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Agricultural Resources Report for the Lone Oak Road Project Tentative Map No. 5585

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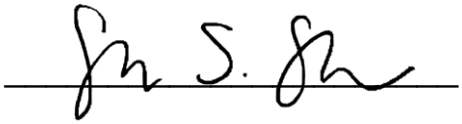
Preparer's Signature: 

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GLOSSARY OF TERMS AND ACRONYMS

amsl	above mean sea level
APN	Assessor's Parcel Number
CEQA	California Environmental Quality Act
cumulative projects	Projects that meet the criteria to be considered a part of the cumulative effect in the region. This would involve having agriculture on the property, and having at least some amount of Principal Farmlands.
DOC	Department of Conservation
DU/ac	dwelling units per acre
FMMP	Farmland Mapping and Monitoring Program
Guidelines	This refers to the County of San Diego Guidelines for Determining Significance and Report Format Content Requirements for Agricultural Resources.
HOA	homeowners' association
I-	Interstate
LARA	Local Agricultural Resource Assessment
NRCS	Natural Resources Conservation Service
LCC	Land Capability Classification
SanGIS	San Diego Geographic Information Source
SDCWA	San Diego County Water Authority
SI	Storie Index
SR	State Route
USDA	United States Department of Agriculture
VCP	vitrified clay pipe
ZOI	Zone of Influence boundary as described in the LARA Model

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1 SUMMARY

Located within San Diego County, the project site is within a portion of the unincorporated North County Metro Subregional Planning Area and within the City of Vista's sphere of influence (Figure 1, Location Map). Regional access to the project site is provided via State Route 78 (SR 78), which is accessed from Interstate 5 (I-5) in the west and from I-15 in the east (Figure 2, Regional Map). The project site is located north of SR 78 and primary access to the site is off Lone Oak Road through a proposed gated entrance.

The project site, which is located within Assessor's Parcel Numbers (APNs) 184-080-01-00 and 181-162-06-00, totals 14.15 acres and the entire area is fenced. Existing uses on the project site include a rural residence and associated building and a small agricultural area. The project proposes a Tentative Map and Major Use Permit (PRD Site Plan) with the development of a total 24 residential lots. The project is further divided into one private drive lot, one Cleveland Trail lot, two water quality/detention basin lots, one general purpose homeowners' association (HOA) open space lot, and one biological open space lot.

Much of the site is currently disturbed, and much of the vegetation is non-native. The project site is currently partially developed with a residence and a workshop. A small vegetable garden is located to the south of the residence and an active apiary is located on the property just east of the project site.

This property has been determined by the County of San Diego (County) Department of Planning and Land Use's Local Agricultural Resource Assessment (LARA) Model to be an important agricultural resource. The project footprint would impact approximately 12.89 acres of County Designated Candidate Soils for Prime Farmland, or Farmland of Statewide Importance. The project would impact County Designated Candidate Soils for Prime Farmland or Farmland of Statewide Importance that was historically used for agricultural purposes and are currently available for agricultural use. Impacts would be significant and mitigation is required to reduce the impact to less than significant.

The LARA Model determined that the project would have less than significant indirect impacts on surrounding agricultural resources based on the criteria evaluated in Chapter 3.

The cumulative projects do not occur on land designated as an Agricultural Preserve or 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 6.2.

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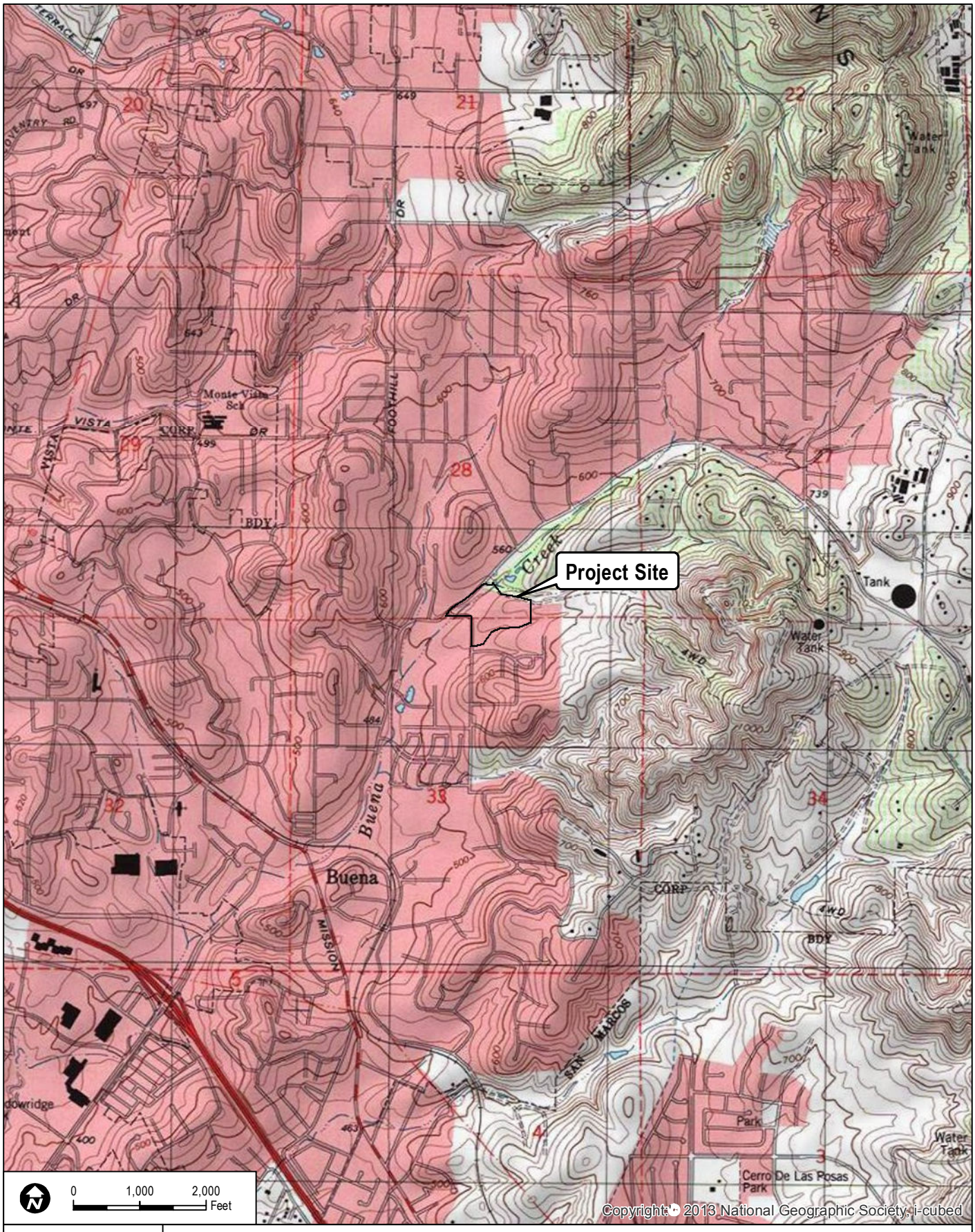

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SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle.

FIGURE 1

Location Map

Lone Oak Road Project - Agricultural Resources Report

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SOURCE: Bing Maps 2013, SANGIS 2013

FIGURE 2

Regional Map

Lone Oak Road Project - Agricultural Resources Report

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2 INTRODUCTION

2.1 Purpose of the Report

The purpose of this report is to determine the importance of on-site agricultural resources based on County criteria and to assess the potential impacts to those resources; to determine potential impacts to surrounding active agricultural operations; to address consistency with general plan policies pertaining to agriculture; to determine the significance of cumulative impacts to agricultural resources; and to identify project design elements or mitigation measures that will minimize significant adverse effects.

2.2 Project Location and Description

Location and Physical Setting

The project site is within a portion of the unincorporated North County Metro Subregional Planning Area and within the City of Vista's sphere of influence. The North County Metro Planning Area, defined by the San Diego County General Plan (County of San Diego 2011a), is a diverse area composed of many small "islands" or areas entirely surrounded by the City of Oceanside to the north, the City of San Marcos to the south, the City of Escondido to the east, and the City of Carlsbad to the west.

Regional access to the project site is provided via SR 78, which is accessed from I-5 in the west and from I-15 in the east. The project site is north of SR 78 and primary access is off Lone Oak Road through a proposed gated entrance. Secondary emergency access is provided through connection to the existing Cleveland Trail drive, which connects to Buena Creek Road. Additional asphalt concrete pavement will be added to the existing pavement to provide a 24-foot-wide emergency access drive. The existing creek crossing will remain unchanged.

Surrounding land uses include residential neighborhoods to the east and west, Prime Farmland to the north, and vacant open space to the south. The project is located within APNs 184-080-01-00 and 181-162-06-00. The project parcels total 14.15 acres and the entire area is fenced. Existing uses on the project site include a rural residence and associated building, a small palm tree grove, and a small vegetable garden. Much of the site is disturbed through regular mowing/disking or previous grading, and much of the vegetation is non-native. Buena Creek flows through the project site along the northern edge, adjacent to Buena Creek Road. The creek consists of an unvegetated channel surrounded by coast live oaks and is heavily disturbed, with non-native trees and understory plants.

The project site is currently developed with a residence and a workshop used to store plastic food containers, boat and car parts, and landscaping and maintenance equipment. A small

vegetable garden is located to the south of the residence. The residence is a single-story structure with a dirt parking area near the southwest portion of the property. The warehouse building is also a single-story structure with multiple storage areas. A chain-link fence marks the perimeter of the property.

Project Description

The project proposes a Tentative Map and Major Use Permit (PRD Site Plan) with the development of a total 24 residential lots (approximate average lot size of 10,500 square feet) (Figure 3, Site Plan). The project is further divided into one private drive lot, one Cleveland Trail lot, two water quality/detention basin lots, one HOA open space lot and one HOA open space wetland/woodland lot. All grading for the project will occur outside the existing 100-year floodway.

The project site is currently bisected by an existing 10-inch water main, which will be relocated to the proposed Private Drive A. Water service for the project will connect to this relocated 10-inch water main. Proposed sewer lines will connect to the existing 8-inch vitrified clay pipe (VCP) line in Lone Oak Road. All storm drain runoff impacting the developed portion of the project will be directed to the proposed split water quality and hydromodification basin located at the entry to the project. Discharge from the basin will flow through a proposed storm drain pipe within Lone Oak Road and connect to the existing 72-inch concrete culvert at the intersection of Lone Oak Road and Buena Creek Road. Road improvements consist of improvements to Lone Oak Trail Ln. and Cleveland Trail.

2.3 Open Space Areas

There will be two open space areas on the project site, one general purpose HOA open space lot and one biological open space lot. The open space wetland/woodland lot includes an undisturbed 50-foot oak root buffer.. Residential structures will be required to be set back an additional 50 feet from this oak root buffer.

2.4 Analysis Methods

The study area includes the project site, as well as the Zone of Influence (ZOI) according to the LARA Model, within the North County Metro Subregional Planning Area. Data sources used in this analysis include the U.S. Department of Agriculture (USDA) Soil Conservation Service Soil Surveys, the DOC's Farmland Mapping and Monitoring Program (FMMP) Farmlands maps for the County, and the County Geographic Information Source (SanGIS). Google Earth maps were used for aerial photo interpretations of the site and the surrounding area.

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SOURCE: Bing Maps 2015, Hunsaker & Associates 2015

FIGURE 3
Site Plan

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2.5 Environmental Setting

2.5.1 Regional Context

The project site is located within the North County Metro Planning Area, one of 23 planning subregions identified within the San Diego County General Plan. The North County Metro Subregion is composed of many noncontiguous island areas interspersed among the cities of Escondido, San Diego, San Marcos, Vista, and Oceanside, with the most easterly portion adjacent to Valley Center. The North County Metro Subregion includes the communities of Hidden Meadows and Twin Oaks.

The North County Metro Subregional Plan for the area supplements the existing elements of the San Diego County General Plan and provides a basis for regulation for this specific unincorporated area. A main goal within this planning area is to promote agriculture by protecting semirural and rural areas from urbanization and incompatible development (County of San Diego 2011b).

The project site is surrounded by rural and semirural land use designations with small, scattered agricultural operations throughout the area. The entire project site has a land use designation of Village Residential, two dwelling units per acre (2 DU/ac) (VR-2). VR-2 densities are not subject to density reductions based on slope, and these areas typically require water and wastewater service. The northern parcel (181-162-06-00) is zoned for Agriculture (A70) and the southern parcel (184-080-01-00) is zoned for Rural Residential (RR). A70 zoning is consistent with the rural residential land use designation, and is intended for crop or animal agriculture limited by neighborhood-specific regulations.

2.5.2 On-Site Agricultural Resources

On-Site Agricultural Uses

The site is currently developed and does not contain any major agricultural uses or irrigated croplands. However, a small palm tree grove and vegetable garden are located on site. As seen in Figure 4, Zone of Influence Important Farmlands, the project site is designated under the state Farmland Mapping and Monitoring Program as "Other Land" and no farmland designations exist on site.

Soils

According to the USDA Natural Resources Conservation Service (NRCS) (USDA NRCS 2014), three soil types are mapped within the project area: Greenfield sandy loam 2% to 5% slopes (GrB), Huerhuero loam 5% to 9% slopes eroded (HrC2), and Wyman loam 5% to 9% slopes (WmC). Greenfield soils contain deep, well-drained soils formed in alluvium from granitic and

mixed rock sources. Soils within the Greenfield series are associated with alluvial fans and terraces and are composed of coarse sandy loam. Huerhuero soils contain deep, well-drained soils formed in alluvium from sedimentary rock. Soils within the Huerhuero series are associated with terraces and are composed of loam (USDA NRCS 2014). Wyman soils consist of deep, well-drained soils that were formed in alluvium from andesitic and basaltic rocks. The Wyman series is used extensively for orchard and truck crops, but some areas are used for vineyards, grain, alfalfa, and clover. Table 1 identifies on-site soils, Land Capability Classification (LCC), and important farmland designation.

Table 1
On-Site Soil Classifications

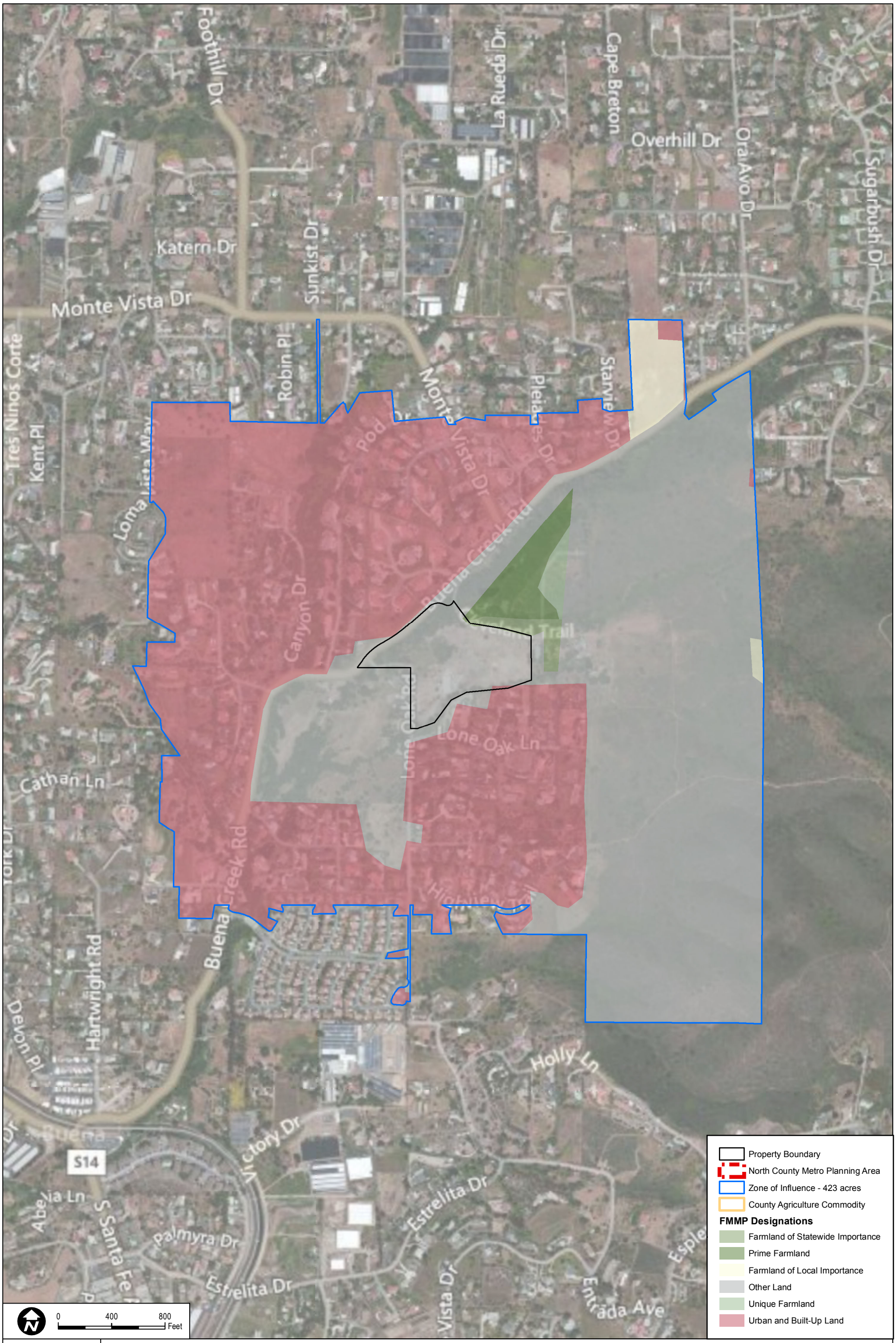
Map Symbol	Soil Name	Acres on Site	LCC	SI	State FMMP Important Farmland Designation
GrB	Greenfield sandy loam, 2% to 5% slopes	3.63	IIe	85	None*
HrC2	Huerhuero loam, 5% to 9% slopes, eroded	10.34	IIIe	85	None*
WmC	Wyman loam, 5% to 9% slopes	0.23	IIe	85	None*

LCC = Land Capability Classification; SI = Storie Index;FMMP = Farmland Mapping and Monitoring Program; GrB = Greenfield sandy loam, 2%–5% slopes; HrC2 = Huerhuero loam, 5%–9% slopes eroded; WmC = Wyman loam, 5%–9% slopes

* San Diego County-designated Candidate Soils for Prime Farmland and Farmland of Statewide Importance (USDA 1973).

Land Capability Classification

LCC classifies 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, limiting or precluding their use for agriculture. Capability subclasses are also assigned by adding a small letter to the class designation. Capability subclasses include 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. Finally, 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 San Diego County typically occurs on soils having LCC 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).



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SOURCE: Bing Maps 2015, SANGIS 2013, Dept. of Conservation 2010

FIGURE 4

Zone of Influence Important Farmlands

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Storie Index

Storie Index (SI), another traditional measure of soil quality, expresses numerically on a 100-point scale the relative degree of suitability or value of a soil for general intensive agriculture. Higher SI ratings indicate higher-quality soils. The SI 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 San Diego County typically occurs on soils with low SI ratings (typically in the 30s) (County of San Diego 2007). On-site SI 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. The on-site soil type for 73% of the site, or 10.34 acres, is HrC2, Huerhuero loam with 5% to 9% slopes. Under a high level of management, sugar beet cultivation is estimated to produce approximately 15 tons per acre per year on HrC2 soils and tomato cultivation is estimated to produce approximately 25 tons per acre per year on HrC2 soils.

The 10.34 acres of HrC2 on site have a very severe avocado root-rot hazard rating, which indicates that the soil has one or more features that result in the very highest risk of developing the disease (USDA NRCS 2014). The HrC2 soils on site have been given a rating of 1.00[1], which indicates the greatest risk of disease development.

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. It should be noted that some soils in San Diego 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).

[1] Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature results in the greatest risk of disease development (1.00) and the point at which the soil feature does not contribute to a risk of disease development (0.00) (USDA NRCS 2014).

The DOC has classified land in California into seven Important Farmlands Categories. Annotated definitions of the relevant classifications are found below.

- ***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 or 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 and Statewide, with the exception of irrigation.
- ***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 which does not meet the criteria of any other category.

As shown in Figure 4, the project site is designated as "Other Land" and therefore does not meet the criteria for any other FMMP category. The project site 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

According to the Phase I Report prepared by Rincon (2013) the project site was vacant until 1936, when a single structure and orchard in the northwest portion of the project site appeared in an aerial photograph. An additional structure appeared in an aerial photograph of the project site in 1947. By 1953, the project site was developed with three structures and an orchard and appeared to be used as agricultural land; however, by 1968 agricultural uses no longer existed and the three structures were gone. An aerial photograph from 1980 depicts two structures in the current configuration and row crops on the project site, with trees in the northwest portion of the site. By 1990, aerial photographs show similar uses to 1980, with the exception that a body of water was visible in the 1990 photographs. In an aerial photograph in 1995 the project site had three patches of row crops in the western portion of the project site.

Climate

Topography on site is generally flat, with elevations gently sloping down from the west and ranging from 520 feet above mean sea level (amsl) along Buena Vista Creek to the northwest end at 540 feet amsl. The highest location occurs along the western portion of the project just south of Cleveland Trail. The closest weather station is located at Mira Costa College in the City of San Marcos, north of SR 78. Average temperatures at this station area range from approximately 42°F to 89°F throughout the year. Maximum average precipitation occurs in February, the coolest month is generally December, and the warmest month is August.

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

USDA Hardiness Rating. The project site is in USDA Hardiness Zone 10a (U.S. National Arboretum 2011). This zone is defined as having average minimum temperatures between 30°F and 35°F. Popular plants that tend to grow very well in Zone 10a include spinach, carrots, tomatoes, potatoes, cucumbers, sweet peppers, chili peppers, beans, basil, and lettuce (National Gardening Association 2011).

Sunset Climate Zone. The County of San Diego has assigned climate zones as a way of accounting for the variability of microclimate conditions and climate suitability throughout the County. The project site is located within Climate Zone 21 on the County's Area Climates and Generalized Western Plant Climate Zones ("Sunset Zones") map (County of San Diego 2006). Zone 21 is a "High" LARA Model Rating. 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 21°F to 36°F, with temperatures rarely dropping far below 30°F. 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 (County of San Diego 2007).

Water

The San Diego County Water Authority currently imports water to the project site via one of their member agencies, the Vista Irrigation District. Water infrastructure and a meter are currently located on site.

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 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). As shown on Figure 4, the subject property 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 the purpose of defining the boundaries of those areas within which 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 stated above, whereby the assessment on their land will be based on its restricted use rather than on its market value. As shown on Figure 4, the project site is not designated as an agricultural preserve (County of San Diego 2007).

2.5.3 Off-Site Agricultural Resources

The Guidelines for Determining Significance and Report Format and Content Requirements (Guidelines; County of San Diego 2007) require that agricultural operations within 1/4 mile of the project site must be identified, including lands under Williamson Act Contracts, FMMP designations, Agricultural Preserves, and any active agricultural operations. The 1/4-mile boundary is established using the criteria in Attachment F of the Guidelines and is defined as the project's ZOI. Within the ZOI, lands compatible with agriculture are identified as described below.

FMMP Designations

As shown on Figure 4, the parcel bordering the northern portion of the project site is designated as Farmland of Statewide Importance (2.4 acres), Prime Farmland (6.6 acres), and Unique

Farmland (1.8 acres). Also within the ZOI is Farmland of Local Importance (7.0 acres) to the north and to the east of the project site.

Williamson Act Contracts

As shown on Figure 4, there are no Williamson Act Contract lands within 1/4 mile of the project site.

Agricultural Preserves

As shown on Figure 4, there are no Williamson Act Contract lands or Agricultural Preserves within 1/4 mile of the project site.

Active Agricultural Operations

There are active irrigated croplands or other crop production within the ZOI. The topography and soil types in the area support tree crops most efficiently, and palm tree groves and citrus orchards are scattered throughout the vicinity of the project. A Small palm tree grove currently exists on-site and similar agricultural operations are scattered throughout the project area and its vicinity. Additionally, the property located east of the project site is currently engaged in active bee keeping.

2.5.4 Zoning and General Plan Designation

The project site is located in the North County Metropolitan Specific Plan Area as illustrated in the San Diego County General Plan. The entire project site has a land use designation of Village Residential 2 DU/ac (VR-2). VR-2 densities are not subject to density reductions based on slope, and these areas typically require water and wastewater service. The northern parcel (181-162-06-00) is zoned for Agriculture (A70) and the southern parcel (184-080-01-00) is zoned for Rural Residential (RR). A70 zoning is consistent with the semirural land use designation, and is intended for crop or animal agriculture limited by neighborhood-specific regulations. The project is proposing a Major Use Permit in order to develop the site with residential land uses.

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3 ON-SITE AGRICULTURAL RESOURCES

3.1 LARA Model

The County of San Diego has approved a local methodology that is used to determine the importance of agricultural resources in the unincorporated areas of San Diego County, known as the LARA Model. The LARA Model takes into account six factors to determine the importance of agricultural resources, including the following: three Required Factors: water, climate, and soil quality; and three Complementary Factors: surrounding land uses, land use consistency, and slope. The following subheadings include a description of the project site's rating for each LARA Model factor, including justification for the factor ratings assigned to the project site. Each factor receives 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 B). The factor ratings for the project site are summarized in Table 3, LARA Model Factor Ratings. The final LARA Model result is based on the resulting combination of factor ratings, in accordance with the Guidelines, Table 2, Interpretation of LARA Model Results.

3.1.1 LARA Model Factors

Water

Based on the Guidelines (County of San Diego 2007, Table 3, Water Rating), the project's water rating is high because it is located on a fractured crystalline rock aquifer, it is inside the San Diego County Water Authority service area with existing water infrastructure connections, and it has a meter on site. The project site is currently bisected by an existing 10-inch water main, which will be relocated to the proposed Private Drive A. Water service for the project will connect to this relocated 10-inch water main.

Climate

As previously discussed, the project site is located within Climate Zone 21 on the County's Area Climates and Generalized Western Plant Climate Zones ("Sunset Zones") map (County of San Diego 2006). Zone 21 is an air-drained thermal belt, and according to Table 6 in the Guidelines, Zone 21 has a high climate rating. Preserving agriculture in Zone 21 is essential to maintain the high returns per acre that are common in this county. 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 reliably produced (County of San Diego 2007).

Soil Quality

According to the Soil Quality Matrix Interpretation shown in Table 8 of the Guidelines (County of San Diego 2007), the project site has a high soil matrix score, as it is 1.0, which ranges between 0.66 to 1.0 (see Table 3), and the site has a minimum of 10 acres of contiguous Candidate Soils for Prime Farmland or Farmland of Statewide Importance. However, only 8.37 acres are available for agricultural use (see Figure 5, Soils Available for Agricultural Use). 5.83 acres are unavailable for agricultural use because they consist of existing structures, biological habitat that has never been used for agriculture, and unpaved roads.

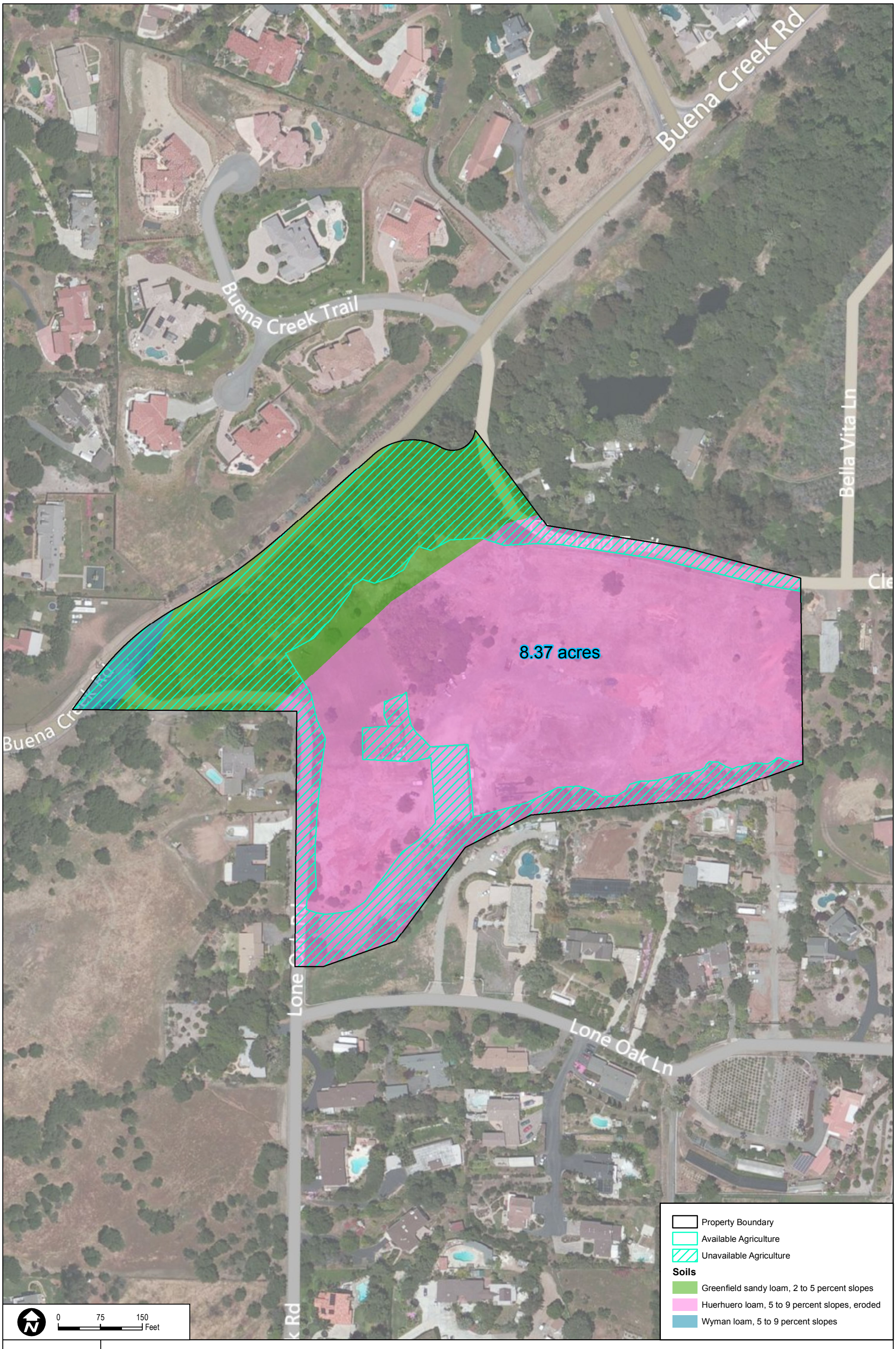
Table 2
Soil Quality

Soil Type	Acres on Site	Acres Unavailable for Agricultural Use	Acres Available for Agricultural Use	Proportion of Project Site	Candidate for Prime Farmland or Statewide Importance	Score
GrB	3.63	3.21	0.42	5%	1	0.05
HrC2	10.34	2.39	7.95	95%	1	0.95
WmC	0.23	0.23	0	0%	1	0
Totals*	**14.2**	**5.83**	**8.37**	**100%**	**N/A**	**1.0**

Source: USDA 1973.
* Totals may not sum precisely due to rounding.
GrB = Greenfield sandy loam, 2%–5% slopes; HrC2 = Huerhuero loam, 5%–9% slopes eroded; WmC = Wyman loam, 5%–9% slopes; N/A = not applicable

Surrounding Land Uses

The overall area of the ZOI is approximately 423 acres (see Figure 4). 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, or vacant lands. Approximately 229 acres within the ZOI are composed of parcels greater than 2 acres containing elements of rural lifestyle (Appendix A). The 229 acres include existing agricultural lands (Farmland of Statewide Importance, Prime Farmland, Farmland of Local Importance, and County Agricultural Commodities). There are no agricultural preserves or contract lands within the ZOI. Therefore, 54% of the ZOI is compatible with agricultural use, and based on Table 9 in the Guidelines (County of San Diego 2007), the surrounding land use rating is considered high.



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SOURCE: Bing Maps 2015, Department of Conservation 2011

FIGURE 5

Soil Available for Agricultural Use

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Land Use Consistency

The median parcel size within the proposed project is approximately 0.24 acres (10,500 square feet) and the median parcel size, within the ZOI is 0.92 acre (refer to Appendix A for a list of the ZOI parcels and acreages). Therefore, since the projects median parcel size is smaller than the median of the ZOI, the Land Use Consistency Rating is "High."

Slope

The average slope for the area of the project site that is available for agricultural use is 8.7% (see Figure 6). Therefore, based on the Table 11, Slope Rating, in the Guidelines (County of San Diego 2007), the project site would have a rating of high.

3.1.2 LARA Model Result Interpretation

Based on the LARA Model factor ratings shown in Table 3, all of the Required Factors, Climate, Water, and Soil Quality are rated high. For the Complementary Factors, Surrounding Land Uses, Land Use Consistency, and Slope are all rated high. Therefore, as shown in Table 3 and Table 4, the site falls into Scenario 1 and is considered an important agricultural resource.

Table 3
LARA Model Factor Ratings

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

Table 4
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 *not* an important agricultural resource
Scenario 6	All other model results		

N/A = not applicable

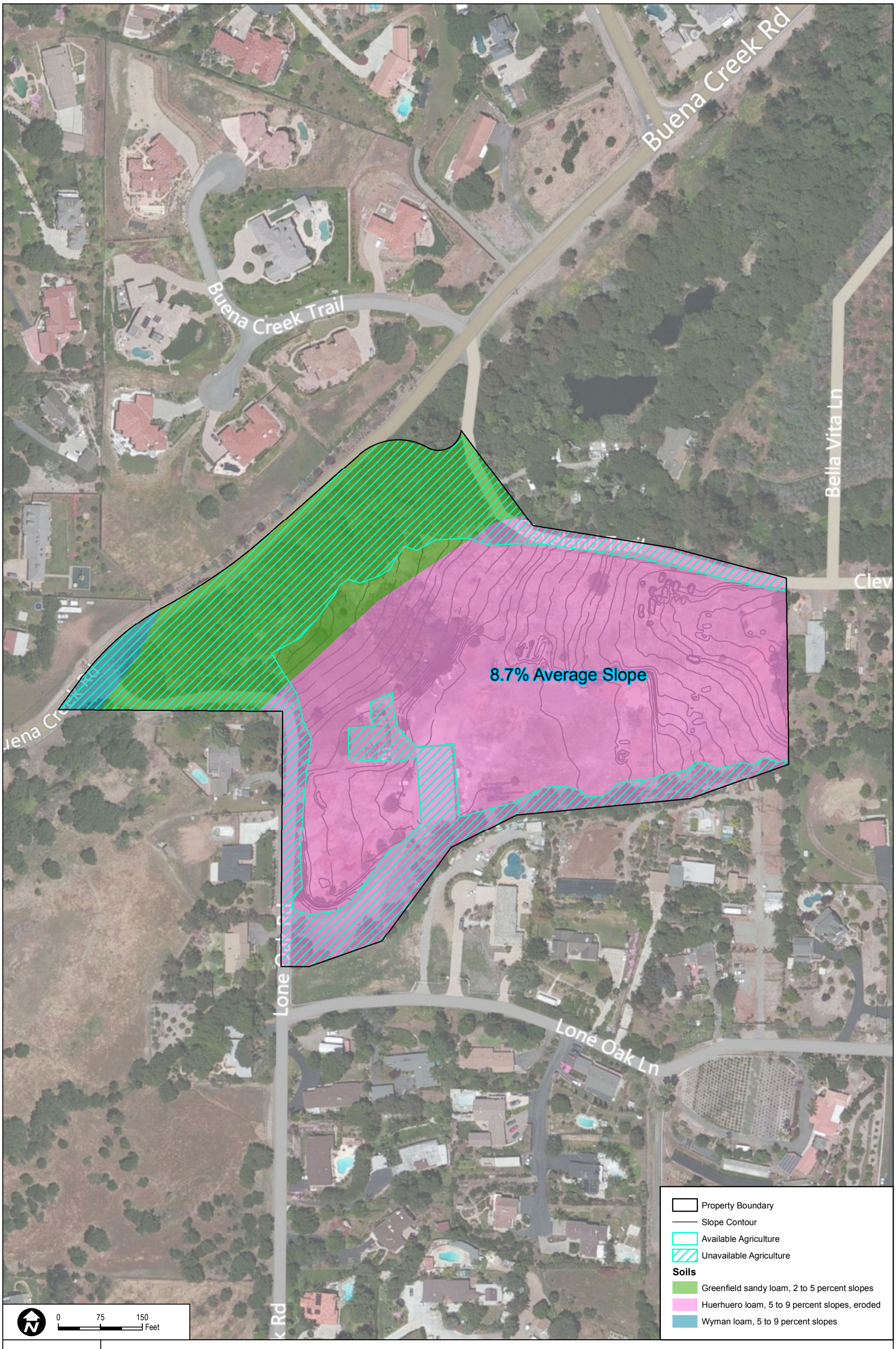
3.2 Guidelines for the Determination of Significance

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. 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."

The project site has important agricultural resources, as defined by the LARA Model. The project would result in the conversion of agricultural resources that meet the soil quality criteria for County-Designated Candidate Soils for Prime Farmland or Farmland of Statewide Importance.[2] However, these soils have not been designated or mapped by the DOC as Prime Farmland or Farmland of Statewide Importance. Nonetheless, as a result, the project would substantially impair the ongoing viability of the site for agricultural use and impacts would be significant.

[2] Some soils in San Diego County are listed as Candidate Soils for Prime Farmland of 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).



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SOURCE: Bing Maps 2015, Department of Conservation 2011

FIGURE 6

Slope of Land Available for Agricultural Use

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Lone Oak Road Project - Agricultural Resources Report

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3.3 Analysis of Direct Project Effects

As presented in Table 4, the interpretation of the project LARA Model has determined that the project site is an important agricultural resource that includes approximately 14.15 acres of County-Designated Candidate Soils for Prime Farmland or Farmland of Statewide Importance. All the soils found on site have an LCC rating of IIe, which indicates that the soils have little limitation for raising crops and the main limitation is risk of erosion. Additionally, all the soils found on site have an SI rating of 85, which indicates high-quality soils. However, only 7.95 acres of HrC2 soils and 0.42 acres of GrB soils (8.37 acres total) are available for agricultural use, and the project site is not designated by the DOC as Prime Farmland or Farmland of Statewide Importance. The project would also not conflict with a Williamson Act Contract or Agricultural Preserve.

Three small patches of row crops and undistinguishable agriculture that are shown to be onsite around 1995 in the historic aerial photograph. Current agricultural operations consist of a small palm tree grove in the same general vicinity as the historical orchard. The project proposes development of 24 residential lots (approximate average lot size of 10,000 square feet) and the General Plan land use (VR-2) and zoning designation (A-70 and RR) would remain the same. The project footprint would impact approximately 12.89 acres of County-Designated Candidate Soils for Prime Farmland or Farmland of Statewide Importance.

The project site is considered to be an important agricultural resource according to the LARA Model and is composed of important soils based on County criteria. Therefore, direct impacts to on-site agricultural resources are considered significant and mitigation is required (MM AG-1).

Based on County Guidelines, the project is required to mitigate for any land that was historically used for agriculture and is currently on available soils and is going to be impacted by the development. Mitigation is required at a ratio of 1:1. As shown in Figure 7, the three small patches of historically used agricultural land total 3.38 acres. However, only 3.37 acres are within the land available for agricultural use. Therefore, the project would be required to mitigate for 3.37 acres of impacts by preserving 3.37 acres of Important Farmland off site.

3.4 Mitigation Measures and Design Considerations

Direct impacts to agricultural resources would be significant and mitigation is proposed.

MM AG-1 ***ANY PERMIT:*** *(Prior to the approval of any plan, issuance of any permit, and prior to occupancy or use of the premises in reliance of this permit).*

AGR#4–AGRICULTURAL PRESERVATION – PACE MITIGATION [PDS, FEE X 2]

INTENT: In order to mitigate for impacts to agricultural resources, as defined by the Agricultural Resource Guidelines for Determining Significance, mitigation shall be acquired at a 1:1 ratio. **DESCRIPTION OF REQUIREMENT:** The applicant shall acquire Purchase of Agricultural Conservation Easement (PACE) mitigation credits from the County of San Diego, or provide for the conservation of 3.37 acres of agricultural resources, as defined by the Agricultural Resource Guidelines for Determining Significance, as indicated below:

a. **Option 1**: If purchasing PACE mitigation credits from the County of San Diego, through the payment of in lieu fees to the PACE Program mitigation bank, evidence of the purchase shall include the following information:

   A cashier's receipt of the in lieu fee payment, referencing the project name and numbers, total fee payment amount and the represented amount of acreage mitigated for by the payment. One mitigation credit from the PACE Program would equate to one acre of land permanently protected with an agricultural conservation easement within the PACE Program mitigation bank.

   An accounting of the status of the County of San Diego PACE Program mitigation bank, which can be obtained from the PACE Program Manager Melanie Tylke (858-694-3721). This shall include the total amount of credits available at the bank, the amount required by this project, and the amount remaining after utilization by this project (at time of in lieu fee payment).

b. **Option 2**: In the event that PACE mitigation credits are unavailable or the applicant elects not to participate; the applicant shall preserve and protect 3.37 acres of agricultural resources, as defined by the Agricultural Resource Guidelines for Determining Significance, in an Agricultural Preservation Easement off-site. The conservation easements shall be located within the cumulative project area, or, at a location approved by the Director of PDS. The purpose of the easement is for the preservation and protection of agricultural resources to ensure that the land remains available for potential agricultural use in future. The easement shall prohibit the construction or placement of any residence, garage, or any accessory structure that is designed or intended for occupancy by humans or animals, and the placement of any recreational amenities; such as tennis courts or swimming pools. The only exceptions to this prohibition are:

   1. Fences, walls, and similar structures, no higher than 6 feet or as regulated by zoning.

2. Sheds and detached garages, less than 250 square feet in total floor area.
3. Landscaping and agricultural uses
4. Percolation and observation test holes.
5. Irrigation water wells necessary for the support of the agriculture in the easement.
6. Grading or clearing for agricultural purposes only.

c. **Option 3**: The applicant may choose to mitigate 3.37 acres of agricultural resources through a combination of 1 and 2, so long as the total acreage of mitigation is equal to a 1:1 ratio, as required by the Agricultural Resource Guidelines for Determining Significance. Evidence of purchase as outlined in Option 1 shall be required. Prohibitions and exceptions as outlined in Option 2 shall apply to the Agricultural Preservation Easement granted by the applicant to the County of San Diego.

DOCUMENTATION: The applicant shall purchase the off-site mitigation through the PACE Program, as described in this condition and provide the evidence to the [PDS, PCC] for review and approval. In the event that PACE mitigation credits are unavailable or the applicant elects not to participate, the applicant shall prepare the draft plats and legal descriptions of the easements, then submit them for preparation and recordation with the *[DGS, RP]*, and pay all applicable fees associated with preparation of the documents. The *[DGS, RP]* shall prepare and approve the easement documents and send them to *[PDS, PCC]* for pre-approval. The *[PDS, PCC]* shall pre-approve the language and estimated location of the easements before they are released to the applicant for signature and subsequent recordation. Upon Recordation of the easements *[DGS, RP]* shall forward a copy of the recorded documents to *[PDS, PCC]* for satisfaction of the condition.

TIMING: Prior to approval of any plan or issuance of any permit, and prior to use of the premises in reliance of this permit.

MONITORING: The *[PDS, PCC]* shall review the documents provided for the satisfaction of this condition.

3.5 Conclusions

Based on the information analyzed throughout this study it has been determined that direct impacts to on-site agricultural resources would be less than significant with mitigation.

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SOURCE: Bing Maps 2015, Department of Conservation 2011

FIGURE 7

Historic Agricultural Land

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SOURCE: Bing Maps 2015, Department of Conservation 2011

FIGURE 7

Historic Agricultural Land

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4 OFF-SITE AGRICULTURAL RESOURCES

4.1 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:

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.

4.2 Analysis of Indirect Project Effects

A proposed project near an active agricultural use has the potential to cause significant indirect effects 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, but are not limited to, farm practice complaints, pesticide use limitations, liability concerns, and 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.

a. The project would lead to non-agricultural land use within 1/4 mile of small, active agricultural operations. The closest active agricultural operations are located approximately 200 feet south of the project site and 2,000 feet west of the project site. The small agricultural operations in the surrounding area are composed primarily of palm

tree groves on large-lot properties with single-family residences. However, land use conflicts between these agricultural operations and the proposed project would not be likely. The proposed project would not impact these operations because there are existing houses and roads located between the operation and the proposed project site. These small agricultural operations are currently surrounded by large-lot single-family residential units and development would be compatible with the surrounding agricultural uses, as palm tree groves do not utilize consistent loud machinery or create off-putting odor. Site planning on the perimeter shall give consideration to protection of the property from adverse surrounding influences, as well as protection of the surrounding areas from potentially adverse influences within the development.

Setback Regulations commencing at Section 4800 of the Planned Development Standards would apply to the perimeter of the planned development. The project site has a standard front-yard setback of 60 feet, interior side-yard setback of 15 feet, exterior side-yard setback of 35 feet, and rear-yard setback of 25 and 50 feet from the external boundary of the subdivision. The open space wetland/woodland lot includes an undisturbed 50-foot oak root buffer, which will extend approximately 700 feet along the western side of the project site. Residential structures will be required to be set back an additional 50 feet from this oak root buffer. This buffer area will screen the proposed development from nearby agricultural operations. In addition, the existing fence and mature trees along the southern perimeter will remain in place and will provide another barrier to surrounding uses.

The small adjacent agricultural operations are located on single-family properties and are surrounded by residences that do not engage in agriculture. These small agricultural operations have coexisted with residential land uses surrounding the operations for over 20 years. These sites are most likely already limited in their use of pesticides and irrigation spraying due to proximity of neighboring residences. These small operations appear to be tree crops, which would make irrigation spraying an ineffective and wasteful use of water. It is more reasonable to assume that these operations are using a drip irrigation system or are being watered by hand, which would not be incompatible with the proposed development.

The operation to the south of the project site has a circular driveway surrounding the tree crops as well as tall trees and shrubbery to prevent trespassing, theft, or vandalism from occurring. The operation to the west is on a large property surrounded by fields of fallow agriculture and is separated from the project site by a number of roads and dozens of residences. These barriers would ensure that the proposed project would not be a source of vectors or pests.

However, in addition to the small agricultural operations in the surrounding area, there is an active apiary located on the property just east of the project site. Bee keeping operations are required to conform with Section 3100 of the Zoning Ordinance The project proposes the construction of new homes within 320-feet of a small existing apiary operation. There are several existing homes located in closer proximity than this distance.

In order to prevent incompatibility with the proposed project, notification to the property owner prior to construction shall be required (MM AG-2). In addition, in the event that construction crews notice aggressive bee behavior, construction work will stop and the County of San Diego Agricultural Weights and Measures shall be notified immediately (MM AG-3).

Therefore, the location, size, design, and operating characteristics of the proposed project would be compatible with adjacent uses, residents, buildings, and structures. Additionally, since no areas under a Williamson Act Contract are within 1/4 mile, the Lone Oak Road project would not involve changes to the existing environment that, due to their location or nature, could 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 Contract.

b. The project does not propose a school, church, daycare, or other use that involves a heavy concentration of people at certain times of the day within one mile of an agricultural operation or land under Contract.

c. The Lone Oak Road project site is composed of 14.15 acres within the ZOI, which includes 423 acres, as shown in Figure 4. As previously discussed, approximately 229 acres within the ZOI are composed of parcels greater than 2 acres and contain elements of rural lifestyle (see Appendix A). Therefore, 54% of the ZOI is compatible with agricultural use. However, the Lone Oak Road project would not change the rural characteristic of the area, as there are existing rural residential land uses intermixed with the active agricultural operations in the ZOI. Subdivision would lead to development that would provide similar density to existing rural residential land use, such as developments adjacent to the proposed project. Additionally, the proposed development would not obstruct, interrupt, or detract from existing agricultural operations within the ZOI or be detrimental to surrounding properties. Since there are existing conditions similar to the proposed project within the ZOI, this would not result in any additional pressure to convert surrounding agricultural lands.

   The project does 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. All services currently existing to serve the project are currently within a sewer and water district. The project is consistent with the zoning of the site and does not

propose a rezone. There are already houses intermixed with the agricultural operations. The project provides buffers as discussed above to ensure that the project would not impact off-site agricultural resources.

Based on the analysis provided above the project's impacts to off-site agricultural resources would be less than significant.

4.3 Design Considerations

Project design would ensure that impacts to off-site agricultural resources would be less than significant. The proposed project would complement surrounding land uses and provide harmony in scale, bulk, coverage, and density. Setback Regulations commencing at Section 4800 of the Planned Development Standards would apply to the perimeter of the planned development. The project site has a standard front-yard setback of 60 feet, interior side-yard setback of 15 feet, exterior side-yard setback of 35 feet, and rear-yard setback of 25 and 50 feet. The open space wetland/woodland lot includes an undisturbed 50-foot oak root buffer, which will extend approximately 700 feet along the western side of the project site. Residential structures will be required to be set back an additional 50 feet from this oak root buffer. This buffer area will screen the proposed development from nearby agricultural operations. In addition, the existing fence and mature trees along the southern perimeter will remain in place and will provide another barrier to surrounding uses.

Residential uses are already located in proximity to the agricultural operations within a ¼ mile. The project has a buffer of 200 feet from the closest agricultural operation. The location, size, design, and operating characteristics of the proposed project would be compatible with adjacent agricultural uses and no impacts would occur. Therefore, no mitigation measures related to off-site agricultural resources are proposed.

4.4 Mitigation Measures

MM AG-2 **APIARY NOTIFICATION: [PDS] – INTENT:** In order to prevent impacts to the adjacent apiary located on APN 181-162-04-00 and to ensure the owner/operator is aware of future construction activities, the owner/operator of the apiary shall be notified of the start of construction. **DESCRIPTION OF REQUIREMENT:** The applicant shall provide a notification via certified mail to the owner/operator of the apiary on APN 181-162-04-00 10 days prior to the start of any ground disturbance or construction activities. **DOCUMENTATION:** The applicant shall provide a copy of the letter and a signed statement stating that this notification has been provided to the owner/operator of the apiary on APN 181-162-04-00. **TIMING:** Prior to the approval of any plan and prior to the issuance of any permit, the notification shall be mailed. **MONITORING:** The PDS PCC

shall review the copy of the letter and signed statement verifying that the notification has been mailed.

MM AG-3 **BEE/APIARY GRADING AND CONSTRUCTION NOTIFICATION: [PDS] – INTENT:** In order to mitigate potential impacts to the adjacent apiary on APN 181-162-04-00, all grading and building contractors shall monitor bee activity and be informed by the applicant that the County of San Diego Agricultural Weights and Measures shall be notified immediately of any unusual or aggressive bee behavior by calling 1-800-200-BEES (2337). **DESCRIPTION OF REQUIREMENT:** All construction personnel shall monitor bee activity. If any unusual or aggressive bee activity is observed, grading and building contractors shall stop all work immediately and contact the County of San Diego Department of Agricultural Weights and Measures by calling 1-800-200-BEES (2337). **DOCUMENTATION:** The applicant shall place a copy of this condition on the grading plans, improvement plans, and building plans for the project and provide a copy of the plans to the PDS PCC as well as a signed statement stating that all grading and building contractors have been made aware of this condition. **TIMING:** Prior to the approval of any plan and issuance of any permit, the signed statement and plans shall be provided to the PDS PCC. **MONITORING:** The PDS PCC shall review the signed statement and plans to ensure that all grading and building contractors have been notified and the note has been placed on the grading, improvement plans, and building plans.

4.5 Conclusions

Based on the information provided throughout this study it has been determined that indirect impacts to off-site agricultural resources would be less than significant with mitigation.

5 CONFORMANCE WITH AGRICULTURAL POLICIES

5.1 Applicable General and Community Plan Policies

San Diego County General Plan

The 2011 County General Plan is applicable to the proposed project and the relevant policies related to agriculture use at the project site as contained in the Conservation and Open Space Elements of the General Plan are discussed in Table 5.

North County Metro Subregional Plan

Due to the project's location within the North County Metro Planning Area, a subregion within the San Diego County, the project is also subject to the North County Metro Subregional Plan. This plan is included within the overall San Diego County General Plan. Project consistency with the North County Metro Subregional Plan is provided in Table 5.

As evaluated in Table 5, the proposed project would not conflict with applicable goals and policies related to agriculture.

Table 5
Agricultural Goals and Policies

Goal or Policy	Project Consistency
Conservation and Open Space Element	
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. **COS-6.2 Protection of Agricultural Operations.** Protect existing agricultural operations from encroachment of incompatible land uses by doing the following: • 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	The project site is developed and not part of an existing open space network; however, the project site is located in a rural area of San Diego County. The project has been used for agriculture in the past and only a small vegetable garden currently exists. The project would be consistent with the rural character of the North County Metro Subregional Planning Area by maintaining the existing land use and zoning designation. The surrounding area is composed of scattered residential development with small interspersed agricultural operations, which would be compatible with the proposed project. The project would lead to non-agricultural land use within 1/4 mile of small, active agricultural operations (a palm tree nursery) and Prime Farmland and Farmland of Statewide Importance. However, land use conflicts between these agricultural operations would not be likely. Development would be compatible with the surrounding agricultural uses, as palm tree groves do not utilize consistent loud machinery or create off-putting odor. Surrounding small agricultural operations

Table 5
Agricultural Goals and Policies

Goal or Policy	Project Consistency
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. 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. **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 potential incompatible with agriculture uses.	have coexisted with surrounding residences for over 20 years and are most likely limited in their pesticide use as well as irrigation spraying due to proximity of neighboring residences. Tree crops would make irrigation spraying an ineffective and wasteful use of water. It is more reasonable to assume that these operations are using a drip irrigation system or are being watered by hand, which would not be incompatible with the proposed development. In order to prevent incompatibility with the active bee keeping operation located on the property just east of the project site, notification to the property owner prior to construction shall be required (MM AG-2). In addition, in the event that construction crews notice aggressive bee behavior, construction work will stop and the County of San Diego Agricultural Weights and Measures shall be notified immediately (MM AG-3). Additionally, the project design provides buffers from the surrounding properties as explained under Section 4.2 of the report. These buffers include maintaining perimeter setbacks, a large open space easement, and maintaining existing trees and fencing along the southern property boundary. The proposed project does not propose a school, church, daycare, or other use that involve a heavy concentration of people at certain times of the day, nor does the project propose a density greater than 2 DU/ac.
Land Use Element	
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. **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.	The proposed project would preserve the existing Rural Residential and Agricultural Zoning. The proposed project would also preserve the portion of Buena Creek that runs through the site, as well as creating a buffer zone, which will protect native habitat. Furthermore, the project preserves agricultural land through compliance with the 1:1 mitigation ratio detailed above (MM AG-1). Finally, the project is located within a Village Residential Land Use Designation and not within a Rural or Semi-Rural Land Use Designation.

Table 5
Agricultural Goals and Policies

Goal or Policy	Project Consistency
GOAL LU-6 Development—Environmental Balance. A built environment in balance with the natural environment, scarce resources, natural hazards, and the unique local character of individual communities. **LU-6.4 Sustainable Subdivision Design.** Require that residential subdivisions be planned to conserve open space and natural resources, protect agricultural operations including grazing, increase fire safety and defensibility, reduce impervious footprints, use sustainable development practices, and when appropriate, provide public amenities.	The project design provides buffers from the surrounding properties as explained under Section 4.2 of the report. These buffers include maintaining perimeter setbacks, a large open space easement, and maintaining existing trees and fencing along the southern property boundary. Small adjacent agricultural operations are located on single-family properties and are surrounded by residences that do not engage in agriculture. These small agricultural operations have coexisted with residential land uses surrounding the operations for over 20 years. These sites are most likely already limited in their use of pesticides and irrigation spraying due to proximity of neighboring residences. These small operations appear to be tree crops, which would make irrigation spraying an ineffective and wasteful use of water. It is more reasonable to assume that these operations are using a drip irrigation system or are being watered by hand, which would not be incompatible with the proposed development.
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. **LU-7.1 Agricultural Land Development.** Protect agricultural lands with lower density land use designations that support continued agricultural operations. **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.	The project site is not designated by the DOC as Prime Farmland or Farmland of Statewide Importance. However, the site does contain soils identified in the County of San Diego Candidate Soils for Prime Farmland and Farmland of Statewide Importance. The project proposes to mitigate direct impacts as detailed in MM AG-1. The proposed density also complies with the current General Plan Designation. In addition, the project proposes buffers from the adjacent agricultural operations as discussed under Section 4.2 and it was determined that the project would not impact adjacent agriculture.
North County Metro Subregional Plan	
GOAL 3 Promote Agriculture in Non-Urban Areas. Promote agriculture by protecting semi-rural and rural areas from urbanization and incompatible development.	The project would be consistent with the rural character of the North County Metro Subregional Planning Area and the surrounding area by maintaining the existing land use and zoning designation. The surrounding area is composed of scattered residential development with small interspersed small agricultural operations, which would be compatible with the proposed project. The proposed project would complement surrounding land uses and provide harmony in scale, bulk, coverage, and density. The project also proposes buffers and will preserve agriculture on the adjacent agricultural operation located to the north as detailed above under Section 4.2.

Table 5
Agricultural Goals and Policies

Goal or Policy	Project Consistency
	Furthermore, the project's compliance with MM AG-1 would ensure the preservation of agricultural land as detailed in the condition.

5.2 Conclusions

Based on the goals and policies outlined in the County of San Diego General Plan (County of San Diego 2011a), the proposed project would be compatible with existing development patterns and would retain the unique rural character of the North County Metro Subregional Planning Area. The proposed project would also preserve Buena Creek as well as the Cleveland Trail, which would serve as a divider between the project and DOC-designated Prime Farmland and Farmland of Statewide Importance. Therefore, the proposed project would be consistent with the County of San Diego General Plan and impacts would be less than significant.

6 CUMULATIVE IMPACT ANALYSIS

6.1 Guidelines for the Determination of Significance

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

6.2 Analysis of Project Effects

Per the California Environmental Quality Act (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 project's impacts. The projects were further refined to include only those on land designated as Prime Farmland or Farmland of Statewide Importance, and those located on soils designated by the County as Prime Farmland and Farmland of Statewide Importance. Cumulative projects were identified by reviewing features of the landscape, which isolated the project site from other agricultural areas in county (Table 6). For example the eastern boundary of the cumulative project area was defined by vast open space that separated the project site from developments further east. The cumulative project area was further defined by major roadways and areas that have substantial urban development.

The cumulative project area was superimposed on the San Diego County GIS Discretionary Permit Map. This map identifies Major- and Minor-Use Permits, Certificates of Compliance, Tentative Maps, and Tentative Parcel Maps. Types of permits that were not included were, Landscape Plans, Boundary Adjustments, Major Pre-Applications, Variances, and Condition Satisfaction Applications. The list of cumulative projects was further narrowed down by overlaying the remaining projects on lands mapped by the FMMP as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance (Figure 8). The cumulative projects were also overlaid on a map with soils that are designated by the County of San Diego as Prime Farmland and Farmland of Statewide Importance (Figure 9).

None of the cumulative projects are located on FMMP designated lands; however, the projects listed in Table 6 are all located on soils designated by the County as Prime Farmland or Farmland of Statewide Importance. These projects were then analyzed based on historical property aerials, as well as, water availability, climate, and soils to determine which locations were an important resource.

Table 6
Cumulative Projects

Project No.	Type	Permit Number	Agricultural Resources on Site	Important Agricultural Resource	Direct Impact Estimate	Potential indirect impact estimate
	County Designated Prime Farmland Soils					
1	3200 3200 3720	PDS1998-3200-20346 PDS2000-3200-20501	N/A	1	0	0
2	3100 3992	PDS2003-3992-03-026 PDS2011-3100-4881	N/A	1	0	0
3	3301	PDS2011-3301-83-069-03	N/A	1	0	0
4	**3100** **3181**	**PDS2011-3100-4659** **PDS2011-3181-4659**	Tree Crops	1	5.32 acres	0
	County Designated Farmland of Statewide Importance					
5	3181 3970	PDS2011-3181-4881 PDS2010-3970-90-037	N/A	1	0	0
6	3300 3301 3960	PDS2003-3300-94-009 PDS2011-3301-94-009-01 PDS2011-3960-95-033	N/A	1	0	0
7	**3299**	**PDS2006-3200-20847**	Tree Crops	1	0.50 acre	0
8	3100	PDS2010-3100-4424	N/A	1	0	0
9	3300	PDS2010-3300-83-069	N/A	1	0	0
10	3301	PDS2011-3301-83-069-01	N/A	1	0	0
11	3310	PDS2011-3301-83-069-02	N/A	1	0	0
12	3310	PDS2011-3301-83-069-04	N/A	1	0	0
13	3200	PDS2008-3200-19598	N/A	1	0	0
				Total Impact	**5.82 acres**	**0**

Source: County of San Diego LUEG Zoning and Property Information Tool 2014
BOLD: Project locations that were previously engaged in tree production.

Table 7
Determination of Important Resource

Type	Permit Number	Water	Climate	Soils	Resource?
County Designated Prime Farmland Soils					
3200 3200 3720	PDS1998-3200-20346 PDS2000-3200-20501	1	1	1	1
3100 3992	PDS2003-3992-03-026 PDS2011-3100-4881	1	1	1	1
3301	PDS2011-3301-83-069-03	1	1	1	1

Table 7
Determination of Important Resource

Type	Permit Number	Water	Climate	Soils	Resource?
3100 3181 3400	PDS2011-3100-4659 PDS2011-3181-4659	1	1	1	1
County Designated Farmland of Statewide Importance					
3181 3970	PDS2011-3181-4881 PDS2010-3970-90-037	1	1	1	1
3300 3301 3960	PDS2003-3300-94-009 PDS2011-3301-94-009-01 PDS2011-3960-95-033	1	1	1	1
3299	PDS2006-3200-20847	1	1	1	1
3100	PDS2010-3100-4424	1	1	1	1
3300	PDS2010-3300-83-069	1	1	1	1
3301	PDS2011-3301-83-069-01	1	1	1	1
3310	PDS2011-3301-83-069-02	1	1	1	1
3310	PDS2011-3301-83-069-04	1	1	1	1
3200	PDS2008-3200-19598	1	1	1	1

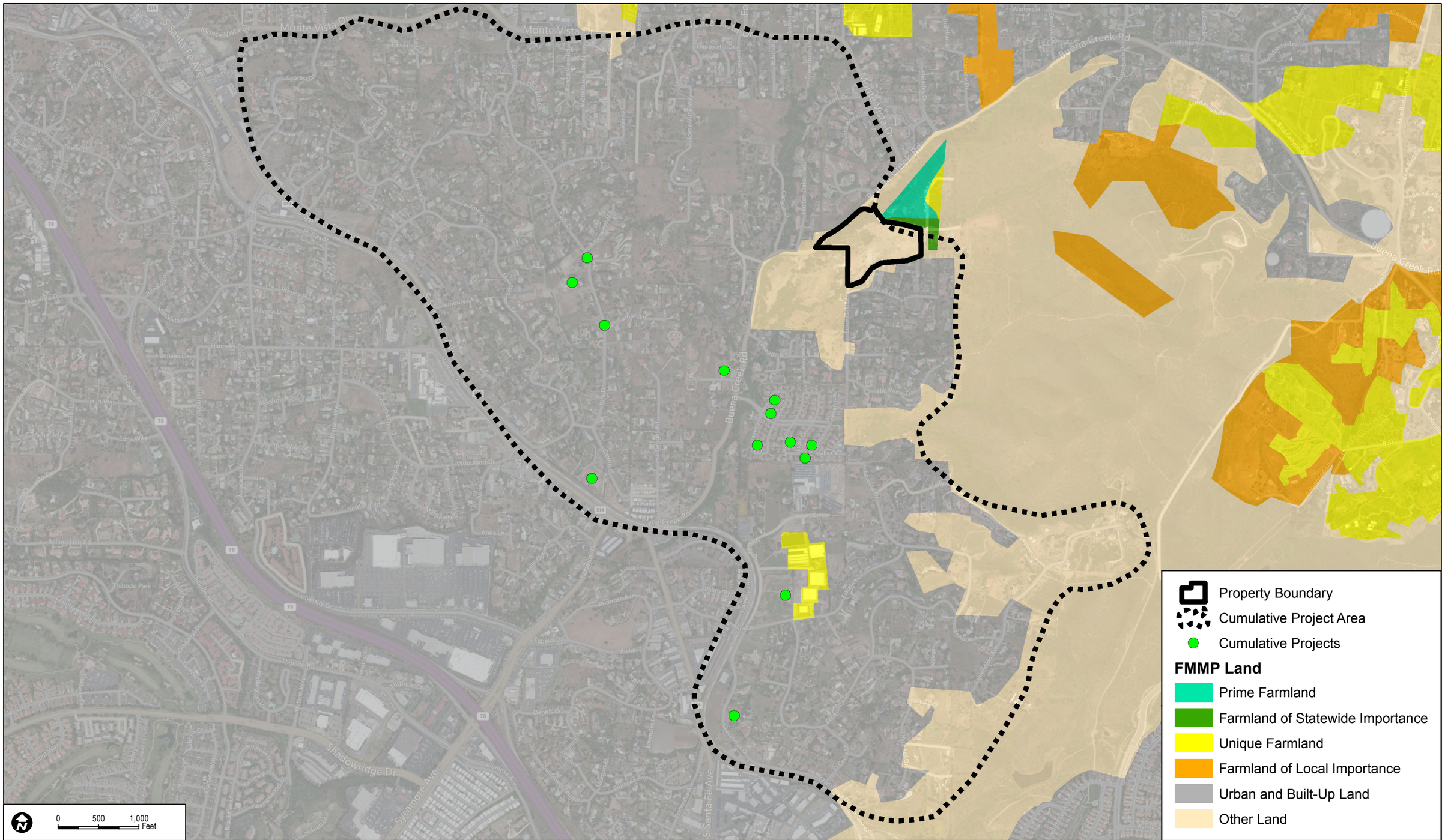
The question of whether a site would be an important agricultural resource was based upon a general analysis of water availability, climate, and soils. In terms of water availability, projects were given a "1" if they were within a district that was a member of the County Water Authority and a score of "0" if the project was not within such a district. All of the projects identified are located within a district that is a member of the County Water Authority, and thus, were all given a score of "1." In terms of soil types, the results were based on the existence of soils that are candidates for Prime Farmland or Farmland of Statewide Importance which covers more than 50% of the property received a score of "1," and all others received a score of "0."All of the projects identified have designated Prime or Statewide Importance soils on more than 50% of the site. Lastly, climate was graded as a "1" if the property is within Sunset Climate Zones of 13, 18-21, or 23, and a "0" within in any other climate zone. As identified in Table 7, all cumulative project locations are considered to be an important agricultural resource. However, only the properties where farming was evident based on historic aerials, were determined to directly contribute to a cumulatively considerable loss in County designated soils for Prime Farmland and Farmland of Statewide Importance. Table 6 identifies three project locations that were historically engaged in the production of tree or plant crops.

Cumulative project location number 6 (5.32 acres) was actively farmed with what appears to be small plants and shrubs from 1996 to sometime between 2003 and 2005. A Tentative Map was

filed and a time extension was granted in February 2011. The site remains in the same condition that it was in 2005. No new structures appear to be present.

Cumulative project location number 11 (0.50 acre) was historically farmed with what appears to be tree or plant crops from the early 1990's until 2005. In 2006 a Tentative Parcel Map was filed to subdivide the property. It appears that the majority of surrounding land uses that were historically farmed, also went fallow around the same time.

Therefore, if each of the two projects identified above that were historically used for agriculture were to be built out, total direct impacts to County designated Prime Farmland and Farmland of Statewide Importance, including the proposed project, would be approximately 9.19 acres. Of the approximately 417 acres of County designated Prime Farmland and Farmland of Statewide Importance within the cumulative project area, the direct impact only amounts to approximately 2.5%. It does not appear that this conversion is leading to conflicts between residential and agricultural land uses which then result in the conversion of agricultural land.



DUDEK

7997

SOURCE: Bing 2015, Department of Conservation 2010

FIGURE 8

Cumulative Projects on FMMP Land

Lone Oak Road Project - Agricultural Resources Report

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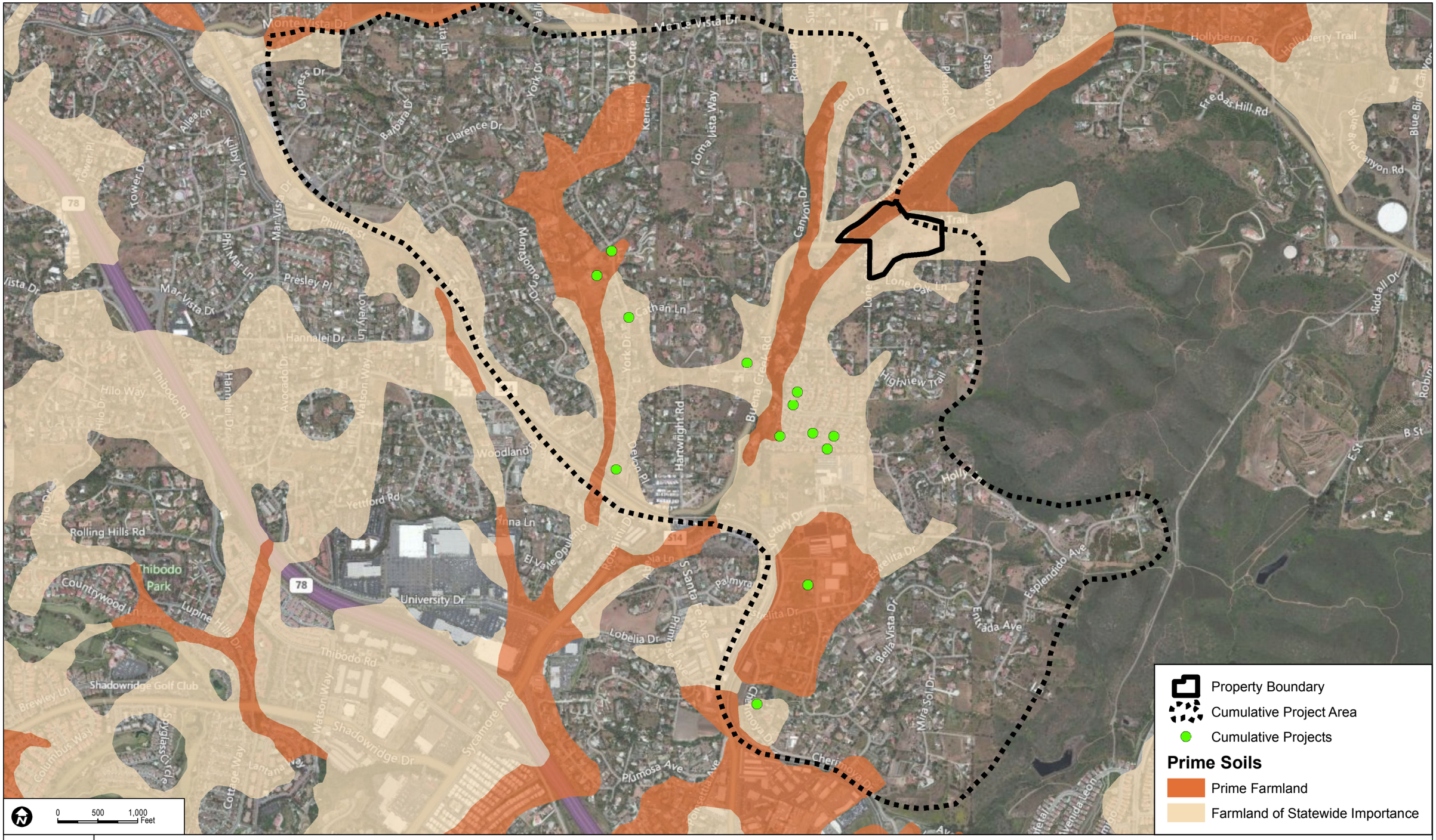

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7997

SOURCE: Bing 2015

FIGURE 9

Cumulative Project Soils

Lone Oak Road Project - Agricultural Resources Report

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Furthermore, none of the cumulative projects would occur on land designated as an Agricultural Preserve or under a Williamson Act Contract. Small agricultural operations in the area have coexisted with residential land uses surrounding the operations for over 20 years. These sites are most likely already limited in their use of pesticides and irrigation spraying due to proximity of neighboring residences. These small operations appear to be tree crops, which would make irrigation spraying an ineffective and wasteful use of water. It is more reasonable to assume that these operations are using a drip irrigation system or are being watered by hand, which would not be incompatible with the proposed development.

A cumulatively significant conversion of agricultural land to a nonagricultural use would not occur. 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.

6.3 Mitigation Measures and Design Considerations

Since cumulative projects would not contribute to a cumulatively considerable impact, no mitigation measures are identified.

6.4 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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7 SUMMARY OF PROJECT IMPACTS AND MITIGATION

The project site has important agricultural resources, as defined by the LARA Model. The project would result in the conversion of agricultural resources that meet the soil quality criteria for Prime Farmland and Farmland of Statewide Importance as outlined in the U.S. Department of Agriculture's Land Inventory and Monitoring Project for the San Diego Area Soil Survey. Therefore, direct impacts to on-site agricultural resources are considered significant and mitigation is required (MM AG-1).

The project would lead to non-agricultural land use within 1/4 mile of small, active agricultural operations. However, land use conflicts between these agricultural operations and the proposed project would not be likely and development would be compatible with the surrounding agricultural uses. Project design would also ensure that impacts to off-site agricultural resources would be avoided. Additionally, the proposed project would not conflict with applicable policies related to agriculture. However, the active bee keeping operation located on the property east of the project site could result in potentially significant indirect impacts. In order to prevent incompatibility with the active apiary located on the property just east of the project site, notification to the property owner prior to construction shall be required (MM AG-2). In addition, in the event that construction crews notice aggressive bee behavior, construction work will stop and the County of San Diego Agricultural Weights and Measures shall be notified immediately (MM AG-3).

Furthermore, as explained above in Section 6.0 Cumulative Impact Analysis, 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.

Based on County Guidelines, the project is required to mitigate for any land that was historically used for agriculture and is currently on available soils and is going to be impacted by the development. Mitigation is required at a ratio of 1:1. As shown in Figure 7, the three small patches of historically used agricultural land total 3.38 acres. However, only 3.37 acres are within the land available for agricultural use. Therefore, the project would be required to mitigate for 3.37 acres of impacts by preserving 3.37 acres of Important Farmland off site.

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8 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

8.1 Report Preparation

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8.2 Lead Agency

County of San Diego

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APPENDIX A

ZOI Lots and Acreages

Appendix A
ZOI Lots and Acreages

APNs	Acreages
1811211500	0.92
1811215900	1.00
1840802400	0.60
1840800200	2.07
1840801600	1.96
1840500600	3.24
1811620400	2.20
1842600200	0.53
1842813900	0.99
1842814000	0.57
1843011900	0.13
1840803000	0.48
1842603200	3.01
1811224300	1.05
1811221000	0.14
1843012000	0.13
1840806300	0.57
1811420900	5.49
1840501700	0.74
1840802700	0.17
1840504400	0.58
1811222300	1.65
1811614900	0.91
1811226500	1.65
1842601300	0.55
1843013500	0.18
1811621400	8.51
1842812100	0.50
1842601100	0.51
1843013300	0.16
1842602400	0.63
1811211400	0.56
1840510400	0.67
1843010700	0.18
1811213300	1.09
1811226000	1.60
1840806400	0.51
1811301500	1.16
1811300600	0.87
1842813400	1.02
1811214200	1.15
1811213200	1.01

Appendix A (Continued)

APNs	Acreages
1811224700	0.99
1811215800	1.00
1842602700	0.38
1811223600	0.74
1842603100	0.51
1840804200	1.33
1811225700	1.40
1840807800	0.52
1811301000	0.01
1811224000	1.02
1840607000	0.78
1840800800	40.25
1811224200	0.86
1840504100	0.54
1811225900	1.05
1840807700	1.59
1811223900	2.15
1843012200	0.19
1842601600	0.92
1811612900	14.89
1811214800	0.98
1843011700	0.14
1811301300	0.67
1840500400	2.05
1840501900	0.96
1811614700	0.84
1840500500	1.71
1843011800	0.14
1840503900	0.61
1842601000	0.23
1840804000	0.78
1811224100	1.02
1811613500	0.96
1840806100	1.11
1840510300	0.79
1811216400	1.46
1811620600	**8.67**
1840805300	1.06
1842602200	0.42
1840503500	0.59
1842813000	0.66
1811301600	0.54
1840801500	0.61

Appendix A (Continued)

APNs	Acreages
1811216500	0.60
1840803600	0.61
1840803800	1.22
1811226900	0.96
1842602600	0.07
1842812300	0.57
1811622700	2.93
1840510200	0.53
1843010500	0.12
1811620500	0.91
1842812000	0.67
1811420200	3.77
1842601200	0.53
1842601900	0.51
1842602500	0.60
1811225000	1.09
1842812900	2.65
1811221400	0.56
1811615600	0.87
1811622600	2.80
1840804500	0.58
1840503700	0.66
1811223300	1.29
1811225800	1.40
1840805000	0.53
1843010600	0.12
1840806600	2.70
1840800600	0.35
1842813700	0.95
1811301700	0.60
1811213000	1.15
1811225600	1.44
1840806500	0.53
1811226800	1.32
1842603000	0.51
1843010200	0.19
1811621900	1.00
1842602000	0.42
1840800100	**4.68**
1843012100	0.14
1840805500	1.16
1842600400	0.58
1840504700	1.09

Appendix A (Continued)

APNs	Acreages
1840805600	0.49
1840803900	0.54
1811214100	1.15
1811216000	0.79
1811210900	0.78
1811214300	1.15
1840804100	0.78
1843010300	0.18
1811622400	1.03
1840807600	1.31
1842812200	0.53
1811212900	1.10
1840804700	0.65
1811221600	4.42
1840807500	1.00
1842600100	0.74
1843013400	0.12
1840807400	1.37
1811300500	0.43
1842602300	0.66
1840801700	1.44
1811224600	1.35
1811227000	0.82
1840609100	1.45
1811216600	1.67
1811214500	1.06
1811612300	0.39
1843010800	0.14
1811214900	1.01
1811223800	2.54
1842602900	0.55
1840504800	0.64
1811220200	4.03
1811215700	1.16
1842600700	0.53
1811225300	1.23
1811621200	0.85
1811222000	2.24
1842812500	0.69
1840805700	0.50
1840806700	0.96
1840503800	0.56
1811621300	0.85

APNs	Acreages
1842813600	1.05
1842813800	0.92
1843016000	2.21
1811622100	1.13
1811215000	1.02
1811622200	1.08
1811614800	1.02
1842601800	0.44
1811216100	0.73
1811213700	0.98
1811216300	0.87
1840503600	1.25
1811221500	0.55
1842800300	39.63
1840610700	0.43
1840504000	0.57
1840806200	0.72
1840609000	1.16
1811621600	19.00
1811214600	1.03
1840510500	0.77
1811301100	0.49
1811615900	0.07
1811215600	1.00
1840805100	0.65
1811213100	0.92
1843010400	0.14
1842601400	0.57
1843013600	0.17
1840805800	2.68
1840500200	3.92
1840504200	0.64
1811215500	1.01
1842812800	1.94
1811226300	1.48
1811215200	1.01
1840510100	21.03
1811215400	1.04
1842602100	0.52
1842600600	0.58
1811621500	19.87
1811224500	1.01
1842813200	0.52

APNs	Acreages
1840504300	0.68
1842600900	1.36
1811226600	1.51
1811224800	0.93
1842813100	0.59
1811216200	1.21
1811622300	1.04
1811224900	1.17
1811301200	0.75
1811622000	1.12
1840607100	0.65
1811214400	1.06
1840806000	1.08
1842813500	0.76
1840502600	1.18
1842601500	0.88
1811225500	1.30
1842813300	0.73
1811225400	1.22
1811226700	1.19
1811611100	6.82
1811224400	1.06
1842601700	0.76
1811622500	2.30
1811211500	0.92
1811215900	1.00
1840802400	0.60
1840800200	2.07
1840801600	1.96
1840500600	3.24
1811620400	2.20
1842600200	0.53
1842813900	0.99
1842814000	0.57
1843011900	0.13
1840803000	0.48
1842603200	3.01
1811224300	1.05
1811221000	0.14
1843012000	0.13
1840806300	0.57
1811420900	5.49
1840501700	0.74

APNs	Acreages
1840802700	0.17
1840504400	0.58
1811222300	1.65
1811614900	0.91
1811226500	1.65
1842601300	0.55
1843013500	0.18
1811621400	8.51
1842812100	0.50
1842601100	0.51
1843013300	0.16
1842602400	0.63
1811211400	0.56
1840510400	0.67
1843010700	0.18
1811213300	1.09
1811226000	1.60
1840806400	0.51
1811301500	1.16
1811300600	0.87
1842813400	1.02
1811214200	1.15
1811213200	1.01
1811224700	0.99
1811215800	1.00
1842602700	0.38
1811223600	0.74
1842603100	0.51
1840804200	1.33
1811225700	1.40
1840807800	0.52
1811301000	0.01
1811224000	1.02
1840607000	0.78
1840800800	40.25
1811224200	0.86
1840504100	0.54
1811225900	1.05
1840807700	1.59
1811223900	2.15
1843012200	0.19
1842601600	0.92
1811612900	14.89

APNs	Acreages
1811214800	0.98
1843011700	0.14
1811301300	0.67
1840500400	2.05
1840501900	0.96
1811614700	0.84
1840500500	1.71
1843011800	0.14
1840503900	0.61
1842601000	0.23
1840804000	0.78
1811224100	1.02
1811613500	0.96
1840806100	1.11
1840510300	0.79
1811216400	1.46
1811620600	8.67
1840805300	1.06
1842602200	0.42
1840503500	0.59
1842813000	0.66
1811301600	0.54
1840801500	0.61
1811216500	0.60
1840803600	0.61
1840803800	1.22
1811226900	0.96
1842602600	0.07
1842812300	0.57
1811622700	2.93
1840510200	0.53
1843010500	0.12
1811620500	0.91
1842812000	0.67
1811420200	3.77
1842601200	0.53
1842601900	0.51
1842602500	0.60
1811225000	1.09
1842812900	2.65
1811221400	0.56
1811615600	0.87
1811622600	2.80

APNs	Acreages
1840804500	0.58
1840503700	0.66
1811223300	1.29
1811225800	1.40
1840805000	0.53
1843010600	0.12
1840806600	2.70
1840800600	0.35
1842813700	0.95
1811301700	0.60
1811213000	1.15
1811225600	1.44
1840806500	0.53
1811226800	1.32
1842603000	0.51
1843010200	0.19
1811621900	1.00
1842602000	0.42
1840800100	4.68
1843012100	0.14
1840805500	1.16
1842600400	0.58
1840504700	1.09
1840805600	0.49
1840803900	0.54
1811214100	1.15
1811216000	0.79
1811210900	0.78
1811214300	1.15
1840804100	0.78
1843010300	0.18
1811622400	1.03
1840807600	1.31
1842812200	0.53
1811212900	1.10
1840804700	0.65
1811221600	4.42
1840807500	1.00
1842600100	0.74

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

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APPENDIX B

LARA Model Instructions

3.1 LARA Model Instructions[6]

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:	**Complementary Factors:**
Water	Surrounding Land Uses
Climate	Land Use Consistency
Soil Quality	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 *not* 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 *and* 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 *and* 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
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.	**High**	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.
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.	**High**	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.
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.	**High**	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.
Zone 19 is prime for citrus, and most avocadoes and macadamia nuts can also be grown here.	**High**	Zone 19 is rated high due to the suitability for growing the County's high value crops and its location close to urban areas.

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.	**Moderate**	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.
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.	**Moderate**	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).
Zone 11 is located below the high elevation Zone 3 and above the subtropical desert Zone 13.	**Low**	Zone 11 is assigned a low climate rating due the agricultural hazards of the climate including late spring frosts and desert winds.
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.	**Low**	Most of these lands are pubic 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.

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 use[9] 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 use[10] 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 costs[12] 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.