operations. The 0.25-mile boundary is established using the criteria in Attachment F of the County Guidelines and is defined as a project's ZOI. Lands compatible with agriculture within the Boulder Brush Boundary's ZOI, are identified as follows.

FMMP Designations

As shown in Figure 3, parcels surrounding the Boulder Brush Boundary are designated as Other Land and, therefore, do not meet the criteria for any other FMMP category.

Williamson Act Contracts

As shown in Figure 3, there are no Williamson Act Contract lands within 0.25 miles of the Boulder Brush Boundary.

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Agricultural Preserves

As shown in Figure 3, there are 1,525.5 acres of McCain Valley Agricultural Preserve adjacent to the east of the Boulder Brush Boundary. However, there is no active agricultural production or operations within the Agricultural Preserve, and the grazing permit expired in 2010.

Active Agricultural Operations

There are no active irrigated croplands or other crop production within the Boulder Brush Boundary's ZOI. A small cattle grazing operation historically existed in the southwestern portion of Boulder Brush Boundary; however, based on current site visits and environmental field surveys conducted for the Project, there is no evidence of cattle grazing currently occurring. There are small ranch operations scattered throughout the region.

1.4.4 Zoning and General Plan Designation

The land within Boulder Brush Boundary is located in the Boulevard portion of the Mountain Empire Subregional Plan, as defined by the County General Plan, and has a land use designation of Rural Lands, one dwelling unit per 80 acres (RL-80). RL-80 densities are not subject to density reductions based on slope (County of San Diego 2011a). The land within Boulder Brush Boundary is zoned General Rural (S92), which allows for residential uses, civic uses, essential services (fire protection and law enforcement services), and agricultural uses by right (County of San Diego 1999).

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2 ON-SITE AGRICULTURAL RESOURCES – BOULDER BRUSH FACILITIES

2.1 LARA Model

The County has approved a local methodology to determine the importance of agricultural resources in the unincorporated areas of the County, known as the LARA Model. The LARA Model takes into account the following factors to determine the importance of agricultural resources: three Required Factors (water, climate, and soil quality) and three Complementary Factors (surrounding land uses, land use consistency, and slope).

The Campo Wind Facilities are outside the County and state’s authority and are not subject to the LARA Model. Potential impacts to agricultural resources from the Campo Wind Facilities are evaluated pursuant to the Campo Band of Mission Indians Land Use Plan and applicable Tribal regulations. The BIA has jurisdiction over the Campo Wind Facilities and has prepared an Environmental Impact Statement to evaluate potential effects under NEPA. Generally, the Environmental Impact Statement analysis finds that potential impacts to agricultural uses would be negligible due to the limited amount of arable land and the absence of commercial farming on the Reservation.

The following text provides descriptions of the ratings for land within the Boulder Brush Boundary for each LARA Model factor, including justification for the assigned factor ratings. Each factor received a rating of high, moderate, or low importance based on site-specific information, as detailed in the LARA Model Instructions (County of San Diego 2007) (see Appendix A, LARA Model Instructions). The factor ratings for land within the Boulder Brush Boundary are summarized as follows. The final LARA Model result is based on the combination of factor ratings, in accordance with the County Guidelines (see Table 2, Interpretation of LARA Model Results, in County of San Diego 2007).

2.1.1 LARA Model Factors

Water

Based on the County Guidelines (see Table 3, Water Rating, in County of San Diego 2007), the water rating within the Boulder Brush Boundary is moderate, because it is located on a fractured crystalline rock aquifer. There are existing wells within the Boulder Brush Boundary inside the San Diego County Water Authority service area; however, the wells were determined to be in disrepair. There are two flow meters associated with two existing wells (Wells 3 and 4); however, these meters are weathered/eroded, damaged, not in operation, and meter readings are not visible due to their condition. Therefore, there are no functioning and operational meters installed within the Boulder Brush Boundary.

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Climate

As previously discussed, the land within the Boulder Brush Boundary is located within Climate Zone 13 on the County's Area Climates and Generalized Western Plant Climate Zones (Sunset Zones) map (County of San Diego 2006). According to Table 6 in the County Guidelines, Zone 13 has a moderate climate rating. Zone 13 is characterized by temperature extremes and is suitable for numerous subtropicals with high heat requirements (County of San Diego 2007).

Soil Quality

According to the Soil Quality Matrix Interpretation shown in Table 8 of the County Guidelines (County of San Diego 2007), land within the Boulder Brush Boundary has a soil quality rating of low and a Soil Quality Matrix score of 0.26 (Table 2, Soil Quality within the Boulder Brush Boundary). As stated in the County Guidelines, if less than one-third of the site or less than 10 contiguous acres of the agricultural resources on site have soils that meet the County-designated candidate soils for Prime Farmland or Farmland of Statewide Importance soil criteria, the site is assigned the low importance rating for soil quality. Land within the Boulder Brush Boundary has a Soil Quality Matrix score of less than one-third, and therefore, is assigned the low importance rating for soil quality. However, approximately 2,006 acres are available for agricultural use (Figure 4). Only approximately 15 acres are unavailable for agricultural use, because these acres are unpaved roads.

Surrounding Land Uses

The ZOI is approximately 14,402 acres (Figure 3). Lands compatible with agricultural use include existing agricultural lands, protected resource lands, and lands that are primarily rural residential. Rural residential lands include any residential development with parcel sizes of 2 acres or greater and containing elements of rural lifestyle such as equestrian uses, animal raising, small hobby-type agricultural uses, and vacant lands. Approximately 14,305 acres within the ZOI are composed of parcels greater than 2 acres containing elements of rural lifestyle (Appendix B, Zone of Influence Lots and Acreages). Of the total 14,305 acres, there are approximately 1,526 acres of agricultural preserve within the ZOI. There are no existing agricultural lands (Farmland of Statewide Importance, Prime Farmland, or Farmland of Local Importance) or contract lands within the ZOI. Therefore, 99.3% of the ZOI is compatible with agricultural use, and based on Table 9 in the County Guidelines (County of San Diego 2007), the surrounding land use rating is considered high.

Land Use Consistency

The median parcel size within the Boulder Brush Boundary is approximately 82.9 acres (3,610,067.1 square feet), and the median parcel size within the ZOI is 34.9 acres (1,520,350.9 square feet) (refer to Appendix B for a list of the ZOI parcels and acreages). Therefore, since the median parcel size within

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the Boulder Brush Boundary is larger than ZOI's median parcel size by 10 acres or more, the Land Use Consistency Rating is low.

Slope

The average slope of land within the Boulder Brush Boundary that is available for agricultural use is 13% (Figure 5, Slope of Land Available for Agricultural Use). Therefore, based on Table 11, Slope Rating, in the County Guidelines (County of San Diego 2007), land within the Boulder Brush Boundary would have a slope rating of high.

2.1.2 LARA Model Result

Based on the LARA Model factor ratings shown in Table 3, Local Agricultural Resources Assessment Model Factor Ratings, two of the required factors (climate and water) are rated moderate, and the third (soil quality) is rated low. For the complementary factors, surrounding land uses and slope are rated high, and land use consistency is rated low. Therefore, as shown in Table 3 and Table 4, Interpretation of Local Agricultural Resource Assessment Model Results, land within the Boulder Brush Boundary falls into Scenario 5 and is not considered an important agricultural resource.

2.2 Guidelines for the Determination of Significance

The following significance guideline is the basis for determining the significance of impacts to important on-site agricultural resources, as defined by the LARA Model (County of San Diego 2007). Direct impacts to agricultural resources are potentially significant when a project would result in the following:

The project site has important agricultural resources as defined by the LARA Model; and the project would result in the conversion of agricultural resources that meet the soil quality criteria for Prime Farmland or Farmland of Statewide Importance, as defined by the FMMP; and as a result, the project would substantially impair the ongoing viability of the site for agricultural use.

2.3 Analysis of Direct Project Effects – Boulder Brush Facilities

As presented in Table 4, the interpretation of the LARA Model for the Boulder Brush Facilities has determined that land within the Boulder Brush Boundary is not an important agricultural resource. The Boulder Brush Boundary includes approximately 533 acres of County-designated candidate soils for Prime Farmland or Farmland of Statewide Importance. These soils have a Land Capability Classification rating of IIe, IIw, IIIe, or IVs, which indicates that the soils have moderate to very severe limitation for raising crops. The main limitations are risk of erosion; interference of water with plant growth; and shallow, droughty, or stony soils. Additionally, the soils found within the Boulder Brush Boundary have a Storie Index rating of 50, 65, and 81, which

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indicates fair- to high-quality soils. Land within the Boulder Brush Boundary is mapped by FMMP as Other Land and is not designated by the DOC as Prime Farmland or Farmland of Statewide Importance. However, soil mapped within the Boulder Brush Boundary does meet the candidate soil quality criteria for Prime Farmland or Farmland of Statewide Importance, as defined by the County's Guidelines for Determination of Significance. Nonetheless, as land within Boulder Brush Boundary has a Soil Quality Matrix score of less than one-third and has not been used for irrigated agricultural production, the LARA Model determined the soil agricultural viability rating to be low (Figure 6, Historical Agricultural Land). Additionally, the Boulder Brush Facilities does not conflict with a Williamson Act Contract or agricultural preserve.

A small portion of land within the Boulder Brush Boundary was historically grazed by cattle; however, based on site visits and environmental field surveys conducted for the Project, there is no evidence of cattle grazing currently occurring. The General Plan land use designation (RL-80) and zoning (S92) would remain the same. The Boulder Brush Facilities would impact approximately 38.4 acres of County-Designated Candidate Soils for Prime Farmland or Farmland of Statewide Importance. Although the Boulder Brush Facilities would result in the conversion of agricultural resources that meet the candidate soil quality criteria for Prime Farmland or Farmland of Statewide Importance as defined by FMMP in the County's Guidelines for Determination of Significance, land within the Boulder Brush Boundary is mapped by FMMP as Other Land, and the LARA Model determined the soil quality rating to be low according to the Soil Quality Matrix (Table 2).

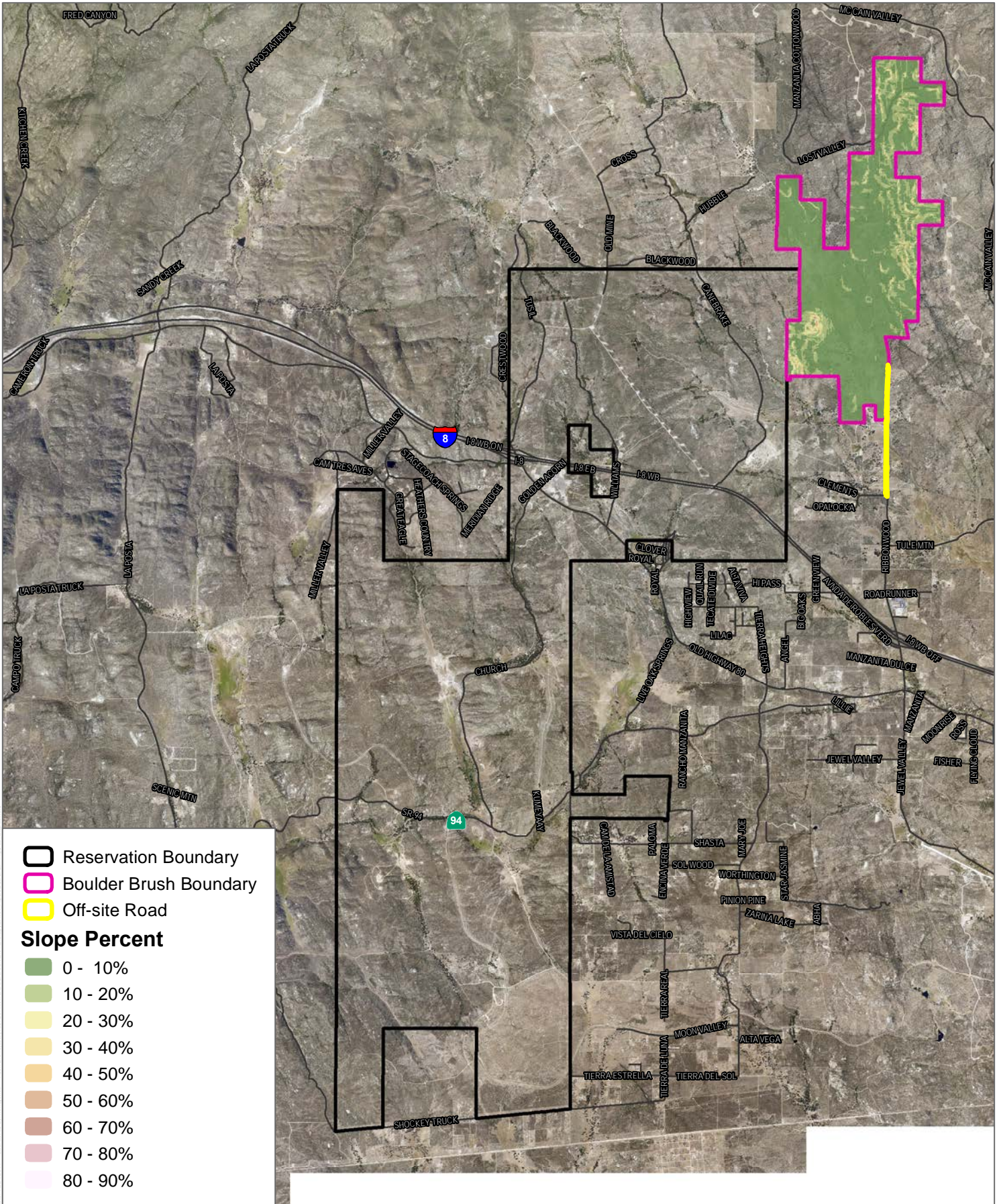
Land within the Boulder Brush Boundary is not considered to be an important agricultural resource according to the LARA Model. Therefore, direct impacts to agricultural resources would be **less than significant**.

2.4 Mitigation Measures and Design Considerations

Direct impacts to agricultural resources would be less than significant; therefore, no mitigation is required.

2.5 Conclusions

Based on the information analyzed throughout this report, it was determined that there would be no direct impacts to agricultural resources, and no mitigation is required.

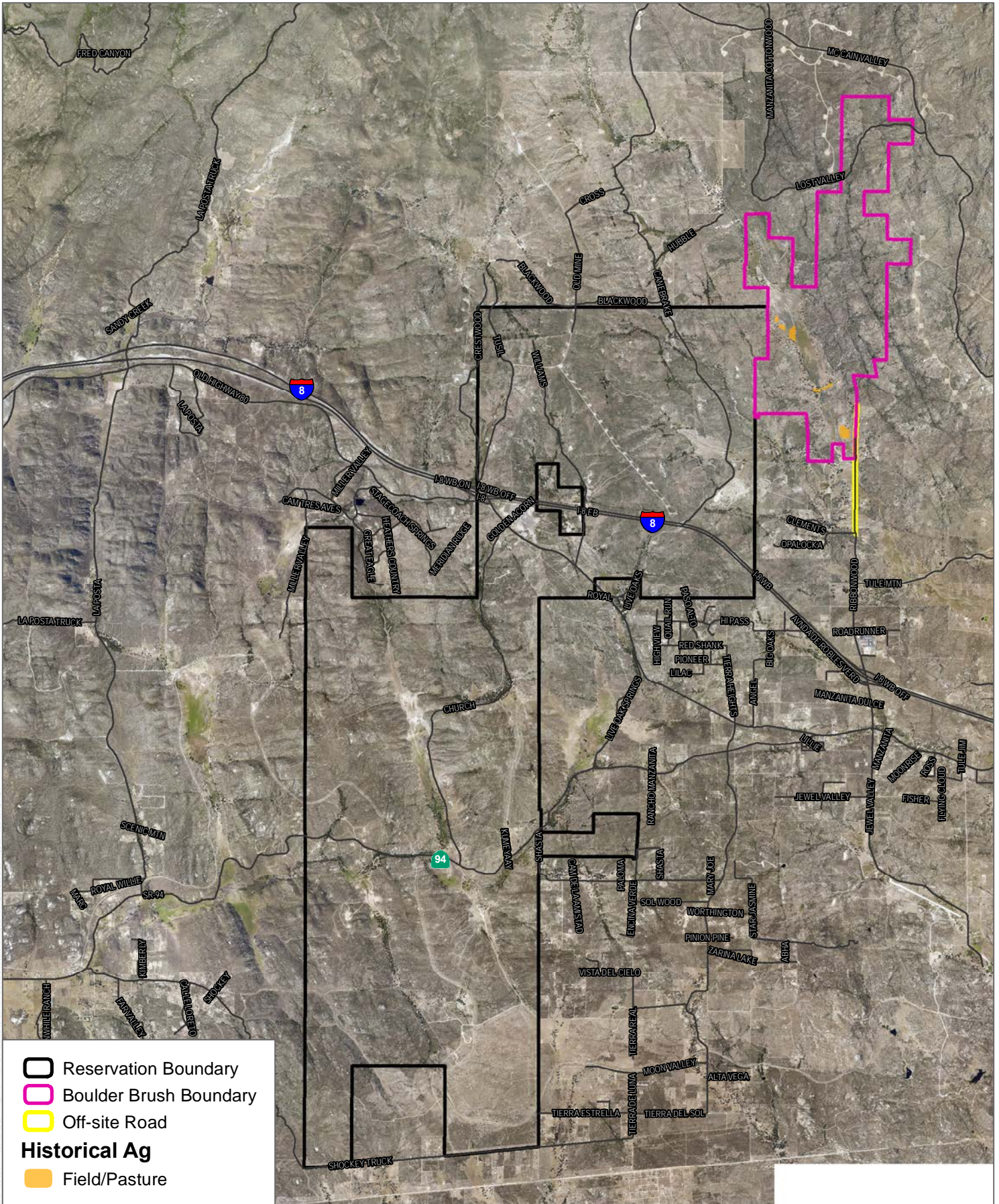


SOURCE: SANGIS 2017

FIGURE 5
Slope of Land Available for Agricultural Use
Campo Wind Project with Boulder Brush Facilities

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SOURCE: SANGIS 2017

FIGURE 6
 Historical Agricultural Land
 Campo Wind Project with Boulder Brush Facilities

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3 OFF-SITE AGRICULTURAL RESOURCES

3.1 Guidelines for the Determination of Significance

The following significance guidelines are the basis for determining the significance of indirect impacts to off-site agricultural operations in San Diego County (County of San Diego 2007):

- (a) The project proposes a non-agricultural land use within 1/4 mile of an active agricultural operation or land under a Williamson Act Contract (Contract) and as a result of the project, land use conflicts between the agricultural operation or Contract land and the proposed project would likely occur and could result in conversion of agricultural resources to a non-agricultural use.
- (b) The project proposes a school, church, daycare, or other use that involves a concentration of people at certain times within 1 mile of an agricultural operation or land under Contract and as a result of the project, land use conflicts between the agricultural operation or Contract land and the proposed project would likely occur and could result in conversion of agricultural resources to a non-agricultural use.
- (c) The project would involve other changes to the existing environment that, due to their location or nature, could result in the conversion of off-site agricultural resources to a non-agricultural use or could adversely impact the viability of agriculture on land under a Contract.

3.2 Analysis of Indirect Project Effects

A proposed project near an active agricultural use has the potential to cause significant indirect impacts to agricultural resources because of the potential incompatibility between the proposed use and existing agricultural activities. Adverse impacts caused by incompatible development near agricultural uses include farm practice complaints; pesticide use limitations; liability concerns; economic instability caused by urbanization and changing land values; trespassing, theft, and vandalism; damage to equipment, crops, and livestock; crop and irrigation spraying limitations due to urban use encroachment; introduction of urban use pollutants entering farm water sources; competition for water; development affecting recharge of groundwater; soil erosion and stormwater runoff emanating from urban use; shading of crops from inappropriate buffering; importation of pests and weeds from urban areas or introduced pest populations from unmaintained landscaping; increased traffic; effects of nighttime lighting on growth patterns of greenhouse crops; and interruption of cold air drainage.

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Per impact (a), the closest active agricultural operations are located approximately 30 miles east of the Boulder Brush Boundary in Dixieland, California. The agricultural operations in the surrounding area are composed primarily of irrigated row crops and dairy farms, but no such operations occur within 0.25 miles of the Boulder Brush Boundary. Additionally, since no areas under a Williamson Act Contract are within 0.25 miles of the Boulder Brush Boundary, the Boulder Brush Facilities would not involve changes to the existing environment that, due to their location or nature, could indirectly result in the conversion of off-site agricultural resources to non-agricultural use, or could adversely impact the viability of agriculture on land under a Williamson Act Contract.

Per impact (b), the Boulder Brush Facilities do not include a school, church, daycare, or other use that involves a heavy concentration of people at certain times of the day within 1 mile of an agricultural operation or land under a Williamson Act Contract.

Per impact (c), the land within the Boulder Brush Boundary is composed of approximately 2,000 acres within the ZOI of 14,402 acres, as shown in Figure 3. Approximately 14,305 acres within the ZOI are composed of parcels greater than 2 acres and contain elements of rural lifestyle (see Appendix B). Therefore, 99.3% of the ZOI is compatible with agricultural use. In addition, the McCain Valley Agricultural Preserve, which is land owned by BLM, is also within the ZOI. However, no active agricultural production exists within the McCain Valley Agricultural Preserve and the grazing permit issued by BLM expired in 2010. No active agricultural production or operation exists within the ZOI or nearby agricultural preserve. Therefore, the Boulder Brush Facilities would not change the rural characteristic of the area, since there are existing wind turbine developments intermixed within the ZOI and wind facilities do not introduce sensitive receptors that could object to ongoing agricultural operations. Additionally, the Boulder Brush Facilities would not obstruct, interrupt, or detract from potential agricultural operations within the ZOI or be detrimental to surrounding properties. Accordingly, the Boulder Brush Facilities would not result in any additional pressure to convert surrounding agricultural lands.

The Boulder Brush Facilities would not involve other changes to the existing environment that, due to their location or nature, could result in the conversion of off-site agricultural resources to a non-agricultural use or could adversely impact the viability of agriculture on land under contract. The Boulder Brush Facilities would not require the extension of water or sewer infrastructure that could potentially induce urban growth in the ZOI. The Boulder Brush Facilities are consistent with the zoning of the site and do not require a rezone.

Based on the analysis provided, impacts to off-site agricultural resources would be **less than significant**.

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3.3 Mitigation Measures and Design Considerations

Due to the lack of surrounding off-site agricultural resources and/or operations, impacts to off-site agricultural resources are unlikely; however, project design features would be implemented during construction to ensure that impacts to off-site agricultural resources would not occur. Project design features would include equipping construction workers with GPS units that would delineate limits of grading, as well as regular construction monitoring. Moreover, the closest agricultural operation to the Boulder Brush Facilities is approximately 30 miles away. Further, the location, size, design, and operating characteristics of the Boulder Brush Facilities would be compatible with adjacent agricultural uses, and no impacts would occur. Therefore, no mitigation measures related to off-site agricultural resources are required.

3.4 Conclusions

Based on the information provided throughout this report, it was determined that indirect impacts to off-site agricultural resources would be **less than significant**.

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4 CONFORMANCE WITH AGRICULTURAL POLICIES

4.1 Applicable General and Community Plan Policies

San Diego County General Plan

The relevant policies related to agriculture use within the Boulder Brush Boundary as contained in the Conservation and Open Space Element of the General Plan (County of San Diego 2011c) are discussed in Table 5, Agricultural Goals and Policies.

Mountain Empire Subregional Plan

The land within Boulder Brush Boundary is within the Boulevard portion of the Mountain Empire Subregional Plan area, a subregion within the County; therefore, is subject to the Mountain Empire Subregional Plan. This plan is included within the overall San Diego County General Plan. Consistency with the Mountain Empire Subregional Plan is provided in Table 5.

As evaluated in Table 5, the Boulder Brush Facilities would not conflict with applicable goals or policies related to agriculture.

4.2 Conclusions

Based on the goals and policies outlined in the County General Plan (County of San Diego 1979, 2011a, 2011c), the Boulder Brush Facilities would be consistent with the rural character of the Mountain Empire Subregional Planning Area and the surrounding area by maintaining the existing land use and zoning designation. Therefore, the Boulder Brush Facilities would be consistent with the County General Plan, and impacts would be **less than significant**.

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5 CUMULATIVE IMPACT ANALYSIS

5.1 Guidelines for the Determination of Significance

The CEQA guidelines for determining the significance of cumulative impacts are based on the same guidelines used to determine the significance of project-level impacts; that is, analyzing the significance of individual project impacts in combination with the impacts caused by other projects in the cumulative study area.

5.2 Analysis of Project Effects

Per CEQA Guidelines Section 15130(b)(1), a list of projects has been compiled based on past, present, and probable future projects that could cumulatively contribute to the impacts from the Boulder Brush Facilities. The list of cumulative projects was compiled, in part, by reviewing cumulative project lists found in environmental impact reports for previously approved renewable energy projects in the surrounding area (Table 6, Cumulative Projects), including the Tule Wind Project and the Jacumba Solar Project.

The cumulative projects mapped by the FMMP as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance are shown on Figure 7, Cumulative Projects on FMMP Designations, and cumulative projects mapped with soils that are designated by the County as Prime Farmland Soil Candidates and Farmland of Statewide Importance Soil Criteria are shown on Figure 8, Cumulative Projects Soils.

Three of the cumulative projects are located on FMMP designated lands: No. 16 Cameron Solar, No. 17 Torrey Wind Energy, and No. 15 JVR Solar (Table 6). The Cameron Solar Project was required to prepare a LARA Model; however, it was determined that due to lack of water resources, impacts would be less than significant (Roady, pers. comm. 2019). The JVR Solar Project was required to provide an agricultural resources report; however, the study is not prepared at this time, and therefore no determinations of significance are analyzed in this report. In addition, 16 of the projects listed in Table 6 are partially located on soils that are designated by the FMMP as Prime Farmland or Farmland of Statewide Importance. As shown in Table 6, there would be 94.5 acres of agricultural land cumulatively affected, which includes 38.4 acres located within the Boulder Brush Boundary, and the remaining are potential impacts from the Torrey Wind Energy Cumulative Project No. 17. Additionally, Cumulative Project 2, Tule Wind Farm, had 1 acre of direct impacts to agricultural lands; however, impacts have been determined to be less than significant with regard to agricultural land due to the relatively small impact of less than 1 acre within 12,239 acres of public lands. Therefore, there are no cumulative indirect impacts to agricultural land (Table 6).

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Six projects in Table 6 were determined to potentially have direct impacts, because the project location has known agricultural resources on site, contains County-designated soils, and is within a climate zone rated moderate. Five of the six projects were not required to prepare an agricultural resources report or a LARA Model, because impacts to agricultural resources were determined to be insignificant not requiring further evaluation. The Cameron Solar Project was required to prepare a LARA Model; however, it was determined that due to lack of water resources, impacts would be less than significant (Roady, pers. comm. 2019). Therefore, none of the listed projects would directly or indirectly impact important agricultural resources as a result of the conversion of agricultural land. Therefore, no direct or indirect impact to agricultural resources is anticipated to occur as a result of these projects.

Two of the cumulative projects would occur on land designated as an agricultural preserve: No. 13 Boulevard Solar and No. 2 Tule Wind. The small agricultural operations in the area have coexisted with surrounding residential land uses. These sites are most likely already limited in their use of pesticides and irrigation spraying due to the proximity of neighboring residences. The Tule Wind Project is located near the McCain Valley Agricultural Preserve. In 2010, there was livestock grazing within the McCain Valley area. However, according to the BLM Resource Management Plan, wells that have supported historic cattle grazing have gone dry and have not been re-drilled. In addition, public lands are no longer available for livestock grazing in accordance with the San Diego County Resource Management Plan. Specifically, the BLM grazing permit for the McCain Valley area expired on September 18, 2010; therefore, no livestock grazing is permitted on public lands at this time. As such, construction and decommissioning of the Tule Wind Project would not interfere with active agricultural operations or convert farmland to non-agricultural use.

For the reasons described herein, a cumulatively significant conversion of agricultural land to a nonagricultural use would not occur. Existing agricultural operations in the region are small and have been reduced in accordance with the San Diego County Resource Management Plan. Cumulative projects would occur in proximity to existing agricultural operations; however, it is not anticipated that cumulative projects would have adverse indirect impacts to the viability of surrounding agricultural land. Impacts to agricultural land would not be cumulatively considerable, and no mitigation measures are required.

5.3 Mitigation Measures and Design Considerations

Cumulative projects would not contribute to a cumulatively considerable impact; therefore, no mitigation measures are required.

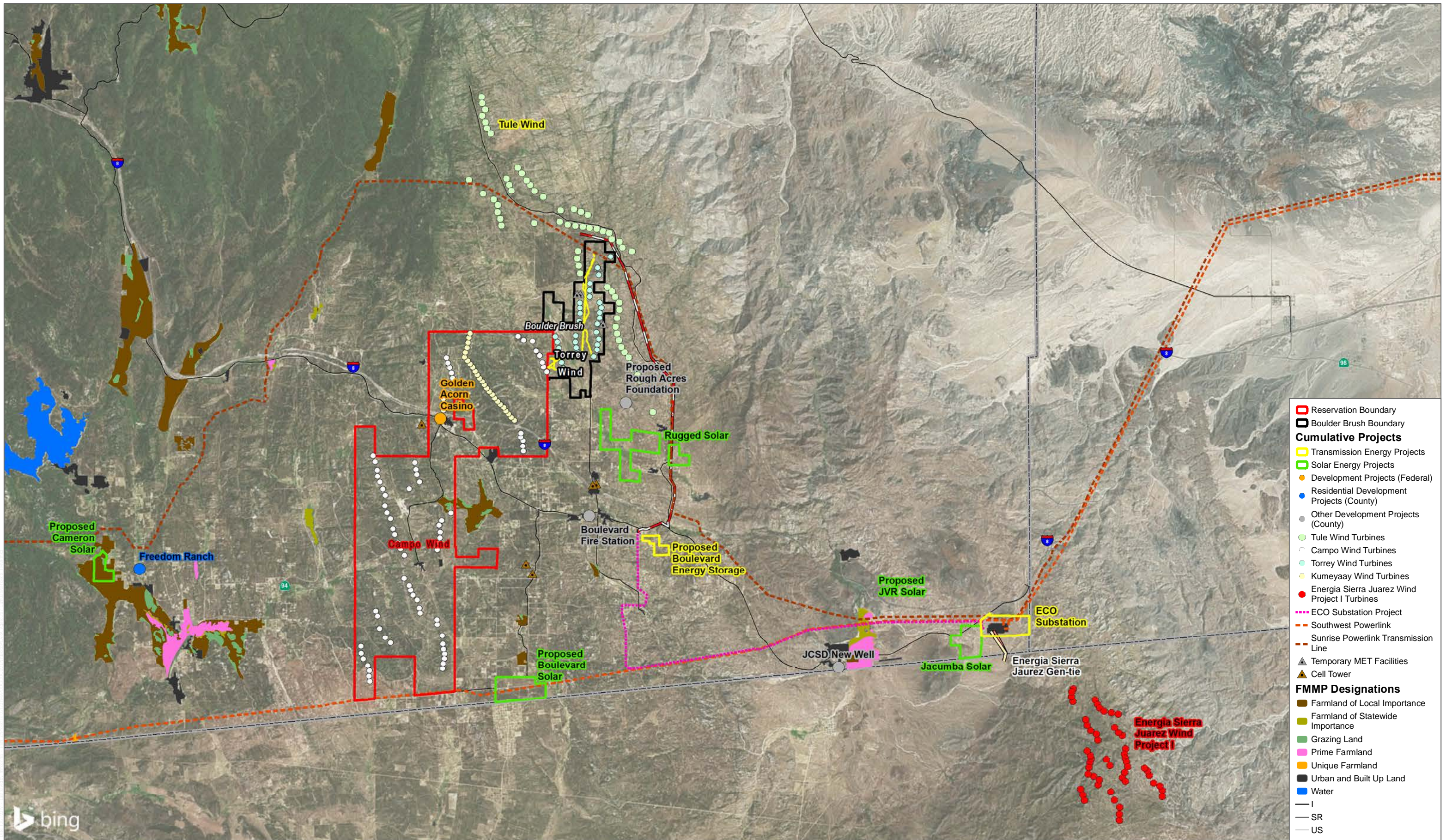
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5.4 Conclusions

No cumulative projects have been identified that would impact agriculturally important land; therefore, no significant cumulative effects to agriculture would occur.

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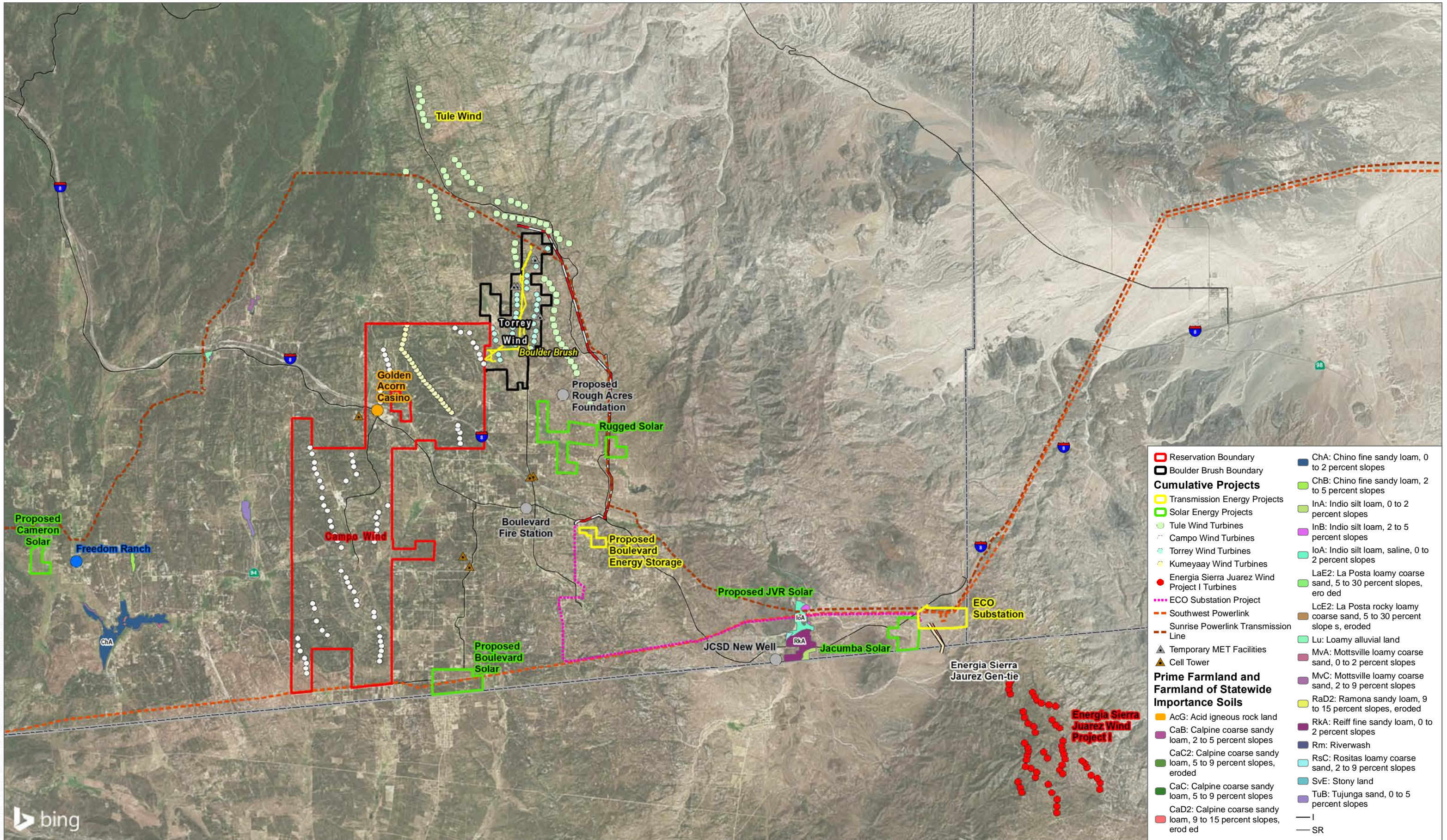


SOURCE: BING 2018; County of San Diego; CA Department of Conservation 2016



FIGURE 7
 Cumulative Projects and FMMP Land Designations
 Campo Wind Project with Boulder Brush Facilities

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SOURCE: BING 2018; County of San Diego; SSURGO 2016



FIGURE 8
 Cumulative Project Soils
 Campo Wind Project with Boulder Brush Facilities

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6 SUMMARY OF PROJECT IMPACTS AND MITIGATION

The land within the Boulder Brush Boundary does not contain important agricultural resources, as defined by the LARA Model. The Boulder Brush Facilities would result in the conversion of agricultural resources that meet the County candidate soil quality criteria for Prime Farmland or Farmland of Statewide Importance, as defined in the County's Guidelines for Determination of Significance; however, land within the Boulder Brush Boundary is mapped by FMMP as Other Land, and the LARA Model determined the soil agricultural viability rating to be low. Therefore, the Boulder Brush Facilities would not substantially impair the ongoing viability of land within the Boulder Brush Boundary for agricultural use, and impacts would be less than significant.

The Boulder Brush Facilities are a non-agricultural land use. However, there are no active agricultural operations within 0.25 miles of the Boulder Brush Boundary; therefore, the Boulder Brush Facilities would be compatible with surrounding agricultural uses. Additionally, the Boulder Brush Facilities would not conflict with applicable policies related to agriculture. No significant impacts related to conformance with agricultural policies would occur.

Land within the Boulder Brush Boundary is not considered to be an important agricultural resource according to the LARA Model and has not been designated or mapped by the DOC as Prime Farmland or Farmland of Statewide Importance. Land within the Boulder Brush Boundary is composed of important soils based on County criteria, but direct impacts to on-site agricultural resources would be less than significant as interpreted in the LARA Model results; and no mitigation is required.

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Table 1
Soil Classifications within the Boulder Brush Boundary

Map Symbol	Soil Name	Acres	LCC	SI	State FMMP Important Farmland Designation
CaC	Calpine coarse sandy loam, 5%–9% slopes	60.63	Ile	81	Prime Farmland if irrigated
CaC2	Calpine coarse sandy loam, 5%–9% slopes, eroded	29.82	IIle	81	Farmland of Statewide Importance
LaE2	La Posta loamy coarse sand, 5%–30% slopes, eroded	104.52	Vie*	27	Not Important Farmland Designation
LcE2	La Posta rocky loamy coarse sand, 5%–30% slopes, eroded	1,282.04	Vie*	26	Not Important Farmland Designation
Lu	Loamy alluvial land	189.87	liw	65	Prime Farmland if irrigated and drained
MvC	Mottsville loamy coarse sand, 2%–9% slopes	252.38	lvs	50	Farmland of Statewide Importance
ToE2	Tollhouse rocky coarse sandy loam, 5%–30% slopes, eroded	100.53	VIIe	22	Not Important Farmland Designation
Rm	Riverwash	1.11	VIII	NR	Not Important Farmland Designation

Notes: LCC = Land Capability Classification; SI = Storie Index; FMMP = Farmland Mapping and Monitoring Program; NR = not rated.

* Land capability classification if “non-irrigated” is used for LaE2, LcE2, MvC, and ToE2 due to a non-specified irrigated ratings.

Table 2
Soil Quality within the Boulder Brush Boundary

Soil Type	Acres	Acres Unavailable for Agricultural Use	Acres Available for Agricultural Use	Proportion (percent)	Candidate for Prime Farmland or Statewide Importance (Yes = 1, No = 0)	Score
CaC	60.63	0.86	59.77	3	1	0.03
CaC2	29.82	0.07	29.74	1	1	0.01
LaE2	104.52	0.79	103.73	5	0	0
LcE2	1,282.04	8.32	1,273.72	63	0	0
Lu	189.87	0.06	189.81	9	1	0.09
MvC	252.38	4.23	248.15	12	1	0.12
ToE2	100.53	0.33	100.21	5	0	0
Rm	1.11	0	1.11	<1	0	0
Totals*	2,020.89	14.66	2,006.23	100%	NA	0.26

Source: USDA 1973.

Notes: CaC = Calpine coarse sandy loam, 5%–9% slopes; CaC2 = Calpine coarse sandy loam, 5%–9% slopes, eroded; LaE2 = La Posta loamy coarse sand, 5%–30% slopes, eroded; LcE2 = La Posta rocky loamy coarse sand, 5%–30% slopes, eroded; Lu = Loamy alluvial land; MvC = Mottsville loamy coarse sand, 2%–9% slopes; ToE2 = Tollhouse rocky coarse sandy loam, 5%–30% slopes, eroded; Rm = Riverwash; NA = not applicable.

* Totals may not sum precisely due to rounding.

Agricultural Resources Report for the Campo Wind Project with Boulder Brush Facilities

Table 3
Local Agricultural Resource Assessment Model Factor Ratings

	High	Moderate	Low
<i>Required Factors</i>			
Climate		X	
Water		X	
Soil Quality			X
<i>Complementary Factors</i>			
Surrounding Land Uses	X		
Land Use Consistency			X
Slope	X		

Table 4
Interpretation of Local Agricultural Resource Assessment Model Results

LARA Model Results			LARA Model Interpretation
<i>Possible Scenarios</i>	<i>Required Factors</i>	<i>Complementary Factors</i>	
Scenario 1	All three factors rated high	At least one factor rated high or moderate	The site is an important agricultural resource.
Scenario 2	Two factors rated high, one factor rated moderate	At least two factors rated high or moderate	
Scenario 3	One factor rated high, two factors rated moderate	At least two factors rated high	
Scenario 4	All factors rated moderate	All factors rated high	
Scenario 5	At least one factor rated low importance	NA	The site is <i>not</i> an important agricultural resource.
Scenario 6		All other model results	

Source: County of San Diego 2007.

Notes: LARA = Local Agricultural Resource Assessment; NA = not applicable.

Table 5
Agricultural Goals and Policies

Goal or Policy	Project Consistency
<i>General Plan – Conservation and Open Space Element</i>	
GOAL COS-6 Sustainable Agricultural Industry. A viable and long-term agricultural industry and sustainable agricultural land uses in the County of San Diego that serve as a beneficial resource and contributor to the County's rural character and open space network.	The Boulder Brush Boundary is located in a rural area of San Diego County. The Boulder Brush Boundary is largely an undeveloped ranch and does not contain any major agricultural uses or irrigated croplands. A small cattle grazing operation was historically located within the Boulder Brush Boundary; however, based on site visits and environmental field surveys conducted for the Project, there is no evidence of current cattle

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Table 5
Agricultural Goals and Policies

Goal or Policy	Project Consistency
<p>COS-6.2 Protection of Agricultural Operations. Protect existing agricultural operations from encroachment of incompatible land uses by doing the following:</p> <ul style="list-style-type: none"> • Limiting the ability of new development to take actions to limit existing agricultural uses by informing and educating new projects as to the potential impacts from agricultural operations • Encouraging new or expanded agricultural land uses to provide a buffer of non-intensive agriculture or other appropriate uses (e.g., landscape screening) between intensive uses and adjacent non-agricultural land uses • Allowing for agricultural uses in agricultural areas and designing development and lots in a manner that facilitates continued agricultural use within the development • Requiring development to minimize potential conflicts with adjacent agricultural operations through the incorporation of adequate buffers, setbacks, and project design measures to protect surrounding agriculture • Supporting local and state right-to-farm regulations • Retain or facilitate large and contiguous agricultural operations by consolidations of development during the subdivision process. <p>Discourage development that is potentially incompatible with intensive agricultural uses includes schools and civic buildings where the public gather, daycare facilities under private institutional use, private institutional uses (e.g., private hospitals or rest homes), residential densities higher than two dwelling units per acre, and office and retail commercial.</p> <p>COS-6.3 Compatibility with Recreation and Open Space. Encourage siting recreational and open space uses and multi-use trails that are compatible with agriculture adjacent to the agricultural lands when planning for development adjacent to agricultural land uses. Recreational and open space uses can serve as an effective buffer between agriculture and development that is potentially incompatible with agriculture uses.</p>	<p>grazing within the Boulder Brush Boundary. As seen in Figure 3, Zone of Influence Important Farmlands, the Boulder Brush Boundary is designated under the state FMMP as “Other Land,” and no farmland designations exist within the Boulder Brush Boundary.</p> <p>The Boulder Brush Facilities would be consistent with the rural character of the Mountain Empire Subregional Planning Area by maintaining the existing land use and zoning designation. The surrounding area is composed of scattered rural residential development with small interspersed agricultural operations, which would be compatible with the Boulder Brush Facilities.</p> <p>The closest active agricultural operations are located approximately 30 miles east of the Boulder Brush Boundary in Dixieland, California. The agricultural operations in the surrounding area are composed primarily of irrigated row crops and dairy farms. Land use conflicts between these agricultural operations and the Boulder Brush Facilities would not be likely. The Boulder Brush Facilities would not impact these active agricultural operations, because they are 30 miles away. Development would be compatible with the surrounding agricultural and wind and energy facility uses in the area.</p> <p>The Boulder Brush Facilities do not include a school, church, daycare, or other use that would involve a heavy concentration of people at certain times of the day, or any residential uses.</p> <p>The Boulder Brush Facilities do not include development of recreational or open space uses.</p>
<i>General Plan – Land Use Element</i>	
<p>GOAL LU-5 Climate Change and Land Use. A land use plan and associated development techniques and patterns that reduce emissions of local greenhouse gases in accordance with state initiatives while promoting public health.</p> <p>LU-5.3 Rural Land Preservation. Ensure the preservation of existing open space and rural areas (e.g., forested areas, agricultural lands, wildlife habitat and corridors, wetlands, watersheds, and groundwater recharge areas) when permitting development under the Rural and Semi-Rural Land Use Designations.</p>	<p>The Boulder Brush Facilities include infrastructure to support development of renewable energy, which would contribute to the reduction of greenhouse gases from energy-related sources.</p> <p>There are no existing open space easements within the Boulder Brush Boundary; however, proposed facilities would take into consideration the existing natural features throughout the site to avoid sensitive environmental resources to the extent practicable.</p>

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Table 5
Agricultural Goals and Policies

Goal or Policy	Project Consistency
	<p>While the Boulder Brush Boundary does consist of rural lands, there are no forested areas or agricultural lands.</p> <p>Groundwater recharge within the Boulder Brush Boundary would not be significantly altered, as land within the Boulder Brush Boundary would largely consist of permeable surfaces to allow for groundwater recharge similar to that under existing conditions.</p> <p>There are no areas under a Williamson Act Contract within 0.25 miles of the Boulder Brush Boundary. Boulder Brush Facilities would not involve changes to the existing environment that, due to their location or nature, could indirectly result in the conversion of off-site agricultural resources to non-agricultural use, or could adversely impact the viability of agriculture on land under a Williamson Act Contract.</p> <p>The Boulder Brush Facilities would not change the rural characteristic of the area, since there are existing renewable energy and transmission developments intermixed within the Boulder Brush Zone of Influence (ZOI), and such facilities do not introduce sensitive receptors that could object to ongoing agricultural operations. Additionally, the Boulder Brush Facilities would not obstruct, interrupt, or detract from potential agricultural operations within the Boulder Brush ZOI. Accordingly, the Boulder Brush Facilities would not result in any additional pressure to convert surrounding agricultural lands.</p> <p>While construction and operation of the Boulder Brush Facilities located under County of San Diego land use jurisdiction would result in impacts to the natural environment, these facilities would indirectly work toward preserving the natural environment by supporting the production and transmitting renewable energy. In addition, the Project would help the County of San Diego work towards accomplishing its Sustainable Energy Goal COS-18 as established in this Conservation and Open Space Element.</p> <p>Lastly, the McCain Valley Agricultural Preserve, which is located within 0.25 miles of the Boulder Brush Boundary, would remain in its current state and would not be impacted by the proposed Project. No active agricultural production exists within the McCain Valley Agricultural Preserve and the grazing permit issued by the Bureau of Land Management (BLM) expired in 2010.</p>

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Table 5
Agricultural Goals and Policies

Goal or Policy	Project Consistency
<p>GOAL LU-7 Agricultural Conservation. A land use plan that retains and protects farming and agriculture as beneficial resources that contribute to the County's rural character.</p> <p>LU-7.1 Agricultural Land Development. Protect agricultural lands with lower density land use designations that support continued agricultural operations.</p> <p>LU-7.2 Parcel Size Reduction as Incentive for Agriculture. Allow for reductions in lot size for compatible development when tracts of existing historically agricultural land are preserved in conservation easements for continued agricultural use.</p>	<p>The Boulder Brush Boundary is largely an undeveloped ranch and does not contain any major agricultural uses or irrigated croplands. Cattle grazing operations were historically located on site; however, based on current site visits and environmental field surveys conducted for the Project, there is no evidence of cattle grazing currently occurring. As seen in Figure 3, the Boulder Brush Boundary is designated under the state Farmland Mapping and Monitoring Program as "Other Land," and no farmland designations exist on site.</p> <p>The Boulder Brush Facilities would not change the rural characteristic of the area, as there are existing renewable energy developments in the Project's ZOI. Additionally, the Boulder Brush Facilities would not obstruct, interrupt, or detract from existing agricultural operations within the ZOI, or be detrimental to surrounding properties. The Boulder Brush Facilities would not result in any additional pressure to convert surrounding agricultural lands.</p> <p>No residential uses are proposed; therefore, the Boulder Brush Facilities would not conflict with surrounding agricultural uses as it pertains to introduction of residential uses to the area.</p>
<i>Mountain Empire Subregional Plan</i>	
<p>Agricultural Goal. Encourage the expansion and continuance of agricultural uses in the subregion.</p>	<p>Bolder Brush Facilities would be consistent with the rural character of the Mountain Empire Subregional Planning Area and the surrounding area by maintaining the existing land use and zoning designation. No residential or dense urban development is proposed that may conflict with existing agricultural uses. The surrounding area is composed of scattered rural residential development and wind turbine development, which would be compatible with the proposed Project. Additionally, as seen in Figure 3, land within the Boulder Brush Boundary is designated under the state Farmland Mapping and Monitoring Program (FMMP) as "Other Land," and no farmland designations exist on site.</p>

Source: County of San Diego 1979, 2011a, 2011c.

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**Table 6
Cumulative Projects**

Project No.	APNs	Record ID Number	Project Name	Distance from Project	Agricultural Resources on Site	Important Agricultural Resource	Direct Impact Estimate	Potential Indirect Impact Estimate
1	Located in Mexico	NA	ENERGIA SIERRA JUAREZ WIND PROJECT I: Development of 400 megawatts (MW) of wind generation. Phase I (just north of the town of La Rumorosa in Mexico) is proposed to generate approximately 100 MW of energy with 45 to 52 turbines. Point of interconnection proposed with the ECO Substation.	Approx. 15 miles	Unknown	Unknown	Unknown	Unknown
2	5280200300 5280500200 5280600200 5282301000 5282301100 5290300200 5290500300 5290600200 5290600300 5290700100 5290900400 5291000400 5291100200 5291300200	PDS2001-3100-5133 (withdrawn) PDS2004-3600-04-026 PDS2004-3921-04-003 PDS2008-3992-08-091 (Tule Wind) PDS2009-3300-09-019 (Tule Wind) PDS2011-3801-11-001 (Tule Wind) PDS2011-3921-030-73-031 PDS2012-3600-12-002 (Tule Wind) PDS2016-MUP-09-019M1 (Tule Wind) PDS2000-3710-00-0289 PDS2017-MUP-09-019M2 (Tule Wind) PDS2011-3992-11-018 PDS2012-3300-12-007	TULE WIND FARM: 12,239 acres of public lands, 186 MW, with 57 wind turbines. The project would deliver power through the project substation via a 138-kilovolt (kV) transmission line to run south to an interconnection with the proposed San Diego Gas & Electric (SDG&E) Rebuilt Boulevard Substation.	Approx. 0.25 miles	Yes	- Contains Prime Farmland and Statewide Significance soils - Climate Zone 13 is rated "moderate" - Located within Agricultural Preserve	Yes	Potentially

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**Table 6
Cumulative Projects**

Project No.	APNs	Record ID Number	Project Name	Distance from Project	Agricultural Resources on Site	Important Agricultural Resource	Direct Impact Estimate	Potential Indirect Impact Estimate
	5291400100	PDS2012-3993-12-066						
	5291400300	PDS2017-MUP-12-007TE						
	5291500100	PDS2017-MUP-12-007W1						
	5293704800	PDS2009-3200-19931						
	6110200300	PDS2010-3300-73-265						
	6110300100	PDS2005-3992-05-093						
	6110300300	PDS2006-3200-21003 (Withdrawn)						
	6110600700	PDS2016-MPA-16-011						
	6110900200	PDS2009-3720-84-0177						
	6110900400	PDS2011-3973-11-002						
	6110900400	PDS2017-VAR-17-008 (Tule Wind)						
	6110901500							
	6110901800							
	6110910200							
	6110910900							
	6111000600							
	6111000700							
	6111100100							
	6111100400							
	6111200900							
	6120911200							
	6120911800							
	6120921300							
	6130101400							
	6130101500							
	6130101600							
	6130303700							

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**Table 6
Cumulative Projects**

Project No.	APNs	Record ID Number	Project Name	Distance from Project	Agricultural Resources on Site	Important Agricultural Resource	Direct Impact Estimate	Potential Indirect Impact Estimate
3	Located in Imperial County	NA	OCOTILLO EXPRESS LLC, CACA 051552: Development of 562 MW on 14,691 acres in two phases.	Approx. 10 miles	Unknown	Unknown	Unknown	Unknown
4	Located in Mexico	NA	ENERGIA SIERRA JUAREZ U.S. TRANSMISSION, MUP: 230 kV double circuit power lines leading to SDG&E ECO Substation near the Mexican border.	Approx. 13 miles	Unknown	Unknown	Unknown	Unknown
5	6610410100 6610410400 6610410500 6610500400	PDS2017-MUP-14-041M1 PDS2017-MUP-14-041M2	ECO SUBSTATION: East County (ECO) Substation, Rebuilt Boulevard Substation, and 13.3-mile 138 kV line between Rebuilt Boulevard Substation and ECO Substation.	Approx. 13 miles	Yes	-Contains Prime Farmland soils - Climate Zone 13 is rated "moderate"	Yes	Potentially
6	6110600400 6110900200 6110900400 6110910300 6110910700 6111000700 6111100100 6120300100 6120301900	PDS2000-3710-00-0289 PDS2009-3300-09-019 (Tule Wind) PDS2011-3992-11-018 (Rugged Solar) PDS2012-3300-12-007 (Rugged Solar) PDS2012-3600-12-002 (Tule Wind) PDS2012-3993-12-066 (Rugged Solar) PDS2016-MUP-09-019M1 (Tule Wind)	RUGGED SOLAR: Major Use Permit Modification MUP-12-007W1, MUP-12-007TE; MUP for the construction and operation of a 74 MW solar energy system on an approximately 765-acre site.	Approx. 5 miles	Yes	- Contains Prime Farmland and Statewide Significance soils - Climate Zone 13 is rated "moderate"	Yes	Potentially

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**Table 6
Cumulative Projects**

Project No.	APNs	Record ID Number	Project Name	Distance from Project	Agricultural Resources on Site	Important Agricultural Resource	Direct Impact Estimate	Potential Indirect Impact Estimate
		PDS2017-MUP-09-019M2 (Tule Wind) PDS2017-MUP-12-007TE (Rugged Solar) PDS2017-MUP-12-007W1 (Rugged Solar) PDS2011-3921-030-73-031 PDS2011-3801-11-001 (Tule Wind) PDS2000-3992-00-157 PDS2003-3200-20580 PDS2012-3000-12-010 PDS2004-3600-04-026 PDS2004-3921-04-003						
7	6090401600 7601201400	Pala Reservation	GOLDEN ACORN CASINO AND TRAVEL CENTER: State Clearinghouse (SCH) No. 2007071097: 33-acre expansion consisting of 150-room hotel, 900-space parking garage, surface parking, RV park, casino expansion, bowling alley, arcade, offices, retail, restaurants/food service, wind turbines, and water and wastewater improvements in three phases.	Approx. 4 miles	Yes	- Contains Prime Farmland soils - Climate Zone 13 is rated "moderate"	Yes	Potentially

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**Table 6
Cumulative Projects**

Project No.	APNs	Record ID Number	Project Name	Distance from Project	Agricultural Resources on Site	Important Agricultural Resource	Direct Impact Estimate	Potential Indirect Impact Estimate
8	6071105500	PDS2017-IC-17-065 PDS2012-3301-74-011-07	FREEDOM RANCH: MUP 74-011W2; Expand existing facilities from 50 beds to 125 in four phases. (Alcohol/Drug Treatment and Recovery Facility)	Approx. 12 miles	None	- Contains Statewide Significance soils - Climate Zone 18 is rated "moderate"	No direct impacts	None
9	6120601100	PDS2012-3300-76-013	BOULEVARD FIRE STATION: Project would replace existing fire station along Highway 94. The fire station would be 8,496 square feet, including an apparatus bay, and would have a total footprint of disturbance of approximately 30,000 square feet of the 17.5-acre parcel. The site would include water tank facilities that would be filled infrequently as well as roadway improvements along its northern boundary and roadway access improvements to Manzanita Dulce. (Fire Station)	Approx. 4 miles	None	- Contains Statewide Significance soils - Climate Zone 13 is rated "moderate"	No direct impacts	None

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**Table 6
Cumulative Projects**

Project No.	APNs	Record ID Number	Project Name	Distance from Project	Agricultural Resources on Site	Important Agricultural Resource	Direct Impact Estimate	Potential Indirect Impact Estimate
10	6110600800	PDS2011-3992-11-002 PDS2012-3300-12-020 (withdrawn) PDS2012-3300-12-021	ROUGH ACRES FOUNDATION CAMPGROUND FACILITY; MUP-12-021; MUP for a campground/conference center. (wellness center and campground facility)	Approx. 2 miles	Yes	- Contains Statewide Significance soil - Climate Zone 13 is rated "moderate" - Located within Agricultural Preserve	Yes	Potentially
11	6601201200	Pala Reservation	JCSD Capacity Increase: Project would involve creation of new well at existing monitoring well site (Park Well) to increase capacity of JCSD water supply.	Approx. 11 miles	Yes	- Climate Zone 13 is rated "moderate"	Yes	Potentially
12	6610410200 6610410300 6610800100 6610800400 6610800501 6610800502 6610800800	PDS2014-MPA-14-015 (Jacumba Solar) PDS2017-MUP-14-041M1 (Jacumba Solar) PDS2017-MUP-14-041M2 (Jacumba Solar) PDS2014-MPA-14-015 (Jacumba Solar) PDS2011-3992-11-023 (Jacumba Solar) PDS2011-3993-11-011 PDS2000-3400-00-161	JACUMBA SOLAR: MUP-14-041; MUP for the construction and operation of a 20 MW solar energy system on an approximately 304-acre site.	Approx. 13 miles	None	- Contains Prime Farmland and Statewide Significance soils - Climate Zone 13 is rated "moderate"	No direct impact	None

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**Table 6
Cumulative Projects**

Project No.	APNs	Record ID Number	Project Name	Distance from Project	Agricultural Resources on Site	Important Agricultural Resource	Direct Impact Estimate	Potential Indirect Impact Estimate
13	6580903100 6580905400 6580905500 6581200200 6581200300	PDS2009-3710-94-0151 PDS2011-3921-096-77-046 PDS2011-3992-11-022 PDS2012-3300-12-010 PDS2012-3600-12-005 PDS2012-3921-77-046-01 PDS2017-MUP-12-010TE PDS2017-MUP-12-010W1	BOULEVARD SOLAR: Major Use Permit Modification: MUP-12-010W1 MUP-12-010TE; MUP for the construction and operation of a 60 MW solar energy system on an approximately 420-acre site.	Approx. 9 miles	Yes	-Contains Statewide Significance soils - Climate Zone 13 is rated "moderate"	TBD pending completion of environmental analysis	TBD
14	6120901700 6120901900 6120905900	PDS2004-3992-04-250 PDS2005-3200-20981 PDS2009-3710-92-0049 PDS2012-MUP-12-025 PDS2017-IC-17-076 PDS2017-ZAP-17-006	BOULEVARD ENERGY STORAGE: PDS 2017-ZAP-17-006; Minor Use Permit for the construction and operation of a 100 MW energy storage facility on a 2-acre footprint.	Approx. 6 miles	None	-Contains Statewide Significance soils - Climate Zone 13 is rated "moderate"	TBD pending completion of environmental analysis	TBD
15	6141002000 6141002100 6141100400 6600200500 6600200600 6601500400 6601500700 6601500800 6601501000 6601501400 6601501700	PDS1991-3810-91-03 (JVR) PDS2006-3000-06-069 PDS2006-3100-5524 PDS2006-3300-06-099 PDS2006-3500-06-055 PDS2006-3600-06-019 PDS2006-3800-06-014 PDS2006-3801-06-009 PDS2006-3810-06-003 (JVR) PDS2017-MPA-17-016 (JVR)	JVR SOLAR: MPA-17-016; Proposed construction and operation of a 100 MW solar energy system on an approximately 571-acre site.	Approx. 10 miles	None	- Contains Prime Farmland and Farmland of Statewide Importance soils - Climate Zone 13 is rated "moderate" - Located within designated FMMP lands	TBD pending completion of environmental analysis	TBD

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**Table 6
Cumulative Projects**

Project No.	APNs	Record ID Number	Project Name	Distance from Project	Agricultural Resources on Site	Important Agricultural Resource	Direct Impact Estimate	Potential Indirect Impact Estimate
	6601501800 6601700900 6610100200 6610101500 6610102600 6610102700 6610103000 6610601200 6610602200							
16	6071002900	PDS2002-3992-02-290 PDS2003-3200-20754 PDS2012-3993-12-009 (Cameron Solar) PDS2014-MPA-14-019 (Cameron Solar) PDS2018-MUP-18-004 (Cameron Solar)	CAMERON SOLAR: MUP-18-004; MUP for the construction and operation of a 1.7 MW solar energy system consisting of approximately 19 acres on a 164.7-acre parcel.	Approx. 13 miles	None	- Contains Farmland of Local Importance soils - Climate Zone 18 is rated "moderate" - Located within designated FMMP lands	TBD pending completion of environmental analysis	TBD
17	5290500100 5290600100 5290900200 5291000100 5291000200 5291000300 5291200100 5291200300 5291300100	PDS1998-3810-98-002 PDS2001-3100-5133 PDS2010-3000-10-053 PDS2010-3000-88-084 PDS2010-3100-4437 PDS2010-3100-4696 PDS2010-3100-4759 PDS2010-3183-4437 PDS2010-3300-87-016	TORREY WIND: PDS 2018-MUP-18-014; PDS 2018-ER-18-21-001. Construction and operation of 30 wind turbines, 4.2 MW each on approximately 2,226-acre site.	Adjacent to Project Site	Yes	- Contains Farmland of Local Importance soils - Climate Zone 13 and 18 are rated "moderate" - Located within designated FMMP lands	56.06 acres; pending completion of environmental analysis	TBD

Agricultural Resources Report for the Campo Wind Project with Boulder Brush Facilities

**Table 6
Cumulative Projects**

Project No.	APNs	Record ID Number	Project Name	Distance from Project	Agricultural Resources on Site	Important Agricultural Resource	Direct Impact Estimate	Potential Indirect Impact Estimate
	6110100100 6110100200 6110100300 6110200100 6110500400 6110500500	PDS2010-3301-87-016-01 PDS2010-3301-87-016-02 PDS2010-3500-88-069 PDS2010-3500-95-011 PDS2010-3810-83-06 PDS2010-3810-98-02 PDS2010-3813-85-04 PDS2010-3813-88-005 PDS2017-MPA-17-015 PDS2018-MPA-18-016 PDS2018-MUP-18-014 (Torrey Wind)						
18	5290600100 5290900200 5291300100	PDS1998-3810-98-002 PDS2001-3100-5133 PDS2010-3000-10-053 (MET) PDS2010-3000-88-084 PDS2010-3100-4437 PDS2010-3100-4696 PDS2010-3100-4759 PDS2010-3183-4437 PDS2010-3300-87-016 PDS2010-3301-87-016-01 PDS2010-3301-87-016-02 PDS2010-3500-88-069 PDS2010-3500-95-011 PDS2010-3810-83-06	METEOROLOGICAL TESTING FACILITIES: NOE filed for the construction and operation of meteorological testing facilities to collect wind and climate data to determine site viability for the Proposed Project, Torrey Wind.	On Project Site	None	- Contains Prime Farmland and Statewide Significance soils - Climate Zone 13 is rated "moderate"	TBD pending completion of environmental analysis	TBD

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**Table 6
Cumulative Projects**

Project No.	APNs	Record ID Number	Project Name	Distance from Project	Agricultural Resources on Site	Important Agricultural Resource	Direct Impact Estimate	Potential Indirect Impact Estimate
		PDS2010-3810-98-02 PDS2010-3813-85-04 PDS2010-3813-88-005 PDS2017-MPA-17-015 PDS2018-MPA-18-016 PDS2018-MUP-18-014						
19	6090400900	PDS1999-3992-99-031 PDS2001-3400-99-031 (Level 3 Communications) PDS2001-3992-01-022 PDS2010-3300-72-353 PDS2010-3401-99-031-01 (Level 3 Communications) PDS2014-MUP-14-005	LEVEL 3 COMMUNICATIONS LLC: Minor Use Permit PDS2001-3400-99-031; For the construction and operation of a Fiberoptic In-Line Application Facility consisting of two equipment shelters measuring 414 square feet and 286 square feet, a second facility consisting of six new shelters comprising 2,520 square feet, a 255-square-foot generator shelter, the relocation of an existing 255-square-foot generator hut, and a 8-foot, 6-inch sound wall.	Approx. 3.25 miles	None	- Contains Statewide Significance soils - Climate Zone 13 is rated "moderate"	No direct impact	None
20	6090400900	PDS1999-3992-99-031 PDS2001-3400-99-031 PDS2001-3992-01-022	SITE MASTER INC: MUP PDS2014-MUP-14-005; MUP for the construction	Approx. 3.25 miles	None	-Contains Statewide Significance soils	No direct impact	None

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**Table 6
Cumulative Projects**

Project No.	APNs	Record ID Number	Project Name	Distance from Project	Agricultural Resources on Site	Important Agricultural Resource	Direct Impact Estimate	Potential Indirect Impact Estimate
		PDS2010-3300-72-353 PDS2010-3401-99-031-01 PDS2014-MUP-14-005 (Site Master)	and operation of a 35-foot-tall faux elevated water tank with two mounted microwave dishes.			- Climate Zone 13 is rated "moderate"		
21	6101200600	PDS2011-3300-76-061	PACIFIC TELEPHONE: MUP PDS2011-3300-76-061; MUP for the construction and operation of a 64-square-foot equipment shelter.	Approx. 4.25 miles	None	- Climate Zone 13 is rated "moderate"	No direct impacts	None
22	6101210700	PDS2005-3301-88-064-02 (White Star) PDS2011-3300-88-064 (White Star) PDS2011-3301-88-064-01 (White Star) PDS2013-MUP-88-064W1M1 (White Star) PDS2016-MUP-88-064W1M3 PDS2018-MUP-88-064W1M4 (White Star) PDS2018-MUP-88-064W1M5 (White Star)	WHITE STAR COMMUNICATIONS SITE: MUP PDS2011-3300-88-064; MUP for the construction and operation of a radio communications facility for SAFE (San Diego Authority for Freeway Emergency) consisting of a tower max height of 70 feet, a mounted microwave dish, and a 200-square-foot equipment shelter with an antenna max height 40 feet.	Approx. 4.75 miles	None	- Climate Zone 13 is rated "moderate"	No direct impact	None
23	6101210900	PDS2003-3300-90-018 (Pactel White Star) PDS2004-3301-90-018-01 PDS2004-3301-90-018-02 (White Star)	PACTEL WHITE STAR: MUP PDS2003-3300-90-018; MUP for the construction and operation of a 100-foot lattice	Approx. 4.75 miles	None	- Climate Zone 13 is rated "moderate"	No direct impact	None

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**Table 6
Cumulative Projects**

Project No.	APNs	Record ID Number	Project Name	Distance from Project	Agricultural Resources on Site	Important Agricultural Resource	Direct Impact Estimate	Potential Indirect Impact Estimate
		PDS2005-3399-90-018-01 PDS2004-3301-90-018-02 PDS2006-3301-90-018-03 PDS2008-3301-90-018-05 (White Star) PDS2010-3301-90-018-06 (White Star) PDS2011-3301-90-018-04 PDS2014-MUP-90-018W4M1 (White Star) PDS2016-MUP-90-018W4M2 PDS2016-MUP-90-018W4M3 (White Star) PDS2018-MUP-90-018W4M4 (White Star)	tower with 10-foot whip antenna on top and two buildings measuring 288 square feet and 567 square feet, a 270-square-foot building, 8 panel antennas, a 6-foot dish antenna, a 159.5-square-foot emergency standby generator surrounded by a 7-foot, 6-inch CMU block wall with roof and acoustic panel, 15 panel antennas, and a 230-square-foot equipment shelter					
24	6120210300	PDS2014-STP-14-009 (Manzanita) PDS2016-STP-14-009M1 PDS2016-STP-16-020 PDS2016-STP-16-022 (Manzanita) PDS2017-STP-16-022M1 (Manzanita) PDS2018-STP-16-022M2 (Manzanita)	SD0716 MANZANITA – FWLL MODIFICATION and T-MOBILE L700: Site Plan PDS2016-STP-16-022, PDS2014-STP-14-009, PDS2016-STP-16-020; Site Plan for the construction and operation of 8 panel antennas, 4 new RRUs (total 5), 4 RF filters, 4 TMAs, 2 surge suppressors mounted to an existing 35-foot wooden pole, 2 new equipment	Approx. 2.5 miles	None	- Climate Zone 13 is rated “moderate”	No direct impact	None

Agricultural Resources Report for the Campo Wind Project with Boulder Brush Facilities

**Table 6
Cumulative Projects**

Project No.	APNs	Record ID Number	Project Name	Distance from Project	Agricultural Resources on Site	Important Agricultural Resource	Direct Impact Estimate	Potential Indirect Impact Estimate
			cabinets (total 4), and one GPS antenna (total 2).					
25	6120210400	PDS2014-STP-14-011 (VZW I-8)	VZW I-8 BOULEVARD: Site Plan PDS2014-STP-14-011; Site Plan for the construction and operation of 12 antennas mounted to a new 35-foot faux water tank, an associated equipment shelter, and an emergency generator.	Approx. 2.25 miles	None	- Climate Zone 13 is rated "moderate"	No direct impact	None
26	5290500100 5290600100 5290900200 5291000200 5291000300 5291200100 5291200300 5291300100 6110100100 6110100200 6110100300 6110200100 6110500500	PDS2019-MUP-19-002 PDS2019-ER-19-16-001	Campo Wind with Boulder Brush Facilities (proposed Project)	Project	Undeveloped ranch land	0	38.39 acres	0
Total Impact							94.45 acres	0 acres

Notes: APN = Assessor's Parcel Number; NA = not applicable; MW = megawatt; Approx. = approximately; JCSD = Jacumba Community Services District; TBD = to be determined; FMMP = Farmland Mapping and Monitoring Program; NOE = Notice of Exemption; MUP = Major Use Permit; RRU = Remote Radio Unit; RF = Radio Frequency; TMA = Tower Mounted Amplifiers.

APPENDIX A
LARA Model Instructions

3.1 LARA Model Instructions⁶

Application of the LARA model is intended for use in evaluating the importance of agricultural resources when it is determined that a discretionary project could adversely impact agricultural resources located onsite. The LARA model takes into account the following factors in determining importance of the agricultural resource:

Required Factors:

Water
Climate
Soil Quality

Complementary Factors:

Surrounding Land Uses
Land Use Consistency
Topography

Directions for determining the rating for each LARA model factor are provided in sections 3.1.1 through 3.1.6 of this document. Upon rating each factor, it is necessary to refer to Table 2, Interpretation of LARA Model Results, to determine the agricultural importance of the site.

Table 2. Interpretation of LARA Model Results

LARA Model Results			LARA Model Interpretation
Possible Scenarios	Required Factors	Complementary Factors	
Scenario 1	All three factors rated high	At least one factor rated high or moderate	The site is an important agricultural resource
Scenario 2	Two factors rated high, one factor rated moderate	At least two factors rated high or moderate	
Scenario 3	One factor rated high, two factors rated moderate	At least two factors rated high	
Scenario 4	All factors rated moderate	All factors rated high	
Scenario 5	At least one factor rated low importance	N/A	The site is <i>not</i> an important agricultural resource
Scenario 6	All other model results		

Data Availability

To complete the LARA model, various data sources are needed. The most efficient approach to completing the model is through analysis within a GIS. To facilitate this approach, the GIS data layers required to complete the LARA model are available upon request from DPLU. Available data sources include: groundwater aquifer type, Generalized Western Plantclimate Zones or “Sunset Zones”, and Prime Farmland and

⁶ Various data sources referenced in this document are available from DPLU in hard copy format (maps) or in digital format for use within a Geographic Information System (GIS). Obtaining various data sources will be required to determine the importance of the resource.

Farmland of Statewide Importance soil candidates. Other data sources are available from the SANGIS webpage at <http://www.sangis.org/>.

3.1.1 Water

The water rating is based on a combination of a site's CWA service status, the underlying groundwater aquifer type and the presence of a groundwater well (Table 3). Due to the variability of well yields and the potential for groundwater quality problems to adversely impact the viability of the well for agricultural purposes, the water factor allows for a reduction in the water rating based on site specific well yield and quality data, if that data is available (Table 4).

Table 3. Water Rating ⁷

County Water Authority (CWA) Service Status	Groundwater Aquifer Type and Well Presence	Rating
Inside CWA service area with existing water infrastructure connections and a meter	Any groundwater aquifer type	High
Inside CWA service area with infrastructure connections to the site, but no meter has been installed	The site is located in an Alluvial or Sedimentary Aquifer <i>and</i> has an existing well	High*
	The site is located in an Alluvial or Sedimentary Aquifer, but has no existing well	Moderate*
	The site is located on Fractured Crystalline Rock and has an existing well	Moderate*
	The site is located on Fractured Crystalline Rock, but has no existing well	Low*
Outside CWA or inside CWA but infrastructure connections are not available at the site and no meter is installed	The site is located in an Alluvial or Sedimentary Aquifer <i>and</i> has an existing well	Moderate*
	The site is located in an Alluvial or Sedimentary Aquifer, but has no existing well	Low*
	The site is located on Fractured Crystalline Rock (with or without a well)	Low*
	The site is located in a Desert Basin (with or without a well)	Low*

*These water ratings may be reduced based on available groundwater quantity and quality information, in accordance with Table 4. If no additional groundwater quantity or quality data is available, the ratings above shall apply.

⁷ If more than one underlying groundwater aquifer type exists at a site, usually the aquifer type that could produce the most water should be used to obtain the water rating. If it would be more reasonable to apply the rating based on the aquifer that would produce less water, a clear justification and reason for doing so must be provided.

Water Quality and Quantity Limitations

Site specific limitations to groundwater availability and quality exist and can lower the overall water rating of a site when data is available to support the limitation. Sites with imported water availability may not receive a lower water rating based on groundwater quality or yield data. Table 4 outlines potential water availability and quality limitations and the associated effect on the LARA model water rating.

Table 4. Groundwater Availability and Quality Effects on Water Rating

Groundwater Availability and Quality	Effect on Water Rating
The site has inadequate cumulative well yield (<1.9 GPM per acre of irrigated crops); TDS levels above 600 mg/L; or another documented agricultural water quality or quantity limitation exists	Reduces water rating by one level (i.e. from high to moderate or from moderate to low)

A determination of inadequate cumulative well yield as stated in Table 4 means that a site's well cannot produce at least enough water for each acre of irrigated crops at the site. At least 1.9 GPM is required per acre of irrigated crops, equating to production of 3 Acre Feet/Year (AFY) based on the following conversion factor: 1 AFY = 325,851 Gallons per Year / 365 days / 1440 minutes = 0.62 GPM. Cumulative well yield means that the combined yield of all wells on site may be summed to meet the required groundwater yield. As an example, if a site has 5 acres of irrigated crops, then production would need to be at least 9.5 GPM to produce enough water to irrigate the 5 acres, equating to approximately 15 AFY. If residence(s) exist on the project site, the groundwater analysis must demonstrate that an additional supply of 0.5 AFY can be achieved to account for residential water use associated with each existing onsite residence. To allow a reduction in the water quality score, TDS levels above 600 mg/L must be documented. If other documented water quality limitations exist that are not captured in the water quality measure of TDS, the water quality data must be provided and an associated water rating reduction justified. Although these requirements assume that water needs are consistent for a crop throughout the year while water requirements are typically higher in the dryer months, average annual required yield is used as the best available general measure of the adequacy of groundwater yields.

The quality and availability of imported water is not included as a factor to allow a reduction in the water rating due to an assumption that the MWD will continue to deliver water with the 500 mg/L TDS objective. However, it should be recognized that the degradation of the quality of Colorado River water is a known issue that could preclude the production of certain crops in the future. If in the future, the MWD is unable to meet their adopted water quality objectives, a similar reduction for imported water quality may need to be developed for consideration in the water score. Similarly, there is uncertainty regarding the continued future reliability of agricultural water deliveries based on various external issues that may affect local imported water supply such as protection of the Salton Sea and the stability of the Sacramento/San Joaquin Delta. As the impacts from external sources to local agricultural water deliveries become realized, the treatment of the water score in this document may need to be reevaluated.

Water Rating Explanation

Sites with availability of imported water always receive the highest water rating regardless of groundwater availability because the availability of imported water is essential for the long term viability of agriculture due to the limited natural rainfall and limited availability of groundwater resources in the County. Sites within the CWA service area that have no existing water meter, but that have water infrastructure connections to a site (in or near an adjacent street), are assigned a higher water rating than sites without existing water infrastructure connections. This is because the cost of extending off-site water infrastructure and obtaining a water meter is much higher than only obtaining a water meter and constructing onsite infrastructure connections to existing adjacent imported water infrastructure. Furthermore, the presence of existing imported water infrastructure adjacent to a site is a good indication that imported water is likely to become available to the site in the future (more likely than for a site far from infrastructure for imported water).

The underlying groundwater aquifer type and the presence of a well are two additional factors that affect the water rating. In general, sites underlain by an alluvial or sedimentary aquifer receive the highest ratings because these substrates have a much greater capacity to hold water than fractured crystalline rock. A site underlain by an alluvial or sedimentary aquifer with an existing well receives a higher rating than a site underlain by these geologic formations but having no existing well because of the cost associated with well installation. Well installation costs are added to the initial capital outlay required to begin an agricultural operation, thereby reducing the water rating if no well is present. The availability of groundwater in fractured crystalline rock is highly uncertain. However, a site underlain by fractured crystalline rock that has an existing well and is located adjacent to imported water infrastructure receives a moderate rating to take into account the cost of well installation, and the increased likelihood that imported water may become available at the site in the near future. Additionally, while groundwater yield in fractured crystalline rock is generally limited compared to other aquifer types, it can provide a good source of groundwater, especially in valley areas where there may be saturated residuum overlying the fractured crystalline rock. Sites with a well located on fractured crystalline rock, but without imported water infrastructure connections to the site, always receive a low rating because such sites would likely be reliant on a limited groundwater resource for the foreseeable future.

Nearly all agriculture in the desert basins is located in Borrego Valley, where documented groundwater overdraft conditions limit the long-term sustainability of agricultural use. A site located in a desert basin receives a low water rating due to the absence of imported water, and low groundwater recharge rates, which can easily result in groundwater overdraft conditions as documented in Borrego Valley, where extraction rates far exceed natural recharge. The Borrego Municipal Water District is taking measures to reduce water use in the basin through encouraging the fallowing of agricultural land. In addition, the County of San Diego requires proposed projects to mitigate for significant impacts to groundwater supply in accordance with CEQA. Mitigation may be achieved through the fallowing of agricultural land. These factors make preservation of agriculture in Borrego Valley infeasible in the long term when

considering the need to reduce overall groundwater use to protect the public health and the sustainability of the community.

Groundwater Quantity and Quality Explanation

The following discussion explains the reasoning behind the water rating reductions detailed in Table 4, Groundwater Availability and Quality Effects on Water Rating. The lack of a well with adequate yield (1.9 GPM for each acre of irrigated crops) reduces the water rating by one factor. This standard is based on the well yield needed to achieve production of 3 AFY per acre, an average crop irrigation requirement for crops produced locally (Table 5).

Table 5. Crop Water Use Averages

Crop	Typical Water Usage Per Acre (AFY)
Indoor Flowering and Foliage Plants	3-4
Ornamental Shrubs and Trees	3
Avocados	3
Bedding Plants	3
Cut Flowers	2-3
Tomatoes	2
Citrus	2.5-3
Poinsettias	3-4
Strawberries	3
Average	3

Source: UC Cooperative Extension, County of San Diego

A well with poor water quality (as measured by TDS levels above 600 mg/L or another documented water quality limitation) may reduce the water rating by one factor to account for agricultural limitations associated with using poor quality water for crop production. Groundwater with TDS concentrations above 600 mg/L is the guideline for allowing a reduction in the water factor based on available research on the effects of TDS on crop production, with specific focus on the effects on crops important to the San Diego region. In general, as TDS levels rise, water has diminishing value for agricultural use as it can restrict the range of crops that can be irrigated with the water and increases the cost of irrigation system maintenance.

According to the San Diego County Water Authority Agricultural Irrigation Water Management Plan, TDS levels above 500 mg/L are problematic for many of the subtropical crops produced in San Diego County, and TDS levels over 1,000 mg/l are virtually unusable for many of the subtropical crops grown here (2001). While TDS concentrations above 500 mg/L can be problematic for many subtropical crops, concentrations above 600 mg/L was selected as the guideline to take into account the already elevated TDS concentrations in imported water sources. Another study (Peterson, 1999) identified the TDS tolerance of selected crops. Field crops such as oat hay, wheat hay and barley were found to tolerate water with TDS levels up to 2,500

mg/L, but these are among the lowest value crops produced in the County. Strawberries were found to be intolerant to TDS levels greater than 500 mg/L; apples, grapes, potato, onion, and peppers slightly tolerant to TDS levels up to 800 mg/L; and cucumbers, tomatoes, and squash moderately tolerant to TDS levels up to 1,500 mg/L. The Florida Container Nursery BMP Guide prepared by the University of Florida Agricultural Extension (2006) identified TDS levels and the associated degree of problem that will be experienced for microirrigated container nursery production at different TDS levels. TDS of 525 mg/L or less was identified as producing no problems, TDS from 525 to 2100 mg/L having increasing problems, and TDS greater than 2100 mg/L having severe problems. High levels of TDS can be overcome through planting more salt resistant crops; however salt resistant crops are typically lower in value and would not produce the economic returns necessary to sustain a viable farming industry in San Diego County (high cost of production and land generally require production of high value crops). In general as TDS levels rise, crop yields decline, maintenance of irrigation systems becomes more difficult, and the range of crops (particularly high value crops) that can be supported is reduced.

In summary, TDS levels in groundwater above 600 mg/L substantially impair the water as a source of irrigation for agriculture, justifying a reduction in the water rating by one factor to account for the potential for reduced yields, increased difficulty in maintaining irrigation systems, and reduction in the range of crops that can be produced.

It is important to note that TDS is only one measure of water quality and does not differentiate between the various types of dissolved solids or contaminants that may be present in water. High levels of certain constituents can cause severe problems for agricultural production. For example, high chloride content can damage certain crops, while nitrates can cause problems for livestock. If specific documented limitations exist that reduce the viability of the water supply for agriculture, the water rating should be reduced. The quality of imported water is not considered because it is assumed that the MWD will deliver water with a maximum TDS of 500 mg/L, their adopted TDS objective for imported water deliveries.

3.1.2 Climate

Ratings associated with each Generalized Western Plantclimate Zone or “Sunset Zone” are included in Table 6, Climate Rating. The table identifies and describes each zone and justification for the associated rating.⁸ Detailed descriptions of the Sunset Zones in San Diego County are included in Attachment B.

⁸ All Sunset Zones in the County are not included in the table. Zone 22 is a small area that occurs entirely within Camp Pendleton, therefore no rating is assigned to this zone. Zone 24 is the maritime influenced zone. Only limited portions of unincorporated communities exist in this zone (County Islands in National City and the west Sweetwater area). Although this zone is valuable for certain high value crops, it is not assigned any importance rating due to the very small area of unincorporated land that occurs in this zone and the fact that the land is fully urbanized.

Table 6. Climate Rating

Climate (Sunset Zone) Description	Rating	Justification
<p>Zone 23 represents thermal belts of the Coastal Areaclimate and is one of the most favorable for growing subtropical plants and most favorable for growing avocados. Zone 23 occurs in coastal incorporated cities and also occurs in the unincorporated communities of Fallbrook, Rainbow, Bonsall, San Dieguito, Lakeside, western portions of Crest and Valle De Oro, Spring Valley, Otay, and western portion of Jamul-Dulzura.</p>	<p>High</p>	<p>Zone 23 is rated high because this climate zone is the most favorable for growing some of the County's most productive crops. Year round mild temperatures allow year round production and the proximity to urban areas and infrastructure facilitates efficient delivery to market.</p>
<p>Zone 21 is an air drained thermal belt that is good for citrus and is the mildest zone that gets adequate winter chilling for some plants. Low temperatures range from 23 to 36 degrees F, with temperatures rarely dropping far below 30 degrees.</p>	<p>High</p>	<p>Zone 21 is rated high because of the mild year round temperatures and lack of freezing temperatures that allow year round production of high value crops. The importance of this zone is also related to the conversion pressure that exists due to urban encroachment. Preserving agriculture in Zone 21 is essential to maintain the high returns per acre that are common in this County. Climate is the essential factor that allows high value production. The loss of significant agricultural lands in Zone 21 would eventually relegate agriculture to areas further east where most of the County's high value crops cannot be viably produced. Zone 21 is also favorable due to its location close to urban areas and transportation infrastructure which facilitates product delivery to market.</p>
<p>Zone 20 is a cold air basin that may be dominated by coastal influence for a day, week or month and then may be dominated for similar periods of time by continental air. Over a 20 year period, winter lows in Zone 20 ranged from 28 to 23 degrees F.</p>	<p>High</p>	<p>Zone 20 occurs the Ramona area. Citrus groves are common in Zone 20 in addition to a concentration of animal agriculture operations and vineyards. Most of Zone 20 falls within the 89,000-acre Ramona Valley viticultural area which was designated as its own appellation in 2006 and contains 17 vineyards currently cultivating an estimated 45 acres of wine grapes. The distinguishing factors of the Ramona Valley viticultural area include its elevation, which contrasts with the surrounding areas, and climatic factors related to its elevation and inland location. Due to the favorable climate, proximity to urban areas, and its potential to become a more widely recognized viticultural area, Zone 20 is rated as a climate of high importance.</p>
<p>Zone 19 is prime for citrus, and most avocados and macadamia nuts can also be grown here.</p>	<p>High</p>	<p>Zone 19 is rated high due to the suitability for growing the County's high value crops and its location close to urban areas.</p>

<p>Zone 18 is a mountainous zone subject to frosts. Citrus can be grown in Zone 18, but frosts require the heating of orchards to reduce fruit loss. Zone 18 is the home of Julian's apple orchards.</p>	<p>Moderate</p>	<p>Zone 18 is assigned a medium rating due to its frost susceptibility, reducing its potential for supporting year round production and frost sensitive crops. However, the ability to produce crops that require winter chilling makes it a climate zone of moderate importance.</p>
<p>Zone 13 covers low elevation desert areas (considered subtropical) and is the most extensive of the County's desert Plantclimate zones. Zone 13 includes the extensive agricultural uses in the Borrego Valley.</p>	<p>Moderate</p>	<p>Zone 13 is assigned a moderate rating due to the temperature extremes characteristic of this zone. These temperature extremes exclude some of the subtropicals grown in Zones 22 to 24, however numerous subtropicals with high heat requirements thrive in this climate such as dates, grapefruit, and beaumontia and thevetia (ornamentals).</p>
<p>Zone 11 is located below the high elevation Zone 3 and above the subtropical desert Zone 13.</p>	<p>Low</p>	<p>Zone 11 is assigned a low climate rating due the agricultural hazards of the climate including late spring frosts and desert winds.</p>
<p>Zone 3 occurs in the high elevation Palomar Mountains in addition to high elevation areas east of the Tecate Divide. These are locations where snow can fall and wide swings in temperature occur.</p>	<p>Low</p>	<p>Most of these lands are public lands, reducing their potential for commercial agriculture. The wide swings in temperature, including freezing temperatures in winter make this zone of low importance agriculturally. This zone is also far from transportation infrastructure; an important consideration for crop delivery to market.</p>

While it is anticipated that the climate ratings would normally not be modified, it is important to acknowledge that microclimate conditions do exist that cannot be captured in the Sunset Zone definitions. For example, topography can create certain microclimate conditions such as frost susceptibility that could downgrade the climate importance of a site to marginal if frost tolerant crops cannot be grown at the site. Any downgrading or upgrading of a climate rating must be accompanied by site specific climate data to support the modification, and any identified climate limitations must be based on the range of crops that could be viable at the site. For example, if frost sensitive crops are the only crop identified to be viable at the site and the site would be subject to frequent frosts, this should be documented and a lower rating may be applied. It is not anticipated that climate modifications would be commonly used given the diversity of crops that a site would usually be able to support.

Sunset Zones are used as a standard measure of climate suitability due to the variability of microclimate conditions that the Sunset zones take into account. Recognizing that the Sunset Zones were not developed as a tool to determine the suitability for commercial agricultural production, their use is not intended to determine suitability for specific crops, rather they are a measure of overall climate suitability for the typical agricultural commodities produced in San Diego County. For example, the Sunset Zone designations take into account the USDA hardiness rating which identifies the lowest temperature at which a plant will thrive. Sunset Zones start with the USDA hardiness zones and add the effects of summer heat in ranking plant suitability for an area. The American Horticulture Society (AHS) heat zone map ranks plants for suitability to heat, humidity and dryness. The AHS heat zone map was developed under the direction of

Dr. H. Marc Cathey, who was instrumental in the organization of the USDA Plant Hardiness Map. Each AHS heat zone has “heat days,” those days with temperatures of 86° F or above. 86° F is the point at which some plants suffer damage to cellular proteins. The USDA plant hardiness zone maps and/or the AHS heat zone map may be used to supplement the Sunset Zone information if the Sunset Zone descriptions are not accurate.

3.1.3 Soil Quality

The project’s soil quality rating is based on the presence of Prime Farmland Soils or Soils of Statewide Significance (Attachment C) that are available for agricultural use and that have been previously used for agriculture. Land covered by structures, roads, or other uses that would preclude the use of the land for agriculture, are not typically considered in the soil quality rating. To determine the soil quality rating, the soil types on the project site must be identified. The soils data for the project site must be entered into Table 7, Soil Quality Matrix as detailed in the steps below:

Step 1.

Identify the soil types that are on the project site. Enter each soil type in Rows 1 through 13 of Column A. If the site has more soil types than available rows, add additional rows as needed.

Step 2.

Calculate the acreage of each soil type that occurs on the project site and enter the acreage of each in Column B. Enter the total acreage in Row 14, Column B. This number should equal the total acreage of the project site.

Step 3.

Calculate the acreage of each soil type that is unavailable for agricultural use⁹ and enter the total in the corresponding rows of Column C.

Step 4.

Subtract the values in Column C from the acreages of each soil type identified in Column B. Enter the result in Column D.

⁹ Soils unavailable for agricultural use include: 1) lands with existing structures (paved roads, homes, etc.) that preclude the use of the soil for agriculture, 2) lands that have been disturbed by activities such as legal grading, compaction and/or placement of fill such that soil structure and quality have likely been compromised (e.g., unpaved roads and parking areas), 3) lands that are primarily a biological habitat type that have never been used for agriculture, and 4) lands constrained by biological conservation easements, biological preserve, or similar regulatory or legal exclusion that prohibits agricultural use. The distinction between agriculture and biological resources is not always clear because agricultural lands commonly support sensitive biological species. Agricultural lands that incidentally support sensitive species should still be considered an agricultural resource; however, biological habitats that have never been used for agriculture should not be considered an agricultural resource. It is possible that non-native grasslands will be classified as both a biological resource and an agricultural resource since many non-native grasslands have been established based on a history of agricultural use.

Step 5.

Sum the acreage values in Column D and enter the total in Column D, Row 14.

Step 6.

Divide the acres of each soil type in Column D by the total acreage available for agricultural use (Column D, Row 14) to determine the proportion of each soil type available for agricultural use on the project site. Enter the proportion of each soil type in the corresponding row of Column E.

Step 7.

Determine whether each soil type is a soil candidate for Prime Farmland or Farmland of Statewide Importance. If yes, enter 1 in the corresponding row of Column F. If no, enter zero in the corresponding row of Column F.

Step 8.

Multiply Column E x Column F. Enter the result in the corresponding row of Column G.

Step 9.

Sum the values in Column G and enter the result in Column G, Row 15 to obtain the total soil quality matrix score.

Step 10.

Based on the total soil quality matrix score from Table 7, identify the corresponding soil quality rating using Table 8 Soil Quality Matrix Interpretation

Table 7. Soil Quality Matrix

	Column A	Column B	Column C	Column D	Column E	Column F	Column G
	Soil Type	Size of project site (acreage)	Unavailable for agricultural use	Available for agricultural use	Proportion of project site	Is soil candidate for prime farmland or farmland of statewide significance? (Yes = 1, No = 0)	Multiply Column E x Column F
Row 1							
Row 2							
Row 3							
Row 4							
Row 5							
Row 6							
Row 7							
Row 8							
Row 9							
Row 10							
Row 11							
Row 12							
Row 13							
Row 14	Total		Total				
Row 15	Soil Quality Matrix Score						

Table 8. Soil Quality Matrix Interpretation

Soil Quality Matrix Score	Soil Quality Rating
The site has a Soil Quality Matrix score ranging from 0.66 to 1.0 and has a minimum of 10 acres of contiguous Prime Farmland or Statewide Importance Soils	High
The site has a Soil Quality Matrix score ranging from 0.33 to 0.66 or the site has a minimum of 10 acres of contiguous Prime Farmland or Statewide Importance Soils	Moderate
The site has a Soil Quality Matrix score less than 0.33 and does not have 10 acres or more of contiguous Prime Farmland or Statewide Importance Soils	Low

Soil Quality Rating Justification

The presence of Prime Farmland Soils or Soils of Statewide Significance is used as the measure of quality soil in the LARA soil quality rating based on their use in defining soil candidates for the FMMP Farmland categories of Prime Farmland and Farmland of Statewide Importance. Soil candidates for the FMMP Prime Farmland designation are soils with the best combination of physical and chemical characteristics for the production of crops. Soil candidates for the FMMP Farmland of Statewide Importance designation are similar to the soil criteria for Prime Farmland, but include minor shortcomings, such as greater slopes or less ability to store soil moisture. Soil candidates for Farmland of Statewide Importance do not have any restrictions regarding permeability or rooting depth. Soil candidates for Farmland of Statewide Significance are included in this rating to capture quality soils with minor shortcomings that may not have been included, if the typical definition of Prime Agricultural Land as stated in Government Code Section 51201(c) was used. Soil criteria used in Government Code Section 51201(c) identifies any land with a LCC rating of I or II or a Storie Index Rating from 80 to 100 as land that meets the definition of prime agricultural land. Because San Diego County has limited quantities of soils that meet these criteria, locally defined NRCS soil candidates for Prime Farmland and Farmland of Statewide Importance are included to define quality soils in this locale given that 70% of these soils have LCC higher than I or II and 88% have SI ratings below 80. Details regarding the soil criteria that determine the applicability of a soil for the respective Farmland designation is included in Attachment C, Soil Candidate Criteria and Candidate Listing for Prime Farmland and Farmland of Statewide Importance.

Table 8, Soil Quality Matrix Interpretation, identifies high, moderate, or low importance ratings based on the soil quality matrix score from Table 7. The maximum possible soil quality matrix score is one and the minimum is zero because the score is based on the amount of the agricultural resources onsite that are Prime and Statewide Importance soil candidates. A site with a soil quality matrix score of 0.66 or higher means that two-thirds of the agricultural resources onsite have soils that meet the soil quality criteria for Prime Farmland or Farmland of Statewide Importance. A minimum of 10 contiguous acres is required for a site to be assigned the highest soil quality rating to reflect the need for high quality soils to be contiguous in order for them to be considered useful

agriculturally. If the site has a soil quality score from 0.33 to 0.66 or has 10 acres or more of contiguous soils that meet the soil quality criteria for Prime Farmland or Farmland of Statewide Importance, the site is assigned the moderate importance rating. If less than one-third of the site or less than 10 contiguous acres of the agricultural resources onsite have soils that meet the Prime or Statewide Importance soil criteria, the site is assigned the low importance rating for soil quality. A ten acre threshold is included in the ratings to capture the potential for a large project site to have a substantial quantity of high quality soils and still receive a low importance rating due to the project's size in relation to the acreage of quality soils. Ten acres is an appropriate acreage to use in this context because ten acres would typically be able to support a wide range of agricultural uses in San Diego County. Furthermore, to be eligible for a Williamson Act Contract in an Agricultural Preserve, the County of San Diego Board of Supervisor's Policy I-38 (Agricultural Preserves) recommends various minimum ownership sizes, with ten acres being the minimum, to be eligible for a contract. Ten acres is listed as the minimum size for various agricultural activities including poultry, tree crops, truck crops, and flowers. The requirement that the land be contiguous recognizes that small, scattered pockets of high quality soils are less valuable for agricultural use than an area of contiguous high quality soils.

3.1.4 Surrounding Land Use

Surrounding land use is a factor in determining the importance of an agricultural resource because surrounding land uses that are compatible with agriculture make a site more attractive for agricultural use due to lower expectations of nuisance issues and other potential impacts from non-farm neighbors. This factor also accounts for the degree to which an area is primarily agricultural, assigning a higher rating to areas dominated by agricultural uses than an area dominated by higher density, urban development. Surrounding land use is a complementary factor in the LARA model because the presence of compatible surrounding land uses can support the viability of an agricultural operation; however a lack of compatible surrounding land uses would not usually prohibit productive agriculture from taking place (depending on the type of production). Similarly, agriculture can be viable among urban uses, but its long term viability would generally be less than an agricultural operation conducting operations in an area dominated by agricultural uses because of lesser economic pressures to convert to urban uses. To determine the surrounding land use rating, the following information must be determined:

Step 1.

Calculate the total acreage of lands compatible with agricultural use¹⁰ within the defined Zone of Influence (ZOI).¹¹ The location of agricultural lands can be determined using information from the DOC’s Important Farmland Map Series, agricultural land use data available from the DPLU, aerial photography, and/or direct site inspection. Land within a ZOI that is observed to be fallow or with a history of agricultural use will usually be considered agricultural land, unless there is evidence that it has been committed to a non-agricultural use (such as having an approved subdivision map). The Department of Planning and Land Use may consult the Department of Agriculture, Weights and Measures if there are disputed interpretations.

Step 2.

Calculate the percentage of the acreage within the project's ZOI that is compatible with agricultural use.

Step 3.

Based on the proportion of lands within the ZOI that are compatible with agricultural use, identify the appropriate surrounding land use rating in accordance with Table 9, Surrounding Land Use Rating.

Table 9. Surrounding Land Use Rating

Percentage of Land within ZOI that is Compatible with Agriculture	Surrounding Land Use Rating
50% or greater	High
Greater than 25% but less than 50%	Moderate
25% or less	Low

Considering surrounding land uses within the ZOI is intended to provide a measurement of the long term sustainability of agriculture at the project site. Agriculture is generally

¹⁰ Lands compatible with agricultural uses include existing agricultural lands, protected resource lands, and lands that are primarily rural residential. Protected resource lands are those lands with long-term use restrictions that are compatible with or supportive of agricultural uses including but not limited to Williamson Act contracted lands; publicly owned lands maintained as park, forest, open space, or watershed resources; and lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses. For the purposes of this factor rating, rural residential lands include any residential development with parcel sizes of two acres or greater and that contain elements of a rural lifestyle such as equestrian uses, animal raising, small hobby type agricultural uses, or vacant lands. Residential parcels with swimming pools, children’s play areas, second dwelling units, or other accessory uses that occupy a majority of the usable space of a residential parcel should not be identified as land compatible with agriculture.

¹¹ Attachment F details the steps required to determine the Zone of Influence (ZOI). The ZOI methodology is taken from the Department of Conservation’s Land Evaluation Site Assessment (LESA) model and includes a minimum area of ¼ mile beyond project boundaries and includes the entire area of all parcels that intersect the ¼ mile boundary. The ZOI developed by the Department of Conservation is the result of several iterations during development of the LESA model for assessing an area that would generally be a representative sample of surrounding land use. For example, a 160 acre project site would have a ZOI that is a minimum of eight times greater (1280 acres) than the project itself.

compatible with other agricultural land uses because they are more likely be tolerant of the typical activities and nuisances associated with agricultural operations than urban land uses would be. Primarily rural residential lands are included as a land use compatible with agriculture because rural residential lands are already common among agricultural uses and most active farms also have residences on the site. Although not all types of agriculture are compatible with rural residential land uses (i.e. confined animal facilities); many typical San Diego County farming operations are compatible with rural residential land uses as is evidenced by the existing viability of agricultural operations that are located among rural residential land uses. For example, in many North County communities, small parcels (two acres, for example) with a single family residence and a small orchard or other farming or equestrian use are common. These residential uses, due to their direct involvement in agriculture or a rural lifestyle, would tend to be more compatible with agriculture than a high density development where homeowners would be less likely to be directly involved in rural lifestyle activities (e.g. agriculture, equestrian, animal raising, etc.). Occupants of higher density residential uses are more likely to be disturbed by noise, dust, pesticides or other nuisances that do not fit with the peaceful perceptions of living in the countryside.

3.1.5 Land Use Consistency

The median parcel size associated with the project site compared to the median parcel size of parcels located within the ZOI is a complementary factor used in the LARA model. In order to determine the land use consistency rating for the project, the following information must be determined:

Step 1.

Identify the median parcel size associated with the proposed project if the proposed project consists of at least three parcels. If the proposed project consists of two parcels, use an average. If the proposed project consists of only one parcel, then no median or average is needed.

Step 2.

Identify the median parcel size of the parcels located within the project's ZOI.

Step 3.

Considering the project's median parcel size and the ZOI median parcel size, identify the land use consistency rating in accordance with Table 10.

Table 10. Land Use Consistency Rating

Project's median parcel size compared to ZOI median parcel size	Land Use Consistency Rating
The project's median parcel size is smaller than the median parcel size within the project's ZOI	High
The project's median parcel size is up to ten acres larger than the median parcel size within the project's ZOI	Moderate
The project's median parcel size is larger than the median parcel size within the project's ZOI by ten acres or more	Low

Land use consistency is used as a measure of importance to recognize the effect that surrounding urbanization has on the viability of ongoing agricultural uses and to recognize that as urbanization surrounds agricultural lands, opportunity costs¹² for agricultural operators increase, thus reducing the viability of an agricultural operation. A site surrounded by larger parcels indicates that the site is located in an area that has not already been significantly urbanized and the area is more likely to continue to support viable agricultural uses. On the other hand, a site surrounded by smaller parcels indicates a lower likelihood of ongoing commercial agriculture viability considering the greater expectations of land use incompatibilities that the site is likely to experience and the reduction in economic viability when considering forgone opportunity costs. The median parcel size is used instead of an average to account for the potential for a very large or very small parcel to exist that would skew the result if using an average.

3.1.6 Slope

To determine the Slope Rating for the site, the average slope for the area of the site that is available for agricultural use must be determined. Refer to Column D of Table 7, Soil Quality Rating Matrix, for the areas of the site considered available for agricultural use. When the average slope of the areas of the site that is available for agricultural use is determined, identify the corresponding topography rating as outlined in Table 11, below.

Table 11. Slope Rating

Average Slope	Topography Rating
Less than 15% slope	High
15% up to 25% slope	Moderate
25% slope and higher	Low Importance

¹² Opportunity cost is an economic term. It means the cost of something in terms of an opportunity foregone (and the benefits that could be received from that opportunity), or the most valuable foregone alternative. For example, if a land owner decides to farm his land, the opportunity cost is the value of one or more alternative uses of that land, such as a residential subdivision. If he continues to farm the land, the opportunity cost is the revenue that he does not receive from building houses. Thus, as opportunity costs rise, the viability of continuing the current action (i.e. agricultural use) decreases. This conclusion is based on the fact that agricultural use of land is primarily an economic decision. When factors, such as increased opportunity costs, make use of the land for agriculture less profitable than other uses, the long term viability of agriculture decreases.

APPENDIX B
Zone of Influence Lots and Acreages

Appendix B ZOI Lots and Acreages

APNs	Acres
5290500100	120.77
5290600100	163.81
5290900200	286.19
5291000200	41.63
5291000300	82.88
5291200100	291.15
5291200300	327.98
5291300100	165.55
6081010100	367.76
6081100600	396.89
6081100700	158.69
6081200100	467.58
6081200200	354.99
6081200300	353.49
6081200400	967.91
6081200500	829.19
6090200800	236.98
6090401600	409.71
6090501500	46.98
6090501600	487.93
6091100100	742.53
6091301600	316.10
6091400100	631.60
6091500100	641.39
6100200500	2.68
6100200600	317.47
6100800800	11.03
6100800900	8.84
6100801700	304.26
6101102300	233.95
6101300100	635.72
6101300200	640.66
6101300300	633.02
6101300400	597.78
6101300500	0.40
6101300600	16.29
6101300700	5.79
6110100100	200.94
6110100200	260.34
6110100300	28.53
6110200100	27.92
6110500500	21.37
6570200600	317.82
6570300100	31.34
6570300200	602.01
6570800900	23.67
6571000100	2.91
6571000200	627.18
6571100100	322.03

Appendix B (Continued)

APNs	Acres
6571100200	321.81
6580100100	642.07
6580700300	32.46
6580701600	550.82
6581300100	27.27
6581300200	603.02
7601201200	487.93
7601201300	396.89

ZOI = Zone of Influence; APN = Assessor's Parcel Number
Bold = project parcels