

**Agricultural
Conversion Analysis**
for
**West Lilac Farms
TM 5276 RPL³**
APNs 127-271-28 and 127-290-05

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Glossary of Terms and Acronyms

AWM	County Department of Agriculture, Weights and Measures
CEQA	California Environmental Quality Act
CSA	Community Supported Agriculture
CWA	County Water Authority
DPLU	Department of Planning and Land Use
DPW	Department of Public Works
DOC	State of California, Department of Conservation
DWR	State of California, Department of Water Resources
EDA	Estate Development Area
FHA	Farm and Home Advisor
FMMP	California Farmland Mapping and Monitoring Program
FPPA	Federal Farmland Protection Policy Act
GIS	Geographic Information System
HOA	Home Owners Association
LAFCO	Local Agency Formation Commission
LARA	Local Agricultural Resource Assessment Model
LCC	Land Capability Classification
LESA	Land Evaluation and Site Assessment Model
MWD	Municipal Water District
NASS	National Agricultural Statistics Service
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
PeC	Placentia Sandy Loam Soil
SWP	State Water Project
TDS	Total Dissolved Solids
UCCE	University of California Cooperative Extension
USDA	United States Department of Agriculture
ZOI	Zone of Influence

SUMMARY

The West Lilac Farms Tentative Map (TM 5276 RPL³) consists of 92.8 acres located between West Lilac Road to the north, Aqueduct Road to the east, Via Ararat Drive to the west, and Mount Ararat to the south in Bonsall, San Diego County. There are approximately 90.93 acres of the site currently under agricultural production consisting of avocados, lemons, oranges, and cut flowers.

This project proposes 28 single-family homes with parcel sizes ranging from 2.1 acres to 5.9 acres each. Grading will occur only in areas necessary for building pads, roads, driveways, and leach fields. Lot sizes proposed for the project are consistent with the parcel sizes of surrounding agricultural operations mixed with rural residences.

The project has been evaluated using the Local Agricultural Resource Assessment (LARA) model for assessing the significance of agricultural resources. LARA Model Instructions are included, as Attachment A of this analysis. The evaluation determined that the site is an important agricultural resource. The project impacts 6.0 acres of Placentia Sandy Loam (PeC) soils, which are classified as Farmland of Statewide Importance, by the State of California Department of Conservation Farmland Mapping and Monitoring Program (FMMP). The following mitigation is proposed to ameliorate this significant impact. An area of 22.6 acres of existing agricultural operations onsite will be placed in an Agricultural Open Space Easement. This Agricultural Open Space Easement will include 13.8 acres of PeC soils, resulting in a total agricultural resource preservation at a ratio of 2.3:1, which exceeds the County-established 1:1 required ratio. The impacted 6.0 acres of the Farmland of Statewide Importance Soils, Placentia Sandy Loam (PeC) (the agricultural resource), are mitigated at the required preservation ratio of 1:1. Uses within the Agricultural Open Space Easement will be restricted to ensure only agriculturally related activities occur. Furthermore, the five wells on site will be within Agricultural Open Space Easements and will be operated by the Homeowners' Association, if in force. Excavated lands, within the Agricultural Open Space Easement, containing PeC Soils that are planned for septic systems and leach fields, will be backfilled with the same currently existing PeC soils. These measures comply with the County's Guidelines for Determining Significance for Agricultural Resources and fully mitigate the project's agricultural impacts to below a level of significance.

The project has been extensively redesigned since this initial submittal in 2002 to maximize the preservation of agricultural resources onsite. The original tentative map submitted to the County in 2002 proposed the development of 34 lots on the project site without the preservation of any agricultural resources. The lots were subsequently redesigned to preserve more existing agricultural resources onsite and the number of lots proposed was reduced from 34 to 28. As a result of this redesign, the project will preserve 22.6 acres of existing agricultural uses within an Agricultural Open Space Easement as noted above. Outside the Agricultural Open Space Easement, existing agriculture that is not directly impacted by the project may continue on each lot, at the new property owner's discretion.

The project will result in significant agricultural impacts to important farmland because the project will impact 6.0 acres of Placentia Sandy Loam (PeC), which is classified as Farmland of Statewide Importance by the California Department of Conservation. The project will not result

in significant offsite agricultural resource impacts with the incorporation of proposed design measures and mitigation. The 22.6-acre Agricultural Open Space Easement is located in areas that will act as buffers between uses on- and offsite. Organic farming has been in practice onsite since 2003, thus avoiding impacts to offsite uses associated with chemical and fertilizer use. A pesticide analysis onsite completed by Geocon in July 2008 did not identify any pesticides on the project site that exceed any reporting limit standards. The project will not impact the certification status of nearby organic farms because organic certifications are not dependent on the nature of offsite use. The proposed lot sizes are consistent with the combined agricultural and low-density residential development that has occurred in the surrounding area. The type of agriculture preserved, citrus and avocado groves, has been shown to be compatible in a mixed agricultural/residential setting. The project will comply with the County Ordinance that requires notification of prospective lot owners of the existence of agriculture on and near the site. With the incorporation of design measures and mitigation, the project does not have indirect impacts to offsite agriculture.

The project is consistent with the (19) Intensive Agriculture designation of the San Diego County General Plan, the A-70 zoning designation, and with all agricultural policies and goals contained in the Bonsall Community Plan. Therefore, no significant agricultural impacts are associated with planning aspects of the project.

A cumulative study area was defined within the San Luis Rey River Valley, between Bonsall and Interstate 15. The study area yielded a total of 41 projects that needed to be examined. A County map showing projects in the study area was obtained. In addition, the County supplied a written list of projects for screening of potential cumulative agricultural impacts. This list was reviewed and projects on the list that fell within the study area were examined. Initially, each of the projects were screened using criteria in the County of San Diego *Guidelines for Determining Significance, Agricultural Resources*. Cumulative projects that did not substantially impair the viability of surrounding agriculture as determined in the Guidelines were then eliminated. This resulted in the elimination of twenty-four projects.

A detailed examination of the remaining projects indicated that the project, in combination with other anticipated development in the area would result in the loss of 10 acres of Prime Farmland or Farmland of Statewide Importance. The study area includes 787 acres of Prime Farmland or Farmland of Statewide Importance. Within the study area, the 10 acres of Prime Farmland or Farmland of Statewide Importance being lost represents approximately 1.27 percent of Prime Farmland or Farmland of Statewide Importance, which is not cumulatively significant.

Potential loss of Prime Farmland or Farmland of Statewide Importance was also examined on a regional basis through the *2008 San Diego County Crop Report*. This report indicates that agricultural acreage in San Diego County increased by 3,775 acres between 2007 and 2008. Between 1998 and 2008, the area in agricultural production in the County increased from 172,262 to 312,766 acres, an increase of 81 percent. Agricultural acreage in San Diego County has substantially increased over this ten year period, despite isolated losses of important farmland. The loss of 10 acres of Prime Farmland or Farmland of Statewide Importance is not cumulatively significant, given the fact that agricultural land in production in San Diego County has increased, between 1998 and 2008, by 140,504 acres.

In addition, both the project and 13 of 15 projects within the cumulative study area have preserved ongoing agricultural operations; thereby, effectively preventing significant cumulative agricultural impacts. For all of these reasons, cumulative agricultural impacts are not significant and no mitigation is required.

The project is not growth inducing, because it proposes development of 28 residential lots, 13 fewer than are permitted by the County General Plan and Zoning Ordinance. This results in a density that is lower than what is permitted under existing regulations. The project does not expand offsite facilities that might promote additional housing within the project's general neighborhood. No new offsite roads will be constructed in conjunction with the project, and water and electrical facilities are currently available. No expansion of offsite sewer or water facilities will take place that could remove an obstacle to growth. The project preserves a mixed use pattern common in the area by retaining agriculture onsite, thus avoiding the introduction of a new use pattern that could affect the environment or foster unwanted growth. The project is not growth inducing because it does not exceed allowed densities, does not expand offsite infrastructure, and does not introduce new use patterns that could foster unwanted growth. Therefore, no mitigation for growth inducing effects is required.

CHAPTER 1.0 INTRODUCTION

1.1 Purpose of the Report

The purpose of this agricultural report is to identify and discuss all relevant land use issues onsite and offsite in the vicinity of the project to determine potential agricultural impacts to surrounding active agricultural operations and/or Williamson Act contracts and agricultural preserves. The importance of onsite agricultural resources will be determined by applying the County of San Diego's Local Agricultural Resource Assessment (LARA) model, which takes into account factors such as water, climate, soil quality, surrounding land uses, land use consistency, and topography. Offsite impacts and conformance with the agricultural policies of the County are also assessed. Cumulative impacts to agricultural resources are assessed, and project design elements and/or mitigation measures that would minimize potential significant adverse effects are identified as needed.

1.2 Project Location and Description

West Lilac Farms TM 5276 [Assessor's Parcel Numbers (APNs) 127-271-28 and 127-290-05] is located between West Lilac Road to the north, Aqueduct Road to the east, Via Ararat Drive to the west, and Mount Ararat to the south in Bonsall, San Diego County. See Figure 1, "TM 5276, Regional Vicinity Map," Page F-1, and Figure 2, "USGS Map," Page F-2.

The project consists of 92.8 acres and proposes 28 single-family homes with parcel sizes ranging from 2.1 acres to 5.9 acres each, shown in Figure 3, "TM 5276, Plot Plan on Aerial Photograph," Page F-3.

Organic farming has been conducted on the site since 2003. Currently, approximately 90.93 acres of the site are in agricultural production. Agricultural uses on the site include avocados, lemons, oranges, and cut flowers. The project has been designed to minimize impacts to existing agricultural operations and to preserve future agriculture on the site. The project will preserve 22.6 acres of existing agriculture in an **Agricultural Open Space Easement**. Existing agriculture outside the Agricultural Open Space Easement that is not directly impacted by the project may continue on each lot, at the new property owner's discretion.

Access to the site is from Via Ararat Drive along the western boundary, and Aqueduct Road along the eastern boundary. Internal streets will be private.

1.3 Analysis Methods

The following data resources were used in the preparation of this report: 1) US Department of Agriculture Soil Conservation Service and Forest Service Soil Survey San Diego Area, California, 2) County of San Diego Department of Agriculture, Weights & Measures (AWM) Crop Statistics & Annual Reports, 3) County of San Diego Department of Planning and Land Use (DPLU) Geographic Information System (GIS) Valley Center Discretionary Project Map, 4) Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) San Diego County Important Farmland Map, 5) DPLU GIS Soil Candidates for Prime Farmland and

Farmland of Statewide Importance, 6) DPLU GIS Areaclimates and Generalized Western Plantclimate Zones, and 7) DPLU GIS County Water Authority (CWA) Boundary and Groundwater Aquifer Types.

The site was mapped using aerial photo interpretation and the USGS Bonsall Quadrangle 7.5' map. The FMMP map and County of San Diego Department of Public Works (DPW) GIS map were also used for mapping the site.

1.4 Environmental Setting (Existing Conditions)

1.4.1 Regional Context

Topography of the Bonsall area is characterized by a series of hills, valleys, and drainage areas. Its approximate elevation varies from 170 feet to over 800 feet above sea level.

Bonsall's climate is warm during summer months when temperatures tend to be in the 70's, and cool during winter months when temperatures tend to be in the 50's. Rainfall generally occurs from late fall and continues through the spring months.

Bonsall soil types include Vista, Fallbrook, Cieneba, Placentia series, and others that are generally only suitable for crops with irrigation and careful management. Avocados and citrus are grown in areas of favorable temperature only with irrigation. A few small areas are used for growing winter truck crops. Grain and hay are grown without irrigation on areas of moderate slope. Range is a common use in areas that are not cultivated. Natural vegetation in Bonsall consists of annual grasses as well as forbs and shrubs such as California sagebrush, scrub oak, lilac, chamise, sumac, and flattop buckwheat.

The Bonsall area consists primarily of rural residential lots and agricultural land uses, and is known for its golf courses and equestrian facilities. Commercial activity in Bonsall is centered in the Mission Road/Olive Hill Road and Highway 76 area. The community of Fallbrook lies to the north, Valley Center to the east, the City of Oceanside to the west, and Vista to the south.

Water resources in Bonsall are supplied by the Rainbow Municipal Water District and/or private wells.

The relationship of the project site to surrounding areas is shown in Figure 4, "TM 5276, Regional Aerial Photograph," Page F-4. Most land surrounding the project consists of rural residential and agricultural uses. A legend (Figure 5, "TM 5276, FMMP Map Legend," Page F-5) and map (Figure 6, "TM 5276, Regional FMMP Map," Page F-6) identify the FMMP designations in the region.

1.4.2 Onsite Agricultural Resources

The project site has supported a certified organic avocado and citrus grove since 2003. Avocados, lemons, oranges, and cut flowers make up the active agricultural operations onsite. Approximately 27.6 acres (30 percent) of the site is classified as Farmland of Statewide Importance.

1.4.2.1 Soils

The Land Capability Classification (LCC) system classifies soils according to their limitations when cultivated and according to the way that they respond to management practices. Class I soils have no significant limitations for raising crops. Classes VI through VIII have severe limitations, limiting or precluding their use for agriculture. Capability subclasses are further defined by adding a subclass letter to the class designation. Capability subclasses are 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, dry, 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 significant number of local soils have the class designations e and c, indicating limitations related to erosion and shallow soils. Capability units are assigned Arabic numbers that suggest the main kind of limitation responsible for placement of the soil in the capability class and subclass.

There are eight soil types found on the project site. The Soil Survey, San Diego Area, California, describes these soil types as follows: 1) Vista coarse sandy loam (VsE), 15 to 30 percent slopes, 2) Vista coarse sandy loam (VsD), 9 to 15 percent slopes, 3) Placentia sandy loam (PeD2), 9 to 15 percent slopes, eroded, 4) Fallbrook sandy loam (FaD2), 9 to 15 percent slopes, eroded, 5) Steep gullied land (StG), 6) Cieneba coarse sandy loam (CID2), 5 to 15 percent slopes, eroded, 7) Fallbrook-Vista sandy loams (FvD), 9 to 15 percent slopes, and 8) Placentia sandy loam (PeC), 2 to 9 percent slopes.

The LCC for VsE is VIe-1(19), indicating that fertility is low to medium and that this type of soil is best suited for growing citrus, range, and avocado. Approximately six percent of the site consists of this soil type and is currently used for avocado trees. Runoff is slow to rapid and erosion hazards are slight to high for VsE.

For VsD the LCC is IVe-1(19). This soil type has medium fertility and is suited for such crops as citrus, tomatoes, flowers, range, and avocados. Approximately five percent of the site consists of this soil type and is currently used for avocado trees. Runoff is medium to rapid and the erosion hazard is moderate to high for VsD.

The LCC rating for PeD2 is IVE-3(19). Fertility is low to medium, runoff is slow to medium, and erosion hazards are slight to moderate. This soil is used for tomatoes, flowers, and dryfarmed crops, but is not generally suitable for citrus. The area consisting of this soil onsite (approximately three percent of the site) supports avocado trees.

The LCC for FaD2 is IVE-1(19), indicating that fertility is medium, and that this type of soil is best suited for growing citrus, tomatoes, flowers, range, and avocados. Approximately 22 percent of the site consists of this soil type and currently supports lemon, tangerine, orange, and avocado trees. Runoff is medium to rapid and erosion hazards are moderate to high for FaD2.

For StG the LCC is VIIIe-1(19,20). This soil type (approximately four percent of the site) has no farming value according to the soil survey. However, some lemon and avocado trees are grown in this area onsite. Runoff is rapid and the erosion hazard is high. This soil type is generally suitable for watershed and wildlife habitat.

The LCC rating for CID2 is VIe-1(19). Fertility is low to medium, runoff is slow to rapid, and erosion hazards are slight to high. This soil is used for flowers, range, and avocados. Two percent of the site consists of this soil type and supports avocado trees.

The LCC for FvD is IVE-1(19), indicating that fertility is medium, and that this type of soil is best suited for growing citrus, flowers, tomatoes, range, and avocado. Twenty-nine percent of the site consists of this soil type and is currently used for avocado trees and a few orange trees. Runoff is medium to rapid and erosion hazards are moderate to very high for FvD.

For PeC the LCC is IVE-3(19). This soil type has low to medium fertility and is suited for such crops as tomatoes, flowers, and a few selected crops. Runoff is slow to medium and the erosion hazard is slight to moderate. PeC is classified as Farmland of Statewide Importance according to the FMMP Soil Candidate Listing. Approximately 30~~29~~ percent of the area onsite consists of this soil type and is used primarily for avocado trees. Some orange trees are also grown on this soil type on the site.

Storie Index (SI), a 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).

The SI for VsE is 35, indicating severe limitations for crops, and requiring careful management if used for crops. VsD soils have a SI of 43, indicating suitability for a

few crops or special crops, and requiring special management. PeD2 soils have a SI of 41, indicating suitability for a few crops or crops that require special management. The SI for FaD2 is 48, indicating suitability for a few crops or crops that require special management. StG soils have a SI of <10, indicating soils and lands generally not suited to agriculture. CID2 soils have a SI of 16, indicating suitability for pasture and range. The SI for FvD is 54, indicating suitability for a few crops or crops that require special management. PeC soils have a SI of 49, indicating suitability for a few crops or crops that require special management.

Soils on the site and in the vicinity are shown in Figure 7, “TM 5276, Soils Map,” Page F-7.

1.4.2.2 Farmland Designations

The California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data for analyzing impacts on California’s agricultural resources. Agricultural land is rated according to soil quality and irrigation status. The best quality lands are called Prime Farmland and Farmland of Statewide Importance. Maps are updated every two years, with current land use information gathered from aerial photographs, a computer mapping system, public review, and field reconnaissance. The minimum mapping unit is ten acres. The DOC Prime Farmland, Farmland of Statewide Importance, and Unique Farmlands are referenced in the California Environmental Quality Act (CEQA) Guidelines, Appendix G, as resources to consider in an evaluation of agricultural impacts.

The site has a designation of Unique Farmland. Unique Farmland is used for producing the state’s major high economic value crops on land not qualifying for Prime or Statewide Importance designations. This land is usually irrigated, but may include non-irrigated fruits and vegetables as found in some climatic zones in California.

The site is shown in Figure 8, “Site on FMMP Map,” Page F-8. Definitions of all FMMP Farmland Categories are provided in Attachment B, “Important Farmland Mapping Categories,” and Figure 5.

1.4.2.3 FMMP Farmland Soils

The FMMP Farmland soils are based on local soil characteristics and irrigation status, with the best quality land identified as Prime Farmland and Farmland of Statewide Importance. The DOC publishes a list of soils that meet the soil quality criteria for Prime Farmland soils and Soils of Statewide Importance. The soil criteria are defined by the Natural Resources Conservation Service (NRCS) and are unique to each County. In San Diego County, 44 local soils qualify for the Prime Farmland designation and 65 soils qualify for the Farmland of Statewide Importance designation.

Areas covered by the PeC soil type (approximately 27.6 acres, or 30 percent of the site) are classified as Farmland of Statewide Importance. Figure 9, “TM 5276, ZOI on FMMP Soils Map,” Page F-9, shows the vicinity FMMP soils.

1.4.2.4 History of Agricultural Use

The site has historically been used for growing avocado and citrus trees. Review of aerial photographs and an interview with the onsite agricultural operations manager indicate that grove trees were first planted in the 1960s with avocado trees. Shortly thereafter, citrus was planted, and continued to expand. Avocado root rot has forced the removal of some of the trees more recently. Other citrus has been planted in its place, including tangerines, lemons, and oranges. Cut flowers are also grown on the site. The onsite agriculture is certified organic, meaning that trees onsite are grown without the use of conventional pesticides, artificial fertilizers, human waste, or sewage sludge, and that the produce is processed without ionizing radiation or food additives.

1.4.2.5 Climate

Bonsall’s climate is warm during the summer, when average temperatures range from 67 degrees (°) Fahrenheit (F) to 72°F, and cool during the winter, when temperatures range from 56°F to 58°F. The warmest month of the year is August with an average maximum temperature of 83.70°F, while the coldest month of the year is December with an average minimum temperature of 44.90°F. Temperature variations between night and day tend to be moderate during summer with a difference that can reach 21°F, and moderate during winter with an average difference of 23°F. The annual average precipitation in Bonsall is 13.69 Inches. Rainfall is fairly evenly distributed throughout the year. The wettest month of the year is January with an average rainfall of 3.13 Inches. Average humidity for this area is approximately 70 percent.

A 1970 University of California Cooperative Extension (UCCE) book titled, “Climates of San Diego County: Agricultural Relationships,” has identified five areaclimates: maritime, coastal, transitional, interior, and desert. Climatic conditions within each areaclimate are similar. The UCCE book also identified more detailed plantclimates, defined as a “climates in which specific plants, groups, or associations are evident and will grow satisfactorily, assuming water and soil are favorable,” (Close, et. Al., 1970). Areaclimates and Plantclimates of San Diego County are represented in Attachment C, “Areaclimates and Generalized Western Plantclimate Zones.” Adapted from the plantclimates outlined in the UCCE study, Generalized Western Plantclimate Zones, or “Sunset Zones” (from the Sunset Western Garden Books, which popularized their usage) were developed to further differentiate the effects that latitude, elevation, ocean versus continental air mass influence, and local terrain have on microclimates, freezing, air, and water drainage. Sunset Zones are 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. The Sunset Zone designations take into account the USDA hardiness rating which identifies the lowest temperature at which a plant will thrive. Sunset

Zones range from Zone 1, representing the coldest winters in the west, to Zone 24, which represents the maritime influence.

The site is located within Zone 23, which is a coastal area climate dominated exclusively by the Maritime influence, making it most favorable for growing subtropical plants and avocados. Topography is important in this zone because its foothills and steep, rocky slopes provide ideal conditions for excellent air and water drainage essential for preventing root rot in avocados. Zone 23 temperatures are mild. However, severe winters have resulted in lows in some areas ranging from 23° to 38°F.

Coastal area climates allow year-round production due to mild temperatures throughout the year. These climates are also located in proximity to transportation infrastructure, facilitating efficient product delivery to market. These factors make agriculture the most highly favorable and productive in the coastal area climate. Commercial crops in Bonsall include subtropical plants and avocados.

1.4.2.6 Water Resources

The project site currently receives water from two sources, the Rainbow Municipal Water District (RMWD) and onsite wells. An existing RMWD pipeline currently provides service to the site. There are five existing wells on the project site that are located within the proposed Agricultural Use Easements and used to provide water for the on-going agricultural operations. Two wells are located near the northern portion of the site on proposed Lots 15 and 16. Three wells are located in the southwestern portion of the site on Lots 2, 5 and 7. All five of these wells will provide water for the 22.6 acre on-site Agricultural Open Space. Figure 3.1.9-1 of the West Lilac EIR depicts the location of the wells.

The underlying aquifer is composed of fractured crystalline rock, which typically yields low volumes and production of water compared to other aquifer types. Fractured crystalline rock aquifers are found mostly in the mountainous areas of San Diego County, and their characteristics vary greatly depending on the underlying fracture locations and orientations. Underlying aquifer types of San Diego County are shown in Attachment D, “County Water Authority Boundary and Groundwater Aquifer Types.”

1.4.2.7 Williamson Act Contracts and Agricultural Preserves

Known formally as the California Land Conservation Act of 1965, the Williamson Act was formed as an incentive to retain prime agricultural land and open space in agricultural use, thereby slowing its conversion to urban and suburban development. The program entails a ten year contract, between the jurisdiction and an owner of land; whereby, the land is taxed on the basis of its agricultural use rather than its market value. The land becomes subject to certain enforceable restrictions, and certain conditions need to be met prior to approval of an agreement.

The underlying goals of the Williamson Act are to protect agriculture and open space. The legislature found that “the discouragement of premature and unnecessary conversion of agricultural land to urban uses is a matter of public interest,” and that “agricultural lands have a definitive public value as open space,” (Government Code, §51220[c][d]).

During the past 25 years, very few property owners have requested contracts on their land within San Diego County. This lack of interest may be due to the fact that Proposition 13 has substantially slowed increases in property taxes. According to information from the County Assessor’s Office, only two contracts were executed in San Diego County between 1980 and 2005, and 40 parcels currently under a contract are in the process of non-renewal. The non-renewal process takes ten years to complete, during which time property taxes are incrementally raised to remove the tax benefit, with restrictions to development being lifted at the end of the ten year period.

The site is not under a contract and is not within an Agricultural Preserve. Contract lands are shown in Attachment E, “Williamson Act Contract Lands.”

1.4.3 Offsite Agricultural Resources

Agricultural resources within the site’s Zone of Influence (ZOI) were identified. A Project’s ZOI considers the surrounding agricultural land uses and protected resource lands to provide a measurement of the level of agricultural land uses and protected lands in close proximity to the project site. There are no lands within the 727-acre ZOI under a Williamson Act Contract or Agricultural Preserve.

The FMMP Farmland designations within the ZOI include Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Urban and Built-Up Land, and Other Land. The majority of the ZOI consists of Unique Farmland. The surrounding area within the ZOI is shown in Figure 10, “TM 5276, ZOI On FMMP Map,” Page F-10. Refer to Figure 5 for the definitions of FMMP designations.

Agricultural operations within the site’s ZOI consist largely of avocado trees, various types of citrus groves, and produce and flower operations. Avocado and citrus orchards are located to the west, north, and south of the site; many having parcel sizes of less than five acres. Flower and other nurseries are located to the west, south, and east of the site. These uses are located within a mixture of rural residential and commercial agricultural areas that include both hobby and commercial agricultural activities. Figure 11, “ZOI on Aerial Photograph,” Page F-11, identifies agricultural resources within the ZOI. Types of agricultural activities generated may include cultivation, plowing, spraying, pruning, harvesting, application of chemicals, transportation of produce, and farm labor transportation. Surrounding land parcel sizes are shown in Figure 12, “TM 5276, ZOI Parcel Sizes,” Page F-12.

1.4.4 Zoning and General Plan Designation

The project is zoned A70 Limited Agricultural Use per the County Zoning Ordinance, which is intended to create and preserve areas intended primarily for agricultural crop production while allowing single-family residential uses. Zone A70 permits a minimum lot size of two acres. Based on the A70 zoning designation, 41 dwelling units would be permitted on the site. The project proposes only 28 dwelling units over the 92.8-acre site.

The site's (19) Intensive Agriculture General Plan Designation is intended to promote a variety of agricultural uses including minor commercial, industrial, and public facility uses appropriate to agricultural operations or in support of the agricultural population. This designation permits two-, four-, and eight-acre parcels under specified conditions.

The project proposes lots ranging in size from 2.1 acres to 5.9 acres. Fifteen of the 28 proposed lots equal or exceed three acres in size, and eight of these lots equal or exceed four acres in size. Two-acre minimum lots are allowed when the following findings are made: 1) At least 80 percent of the land of a proposed parcel does not exceed 25 percent slope, 2) The land is planted, and has been planted, for at least the previous one-year period, in one or more commercial crops that remain commercially viable on two-acre lots, 3) A continuing supply of irrigation water is available to the land, 4) The land has access to a publicly maintained road without the necessity of a significant amount of grading, and 5) Two-acre parcels on the land will not have a significant adverse environmental impact which cannot be mitigated.

The project satisfies all required findings, thus allowing for two-acre minimum parcels on the site. There are no slopes on the site that average greater than 25 percent. The site has been planted with avocado and citrus for many years. Surrounding parcels are mixed with agricultural and residential uses, indicating continued agricultural viability on two-acre parcels. The five existing wells onsite will continue to supply the site with water, and metered water is available from the Rainbow Municipal Water District. The project has access to West Lilac Road, a public road, through access easements, on both Aqueduct and Ararat Roads. Environmental studies completed for the proposed project indicate that the project will not have significant adverse environmental impacts, which cannot be mitigated for the proposed 2.1 to 5.9 acre parcels.

CHAPTER 2.0 OFFSITE AGRICULTURAL RESOURCES

2.1 Local Agricultural Resources Assessment (LARA) Model

The County of San Diego has approved a methodology that is used to determine the importance of agricultural resources in the unincorporated area of San Diego County, known as the Local Agricultural Resources Assessment (LARA) Model. The LARA Model evaluates six factors in determining the importance of agricultural resources, which are water, climate, soil quality, surrounding land uses, land use consistency, and slope. Each factor is given a high, medium, or low rating. If any of the required water, climate, or soil quality factors are rated low, the site is not considered a significant agricultural resource. Detailed LARA Model instructions are included as Attachment A, and provide background information regarding the purpose and justification of each factor.

2.1.1 LARA Model Factors

2.1.1.1 Water

Since water is currently available to the site through the Rainbow Municipal Water District, the LARA Model water rating for the site is high. 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. Table 3, “Water Rating,” on Page 21 of Attachment A, LARA Model Instructions, summarizes the ratings.

2.1.1.1 Climate

As detailed in Section 1.4.2.5 above, the site is located in Zone 23, which translates to a high LARA Model climate rating. Zone 23 is rated highly because this climate zone is the most favorable for growing some of the County’s most productive crops. Zone 23 is also favorable due to its location close to urban areas and transportation infrastructure which facilitates product delivery to market. Table 6, “Climate Rating,” on Page 26 of Attachment A, LARA Model Instructions, summarizes the ratings.

2.1.1.2 Soil Quality

The LARA Model’s soil quality rating for the site is moderate. The site has a Soil Quality Matrix score of 0.30, which is below the threshold of 0.33. However, of the 27.6 total acres of Statewide Importance Soils, there are approximately 19.74 acres of contiguous Statewide Importance Soils, which is above the threshold of ten contiguous acres. Table 1, “Soil Quality Matrix,” Page T-1 of this analysis, shows how these ratings are attained. Table 8, “Soil Quality Matrix Interpretation,” on Page 31 of Attachment A, LARA Model Instructions, summarizes the ratings.

2.1.1.3 Surrounding Land Uses

The site has a high Surrounding Land Use rating, based on the LARA Model. The percentage of land within the ZOI that is compatible with agriculture is greater than 50 percent, resulting in the site's high rating. Consideration of surrounding land uses within the ZOI is intended to provide a comparable measurement of the long-term sustainability of agriculture at the project site. Table 9, "Surrounding Land Use Rating," on Page 33 of Attachment A, LARA Model Instructions, details how the rating is obtained. Figure 11, "TM 5276, ZOI on Aerial Photograph," Page F-11, shows the surrounding land area.

2.1.1.4 Land Use Consistency

The site's land use consistency rating is high. The project's median parcel size of 3.3 acres is consistent with the median parcel size within the project's ZOI, which is approximately 3.7 acres. A site surrounded by larger parcels usually indicates that the area in which the site is located has not already been significantly urbanized, therefore indicating that the area is more likely to continue to support viable agricultural uses. Table 10, "Land Use Consistency Rating," on Page 35 of Attachment A, LARA Model Instructions, summarizes the ratings. Figure 12, "TM 5276, ZOI Parcel Sizes," Page F-12, shows the surrounding parcel sizes within the ZOI.

2.1.1.5 Topography

The site's slope rating is high. Using the soil survey criteria, average slope that is available for agricultural use on the site is less than 15 percent, as shown in Table 1. The majority of the site (90 percent) consists of soil types with 2 to 15 percent slopes. Six percent of the site consists of a soil type with 15 to 30 percent slopes, and four percent is made up of steep gullied land. Table 11, "Slope Rating," on Page 35 of Attachment A, LARA Model Instructions, summarizes the ratings. Slope categories for the areas available for agricultural use on the site are shown in Figure 13, "TM 5276, Slope Map," Page F-13.

2.1.2 LARA Model Result

Based on Table 2, "Interpretation of LARA Model Results," Page 20 of Attachment A, LARA Model Instructions, the site is an important agricultural resource. The site falls under Scenario 2, which states that two required factors rated as high importance, one required factor rated moderate, and at least two complementary factors rated as high or moderate indicates the site is an important agricultural resource. Because the climate and water ratings are high and soil rating is moderate (required factors), in addition to all the complementary factors being rated as high, as detailed above in Section 2.1.1.3, the site is an important agricultural resource as interpreted, by the LARA Model. Table 2, "LARA Model Factor Ratings," Page T-2 of this analysis, summarizes the ratings that result from the LARA Model.

2.2 Guidelines for the Determination of Significance

The following significance guideline is the basis for evaluating impacts to important onsite agricultural resources in San Diego County. Direct impacts to agricultural resources are potentially significant when a project would result in the following:

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

2.3 Analysis of Project Effects

The project was evaluated using the LARA Model, which examines the site in terms of both required and complementary factors. The LARA Model determined that the site is an important agricultural resource, as detailed in Section 2.1.2 above. Two required factors (climate and water ratings) are high and one required factor (soil quality) is moderate, while the complementary factors are rated as high. Based on these determinations, the site is an important agricultural resource as interpreted by the LARA Model.

The project site includes approximately 27.6 acres of Farmland of Statewide Importance Soils. The project will impact 6.0 acres of PeC soils classified as Statewide Importance Soils as a result of roads, driveways, and pad grading, as shown on Figure 14 “TM 5276, Agricultural Impacts & Easement Exhibit” on Page F-14. Mitigation measures proposed for the project include the creation of a 22.6 acre Agricultural Open Space Easement onsite that will preserve both agricultural uses and soils within this area. This Agricultural Open Space Easement includes the preservation of 13.8 acres of PeC soils designated as Statewide Importance soils onsite. This results in a preservation to impact ratio of 2.3:1, which exceeds the 1:1 ratio specified in the County’s agricultural resource guidelines.

The required mitigation for impacts to agricultural resources that meet the soil quality criteria for Prime Farmland and Farmlands of Statewide Importance is addressed in the County’s Guidelines *For Determining Significance And Report Format and Content Requirements for Agricultural Resources* adopted March 19, 2007 (the “Guidelines”). These Guidelines specify a mitigation ratio of 1:1 for impacts to soils meeting the quality criteria for Prime Farmland and Farmlands of Statewide Importance. The onsite 22.6-acre Agricultural Open Space Easement proposed as part of the project exceeds this mitigation requirement by preserving 13.8 acres of PeC soils, resulting in a preservation to impact ratio of 2.3:1, substantially exceeding the required mitigation ratio of 1:1 contained in the Guidelines. Uses within the easement will be restricted to those activities that support agriculture. The Agricultural Open Space Easement will be professionally managed to ensure continued long-term operation and compliance with easement restrictions. Any area within the Agricultural Open Space Easement that has PeC soils and is disturbed, as a result of septic or leach line construction, will be backfilled with those PeC soils to sustain continuity of important soils.

The surrounding area exhibits a pattern of successful small agricultural operations in combination with rural residential development. The median lot size of the surrounding agricultural operations is approximately 3.7 acres, while the median lot size of the project is 3.3 acres, a difference of 0.4 acres. This area has successfully grown a variety of agricultural products for many years on these smaller parcels. The successful pattern of agricultural production on small lots that is characteristic of the study area is typical of the overall pattern throughout San Diego County. The 2008 San Diego County Crop Report notes that 63 percent of San Diego County farms are one to nine acres with 77 percent of the farmers living on their land. The project reflects this pattern by designing large lots (ranging in size from 2.1 to 5.9 acres) and by avoiding impacts to existing agricultural areas on each proposed lot.

This pattern contributes to the overall increase in agricultural acreage in San Diego County. As of 2008, the total acreage in agricultural production in San Diego County was 312,766 acres, an increase of 1.2 percent from 2007. See Attachment F, “2008 San Diego County Crop Report”.

Residential subdivisions that result in parcel sizes that could support agriculture and that substantially avoid the important physical soil resources onsite do not usually impair the viability of the resource, based on the prevalence of small farms in the County and high land prices that promote high value production on small parcels. Small farms in San Diego County typically support high value agriculture, and high land values make purchase of large farms financially prohibitive for most farmers. The proposed project creates parcels ranging from 2.1 to 5.9 acres in size that have the area to support onsite agricultural operations, increasing the economic feasibility of the operation and ensuring the success of future agriculture on the site. In San Diego County, farming typically occurs among residential land uses. The creation of smaller, more affordable, and viable agricultural parcels creates opportunities for farming when considering the cost of land in San Diego County and the fact that high value agriculture on small parcels is common here. Furthermore, 77 percent of farmers live on their farms and 90 percent of farms operate under full ownership versus operating as tenants or under leasehold (USDA NASS, 2002). These statistics establish that residential subdivisions do not create a significant adverse impact to agriculture if important soil resources are preserved and it can be demonstrated that farming would remain viable after development. The area surrounding the project site exhibits this pattern of successful agricultural production mixed with rural residential uses on small parcels, providing historic evidence of successful farming on small parcels in the area.

San Diego County’s LARA Model rates sites that are surrounded by agricultural lands, protected resource lands, and rural residential lands more highly than sites that are surrounded by fewer of these types of land uses. This recognizes that a site surrounded by compatible surrounding land uses will more likely be viable for ongoing agricultural use due to lower likelihood of incompatible land use conflicts. The LARA Model also takes into account that farm size is not a useful measure of agricultural importance in San Diego County (Refer to Pages 3 and 19 of the County of San Diego Guidelines For Determining Significance for Agricultural Resources). The project preserves 22.6 acres in an Agricultural Open Space Easement. This level of preservation is consistent with the existing surrounding mixed rural residential and agricultural land uses.

2.4 Mitigation Measures and Design Considerations

The project has been redesigned to ensure the retention of agricultural resources onsite. The General Plan and Zoning ordinances applicable to the site permit 41 dwelling units. Twenty eight dwelling units are proposed (13 less than what is permitted) to reduce parcel yield in order to achieve agricultural preservation and agricultural viability onsite. Lot sizes will range from 2.1 to 5.9 acres, large enough to accommodate small farming operations. The mixed rural residential and agricultural uses are consistent with the pattern of mixed agricultural and rural residential uses in the surrounding area and throughout the County.

However, to fully reduce project impacts to agricultural resources to below a level of significance, the following mitigation will be required:

1. The project includes an Agricultural Open Space Easement covering approximately 22.6 acres of existing agricultural uses on the project site, which will support ongoing and future onsite agricultural operations. This area will include 13.8 acres of PeC soils. See Figure 14, "TM 5276, Agricultural Impacts & Easement Exhibit," Page F-14;
2. The Agricultural Open Space Easement will be granted to the County of San Diego to protect the viability of agricultural uses in the easement area. All non-agricultural uses are prohibited, including the construction or placement of any residence, garage, or any accessory structure that is designed or intended for occupancy by humans, and the placement of any recreational amenities, such as tennis courts or swimming pools, for the purpose of ensuring the land is available for agricultural use. Exceptions to this prohibition are: 1. Construction and maintenance of access, wells, and water distribution systems for agricultural purposes, 2. Grading or clearing for agricultural purposes, 3. Fuel management activities by written order of the Fire Marshal, 4. Construction and maintenance of approved septic systems, 5. Percolation and other tests for septic systems and agricultural purposes, and 6. Activities necessary to restore agricultural soils during septic system and other permitted construction; and
3. Where septic systems are proposed in areas of PeC soils, any backfilling that would normally take place as part of septic system and leach field construction will use the PeC soils removed prior to construction for backfilling.

These measures fully mitigate project impacts because they preserve and protect agricultural areas for future productive use.

2.5 Conclusions

Significance Guideline 2.2 recognizes that a project proposed on an important agricultural resource, as defined by the LARA Model, may not result in significant impacts to the resource if the project avoids the important soil resources (Prime and Statewide importance soils) on the project site or if the project would not substantially impair the ongoing viability of the site for agricultural use. The project will impact 6.0 acres of Farmland of Statewide Importance, and

therefore has a significant agricultural impact in the absence of mitigation. However, the project's agricultural impacts have been mitigated to below a level of significance by preserving 22.6 acres of existing agriculture resources onsite within the Agricultural Open Space Easement which will include 13.8 acres of PeC soils. This represents a preservation impact ratio of 2.3:1, which substantially exceeds the preservation ratio of 1:1 in the County Agricultural Resource Guidelines. Replacement of PeC soils over graded areas in the Agricultural Open Space Easement will fully protect the Agricultural Open Space Easement resource. When septic system construction disturbs PeC soils, the soils will be used to backfill septic system trenches, where appropriate.

As a result of redesign, the project will affect only 34.30 acres of the 90.93 acres of existing agricultural uses onsite. Of the remaining 56.63 acres of agricultural uses not affected by the project, 22.6 acres will be placed in the onsite Agricultural Open Space Easement. The prospective homeowners will have the option to continue agriculture, on the current agricultural areas that remain outside the Agricultural Open Space Easement. The five onsite wells will be used to water the 22.6-acre Agricultural Open Space Easement area; thereby, ensuring a continuing source of water to support the onsite agriculture. The mixed agricultural and rural residential uses proposed for the project are consistent with mixed use agricultural and rural residential uses in the surrounding area. Accordingly, project agricultural impacts have been mitigated to a level below significance and no further mitigation is required.

CHAPTER 3.0 OFFSITE AGRICULTURAL RESOURCES

3.1 Guidelines for the Determination of Significance

The following significance guidelines are the basis for determining the significance of indirect impacts to offsite agricultural operations and Williamson Act Contract land in San Diego County:

- a. The project proposes a non-agricultural land use within one-quarter 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, day care or other use that involves a concentration of people at certain times within one 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, which due to their location or nature, could result in the conversion of offsite agricultural resources to a non-agricultural use or could adversely impact the viability of agriculture on land under a Contract.

3.2 Analysis of Project Effects

- A. Agricultural uses within a quarter mile of the site: Agricultural uses occur within a quarter mile of the site. However, the project will not have an indirect impact on surrounding agricultural operations, for all of the following reasons:
 1. The project proposes mixed agricultural and residential uses. Twenty of the 28 residential lots will continue agricultural production, under an Agricultural Open Space Easement. This mixed use land use pattern is common in the vicinity. Approximately 67 percent of surrounding properties within a quarter mile are established mixed agricultural and residential uses. The San Diego County Guidelines for Determining Significance for Agriculture states that if a residential subdivision consistent with existing densities in the surrounding area is proposed, the likelihood that the residential subdivision would constitute a significant indirect impact to agricultural resources is reduced, based on the fact that similar land uses already exist in the area [Page 41, Footnote No. 16, in the cited County Guidelines].
 2. A 22.6-acre Agricultural Open Space Easement has been located in areas, which provides an agricultural buffer, between the onsite rural residential uses and the offsite

agricultural operations. These areas are shown in Figure 14, “TM 5276 Agricultural Impacts & Easement Exhibit,” Page F-14.

The Agricultural Open Space Easement includes extensive buffers located along the northern and southern boundaries of the western parcel; thereby, avoiding potential interface conflicts, between the proposed project and adjoining agricultural uses.

In the southern segment of the project, Lots 3 thru 10 are located away from the project boundary. Lots 1 thru 6 and 8 thru 11 are buffered by the Agricultural Open Space Easement. Lots 5 thru 8 are also separated from adjoining uses by Via Ararat Drive. Lots 1, 2, and 11 will support large areas of the Agricultural Open Space Easement, so agriculture will continue on those lots. Therefore, on- and off-site uses will be similar to each other, which will result in fewer interface conflicts.

In the northern segment, Lots 14, 15, 17, 18, 24, and 25 are located away from the project boundary. Lots 13 thru 19, 24 and 25 are buffered by Agricultural Open Space Easement areas. Lots 24 and 25 are also separated from adjoining uses to the east by Aqueduct Road. Lots 12 thru 16, 19 and 21 thru 25 will support Agricultural Open Space Easement areas, where agriculture will continue. Therefore, on- and off-site uses will be similar to each other, which will minimize potential interface conflicts. Therefore, no interface conflicts, between the proposed project and adjoining agricultural uses, are expected and no mitigation is required.

3. The HOA or the applicable property owner will ensure continued operation of on- site agriculture and the compatibility between the project and off-site uses.
4. Approximately 67 percent of the surrounding lots within a quarter mile are 10 acres or less in size, with a median lot size of 3.7 acres. Mixed use lots of this size are common in San Diego County and in the vicinity. Project lot sizes range in size from 2.1 to 5.9 acres and are consistent with surrounding properties. Larger lot sizes allow flexibility in siting uses and thus produce fewer conflicts than smaller lots.
5. Grading for the lots and road infrastructure has been focused in the interior of the project site to minimize offsite impacts to agricultural uses. Grading is restricted to pads and roads to preserve existing orchards and to integrate with the successful pattern of mixed agricultural and rural residential uses in the surrounding area. Accordingly, land use conflicts between the proposed project and agricultural operations in the surrounding area are not expected to occur.
6. Orchard crops such as avocados and citrus typically have fewer compatibility issues than other types of agricultural operations, due to lower chemical treatments, less farmworker activity, less truck traffic noise, and fewer odors according to County Guidelines for Agricultural Resources, pages 42 and 43.
7. On-site agricultural operations have been certified organic since 2003, thus avoiding the use of pesticides and fertilizers that have the potential to impact offsite uses.

Furthermore, pesticide permit safety requirements, administered through the County Department of Agriculture, Weights and Measures (AWM), monitor and control use of pesticides. The site has been registered with AWM, which has verified the organic nature of the existing operation. Therefore impacts to off-site uses caused by the possible future use of pesticides are minimized.

8. On-site roads will be constructed to provide access to West Lilac Road, a publicly-maintained road, through Aqueduct Road and Via Ararat Drive. This dual access will ensure that existing roads in the area used for agricultural purposes are not overburdened by the project's traffic.
9. The project does not propose any off-site improvements that could result in the conversion of agricultural resources to non-agricultural uses.
10. The mixed agricultural and rural residential uses exhibited in the project area are mandated by the Bonsall Community Plan, which encourages residential development that is consistent with the community's rural character and requires the protection of agricultural operations, throughout the Bonsall Plan Area. The project maintains this mixed use approach that both preserves rural character and protects agriculture.
11. There are no Williamson Act Contracts within a quarter mile of the site, including the site.

Organic farming is being carried out on a 14.3-acre residential property south of the project known as the Gubler property (APN 127-29-33). This property is adjacent to proposed Lots 23 and 24, shown on Figure 16, "Project and Gubler Property", page F-16. Project design features and proposed mitigation will reduce impacts to this property to below a level of significance. Potential impacts have been minimized through a combination of buffering, similarity of uses, and professional agricultural management that is proposed as part of the project design or as mitigation. Most of the shared boundary is buffered. The entire shared boundary with Lot 24 is buffered by a 0.7-acre Agricultural Open Space Easement. A one acre Agricultural Open Space Easement on Lot 23 is adjacent to the northwest corner of the Gubler property. Agriculture will continue in these areas as it has in the past, so new interface issues are not expected to occur.

A residential pad is proposed on Lot 23 adjacent to the Gubler site. However, Lot 23 will include a 1.0-acre Agricultural Open Space Easement, as noted, so agriculture will continue on this lot. The pad will also be adjacent to continued agriculture on Lot 24. Therefore both Lots 23 and 24 and the bordering property to the south have a similar use pattern: residential uses surrounded by agricultural uses. The effects arising on one property will not be significantly different from those arising on all others. This consistency of uses will minimize interface conflicts, as it will be in each property owner's own best interest to minimize conflicts and cooperate,

All of the lots in the West Lilac Farms projects are rural residential rather than urban residential lots. This is evident from the project design, which retains agriculture throughout the project site. The similarity of uses on- and off-site supports the compatibility between the proposed and existing mixed uses. The project will further enhance compatibility by complying with the San Diego County Agricultural Enterprises and Consumer Information Ordinance, which requires notice to all lot purchasers that active agriculture is being conducted in the area. This notice will include information about the possible effects arising from agricultural uses, including but not limited to noise, odors, dust, and the use of fertilizers. These measures will reduce the possibility of conflicts from existing agriculture because prospective owners will be fully aware of the presence of agriculture on and around their lots, and the inconveniences it may engender, prior to their purchase of the lot.

Additionally, approximately three rows of trees between the pad on Lot 23 and the southern boundary will not be removed. While these trees will not be in an Agricultural Open Space Easement, lot owners are encouraged to retain agriculture in non-Agricultural Open Space Easement areas.

The property to the south is a certified organic farm. The proposed project will not interfere with this organic farming operation due to separation of uses, retention of mixed uses, and professional management, as discussed above. Additionally, a review of the Federal Organic Foods Production Act of 1990, the California Organics Products Act of 2003, and the County of San Diego Agriculture Weights and Measures (AWM) web site, as it relates to organic farming, indicates that organic farming permitting is not dependent on the nature of uses adjacent to the applicant's land. Additionally, Mr. Jerome Stehly, an agricultural manager for a number of certified organic operations in San Diego County, and in the area surrounding the project site, has indicated that organic permitting adjacent to two-acre residential lots is common throughout the County. It is his experienced opinion that no problems involving organic permitting, adjacent to two-acre residential lots, have been documented (Stehly Communication March 2010). Therefore the proposed project will not impact the organic farm to the south. This is due to the proposed project's design features and the proposed mitigation to alleviate impacts to the on-site agricultural resources. These previously stated project design and mitigation measures reduce the potential off-site impacts, to below a level of significance. Therefore, no further mitigation is required.

- B. Project proposes a use that involves a concentration of people (such as a school or church) and is within one mile of an agricultural operation or Williamson Contract land:
The project does not propose a use of this type.

- C. Project proposes other changes that could result in the conversion of agriculture:
Organic farming exists in San Diego County in many areas adjacent to two-acre
by AWM. Certification
requirements for organic farming are not affected by the fact the farm is located near a
rural residential home site. The project does not propose other changes that would result

in the conversion of agricultural uses surrounding the site. The project preserves ongoing active agricultural operations which buffer the proposed residences from off-site uses.

3.3 Mitigation Measures and Design Considerations

Mitigation consists of a 22.6 acre Agricultural Open Space Easement, with restricted uses, and backfilling with PeC soils over septic systems/leach fields, as detailed in Section 2.4. These measures will effectively buffer the residential uses from offsite areas. No further mitigation is required.

3.4 Conclusions

Offsite agricultural resources were assessed using aerial photographs and information gathered during site visits. The project will not significantly impact nearby agriculture because of its design and proposed mitigation and because the project is consistent with the mixed agricultural and rural residential uses in the surrounding area. The type of agriculture retained, avocados and citrus groves, typically are very compatible with adjacent residential uses. Lot areas of 2.1 to 5.9 acres can accommodate small agricultural operations. Mitigation in the form of a 22.6-acre Agricultural Open Space Easement onsite and professional agricultural management of onsite agricultural operations will further buffer uses on- and offsite. This will be accomplished by ensuring a well managed agricultural use continues in the future that is consistent with the existing pattern of development in the surrounding area. As a result of the Agricultural Open Space Easement, agriculture will continue on 20 of the 28 lots. The proposed project does not result in land use conflicts with agricultural lands in the vicinity because it will be physically buffered from existing agricultural uses. It will not produce a concentration of people because it does not propose a use such as a church or school. Furthermore, the project does not propose other changes to the existing environment which could result in the conversion of offsite agricultural resources to a non-agricultural use. Existing organic certifications on property adjacent to the site will not be jeopardized by the project because the certifications are not dependent on adjacent uses for approval and onsite Agricultural Open Space Easement areas and adjoining roads buffer these offsite uses from the proposed residential lots. The proposed project is consistent with existing mixed-use residential and agricultural densities in the surrounding area. Due to design considerations, compatibility of use, and mitigation proposed, impacts are reduced to below a level of significance. No further mitigation is required.

CHAPTER 4.0 CONFORMANCE WITH AGRICULTURAL POLICIES

4.1 Applicable General and Community Plan Policies

4.1.1 San Diego County General Plan

4.1.1.1 General Plan

The project site is regionally categorized as Estate Development Area (EDA) and is designated as (19) Intensive Agriculture. The EDA Regional Category of the General Plan permits both agricultural and low density residential uses. Residential parcel sizes ranging from two to twenty acres or larger are permitted depending on the slope.

The (19) designation promotes rural residential development and a variety of agricultural uses including minor commercial, industrial, and public facility uses appropriate to agricultural operations or supportive of the agricultural population. This designation permits two-, four-, and eight-acre parcels under specific conditions. Two acre minimum parcel sizes are allowed when the following findings are made: 1) At least 80 percent of the land of a proposed parcel does not exceed 25 percent slope, 2) The land is planted, and has been planted, for at least the previous one-year period, in one or more commercial crops that remain commercially viable on two-acre lots, 3) A continuing supply of irrigation water is available to the land, 4) The land has access to a publicly maintained road without the necessity of a significant amount of grading, and 5) Two-acre parcels on the land will not have a significant adverse environmental impact which cannot be mitigated.

4.1.1.2 Bonsall Community Plan

The Bonsall Community Plan of the County of San Diego General Plan applies to the proposed project. This Community Plan seeks to “preserve and enhance the rural character of Bonsall through the protection of agriculture, estate lots, ridgelines, and the community’s natural resources.” (Bonsall Community Plan p.3). The Plan encourages residential development that is consistent with the community’s rural character and its natural resources. Its agricultural goal seeks to “Protect and encourage existing and future agriculture/horticulture as a prominent land use throughout the Bonsall area.” (*Id.* P.9). Policies and Recommendations of the Agricultural Goal that pertain to the project include the following: 1) Properties that are in agricultural use and are being proposed for development with estate sized lots, should be encouraged to retain agriculture as a compatible use, 4) Agricultural use and land suitable for agricultural usage should be protected from land uses which may be incompatible with agriculture, and 5) Agricultural uses should be unobtrusive and compatible with the surrounding neighborhood and the rural community character.

4.1.2 San Diego County Ordinance

The site is zoned A70 Limited Agricultural Use Regulations, which are intended to create and preserve areas intended primarily for agricultural crop production. Residential uses

are a permitted use in this zone. Additionally, a limited number of small farm animals may be kept and agricultural products raised on the premises may be processed.

4.1.3 County Board of Supervisors Policy I-38

The County Board of Supervisors Policy I-38 sets forth policies for the implementation of the Williamson Act, which are summarized in Section 1.3.1.4. This Policy establishes the criteria for formation of preserves within the County of San Diego, including required hearings, minimum lot size, zoning, and eligible ownership.

4.1.4 San Diego County Agricultural Enterprises and Consumer Information Ordinance (§63.401 et seq.)

The Agricultural Enterprises and Consumer Information Ordinance of the San Diego County Code of Regulatory Ordinances (§63.401 et seq.) is intended to define and limit the circumstances under which agricultural enterprise activities, operations, and facilities shall constitute a nuisance. The Ordinance acknowledges that lands used for agricultural purposes may be converted to other uses or zones, whether those parcels are zoned for agricultural uses or not. However, the Ordinance prohibits changes in land uses in the vicinity of an existing agricultural land use that would result in the existing agricultural land use (established for a minimum of three years) to be deemed a nuisance if it was not a nuisance prior to the proposed changes in land use.

4.2 Project Consistency with Applicable Policies

The project is consistent with the San Diego County General Plan, the Bonsall Community Plan, and other agricultural policies and ordinances pertinent to the project.

4.2.1 San Diego County General Plan

4.2.1.1 General Plan

The project site is regionally categorized as Estate Development Area (EDA) and is designated (19) Intensive Agriculture. The minimum proposed parcel size of two acres is allowed under the EDA category because the slope criteria of the (19) Intensive Agriculture designation is met. None of the proposed parcels have average slopes greater than 25 percent. The site has been planted with a variety of commercial crops for many years. Surrounding parcels exhibit the compatibility of mixed agricultural and residential uses on smaller lots. Water is available to the project site through the five onsite wells that will remain onsite and through the existing connection to the Rainbow Municipal Water District which will be retained. Existing roads, Via Ararat Drive and Aqueduct Road, will be used to access the site from the publicly-maintained West Lilac Road. Environmental studies completed for the project have not identified any significant adverse environmental impacts that cannot be mitigated. Therefore, the project is consistent with the San Diego County General Plan designation that is applicable to the site.

4.2.1.2 Bonsall Community Plan

The project site is located within the Bonsall community planning area. The Bonsall Community Plan recognizes that the “Bonsall area consists primarily of low-density estate type residential and agricultural uses”. (Bonsall Community Plan p. 3). The Bonsall Community Plan encourages “residential development that is consistent with the Community’s rural character and its natural resources”. (Id. P. 6). The Plan recognizes that “due to the relatively small area needed for certain tree crops, such as avocado and citrus, agriculture may effectively co-exist with residential use. This mix of land uses serves to preserve and enhance the rural character of the area by providing a vegetation buffer between houses”. (Id. P. 9). The project complies with all agricultural goals and policies contained in the Bonsall Community Plan as shown on the table below:

Project Consistency with Applicable Agricultural Goals and Policies		
Plan	Goal/Policy	Proposed Project Compatibility
Bonsall Community Plan Community Character Goal	Preserve and enhance the rural character of Bonsall through the protection of agriculture, estate lots, ridgelines and the community’s natural resources.	The proposed project is consistent with this goal. The project proposes 28 single-family homes with estate parcel sizes ranging from 2.1 acres to 5.9 acres. Through redesign, the project impacts 34.3 acres of the 90.93 acres of existing agricultural uses onsite, 22.6 acres will be placed in an Agricultural Open Space Easement. The project does not impact any ridgelines or natural resources.
Bonsall Community Plan Agricultural Goal	Protect and encourage existing and future agriculture/horticulture as a prominent land use throughout the Bonsall area.	The proposed project is consistent with this goal. The project protects and encourages existing agriculture by preserving 22.6 acres of farmland in perpetuity through the 22.6 acre Agricultural Open Space Easement.
Bonsall Community Plan Agricultural Policies 1	Properties that are in agricultural use and are being proposed for development with estate sized lots, should be encouraged to retain agriculture as a compatible use.	The proposed project is consistent with this policy. The project proposes estate sized lots ranging from 2.1 to 5.9 acres in size ensures the long term preservation of 22.6 acres of agricultural land in perpetuity.
Bonsall Community Plan Agricultural Policies 2	Areas with existing agriculture and areas defined as suitable for agriculture should be considered for the (19) Intensive Agriculture Plan Designation.	The proposed project is consistent with this policy. The project site is designated (19) Intensive Agriculture, and does not propose a change to the designation. The project is consistent with the Intensive Agriculture designation.
Bonsall Community Plan Conservation Policy 4	Encourage the preservation of agricultural lands.	The proposed project is consistent with this policy. The project protects and encourages existing agriculture preserving 22.6 acres of farmland in perpetuity through the Agricultural Open Space Easement.
Bonsall Community Plan Soils Goal 2	Preserve Bonsall’s significant prime and unique agricultural soils.	The proposed project is consistent with this policy. The project will preserve 13.8 acres of soils of statewide significance within the 22.6 acre Agricultural Open Space Easement onsite.

4.2.1.3 San Diego County Ordinance

The project proposes 28 residential dwelling units, 13 less than that permitted in the A70 zone. Approximately 64 percent of existing onsite agriculture will not be disturbed and 22.6 acres of existing agriculture onsite will be preserved. The project conforms to the San Diego County Zoning Ordinance A70 zone by proposing a rural residential use while preserving existing agricultural uses onsite.

4.2.1.4 County Board of Supervisors Policy I-38

The project site is not under an existing Williamson Act contract, therefore Policy I-38 is not applicable to the proposed project and no inconsistency with this policy is identified.

4.2.1.5 San Diego County Agricultural Enterprises and Consumer Information Ordinance (§63.401 et seq.)

The Agricultural Enterprises and Consumer Information Ordinance of the San Diego County Code of Regulatory Ordinances (§63.401 et seq.) is intended to define and limit the circumstances under which agricultural enterprise activities, operations, and facilities shall constitute a nuisance. Existing agricultural land use in the vicinity will not be deemed a nuisance as a result of the proposed project because of the project design and mitigation provided. The project will be buffered from these uses by existing agriculture not being disturbed onsite. Mitigation includes the 22.6 acre Agricultural Open Space Easement proposed as part of the project, much of which is located along the project boundaries. Furthermore, existing roads separate offsite agricultural uses from the proposed rural residential use. Other residences located in the vicinity of the proposed project are similar in size and scope with viable agricultural operations onsite. The project is therefore consistent with this ordinance.

4.3 Conclusions

The project is consistent with the San Diego County General Plan, the Bonsall Community Plan, and the San Diego County Zoning Ordinance. The project is in full compliance with all the agricultural goals and policies contained in the Bonsall Community Plan and is also consistent with the mixed agricultural and estate residential development in the surrounding area. Impacts are not significant and no mitigation is required.

CHAPTER 5.0 CUMULATIVE IMPACT ANALYSIS

Cumulative impacts are those caused by the additive effects of projects to agricultural resources over time. A project's impact may not be individually significant, but the additive effect when viewed in connection with the impacts of past, present, and probable future projects may cause the significant loss or degradation of agricultural resources.

5.1 Guidelines for 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 (Sections 2.2 and 3.1), with the exception that the analysis considers the significance of the cumulative impact of the individual project in combination with the impacts caused by other projects in the cumulative study area.

5.2 Analysis of Project Effects

The cumulative projects study area consists of an irregularly-shaped area centered on the San Luis Rey River Valley between the unincorporated town of Bonsall on the west and Interstate 15 (I-15) freeway on the east. It covers an area of approximately 8,000 acres (12.5 square miles). There are approximately 787 acres of Prime Farmland or Farmland of Statewide Importance in the area. The study area was chosen based on a combination of factors including topography, adjacency to Interstate 15, land use patterns, and its location within the Bonsall Community Planning Area. The hills north and south of the San Luis Rey River are the approximate northern and southern boundaries. These physical barriers were chosen because they generally mark a change in the agricultural character of the land. North of the San Luis Rey River, terrain is hilly, and development is more sparse. Agricultural operations are widely scattered and undisturbed natural habitats predominate. To the south, hilly terrain also results in a reduction in residential and agricultural uses. Some estate lots with potential agricultural areas exist in the foothills here. These were included in the study area. The unincorporated town of Bonsall at the intersection of South Mission Road and SR-76 was used to define the western boundary. Beyond this area lay the community of Vista with more intensive land use patterns. I-15 and the Bonsall/Valley Center Community Plan Boundary were used as the eastern boundary. I-15 creates a north to south physical barrier as it crosses the San Luis Rey River valley.

Projects outside the study area were also analyzed in response to public comments. This includes the 957-acre Lilac Ranch, located in Valley Center approximately three miles east of the project on the east side of I-15. The study area is shown in Figure 15, "TM 5276, Cumulative Projects on FMMP Soils Map," Page F-15. The study area is outlined in blue and Prime Farmland and/or Farmland of Statewide Importance are shown as red areas on the map. Projects selected for detailed analysis are numbered 1 thru 15.

The analysis incorporated several steps. A County map showing projects in the study area was obtained. In addition, the County supplied a written list of projects to be reviewed for relevance

in regard to the project's cumulative effects. This list of possible projects was reviewed and projects on the list that fell within the study area were examined. A total of 41 projects were determined to require analysis. All projects were screened using criteria in the County of San Diego *Guidelines for Determining Significance, Agricultural Resources* (March 19, 2007). Twenty-six projects were determined to not substantially impair the viability of surrounding agriculture, as determined in the guidelines mentioned above. These are listed in Table 2, "Cumulative Projects That Do Not Substantially Impair Viability of Surrounding Agriculture," Page T-2 and are discussed in Section 5.2.1 below.

The remaining 15 projects were researched using available County records to determine the extent of agricultural impacts. These projects are listed in Table 3, "Cumulative Project List," Page T-3, and are analyzed in Section 5.2.2 below. TM 5079, the San Luis Rey Ranch project, was eliminated from the cumulative list since it was subdivided in November 1995, 15 years ago, and is now classified as an urban or built-up area on the FMMP map. In addition, a current aerial photograph of the area indicates that 24 of the 29 lots that were previously subdivided (approximately 83 percent) still contain active groves. In cases where acreages were not listed in the County files for pre- and post-development agriculture, those acreages were estimated by adding together the pad and road quantities labeled on grading plans.

5.2.1 Projects That Would Not Substantially Impair Ongoing Viability of Agriculture

The County currently performs many agricultural analyses "in house." Projects reviewed by County staff, as indicated in files researched at the County, that would not substantially impair the ongoing viability of agricultural use are summarized in Table 2, "Cumulative Projects That Do Not Substantially Impair Viability of Surrounding Agriculture," Page T-2. These projects may or may not have existing agriculture and/or Prime or Statewide Importance soils onsite. Examples of these projects include minor expansions or alterations of an existing use, single family residence grading permits, boundary adjustments and Certificates of Compliance, agricultural intensification, accessory or auxiliary uses such as wireless telecommunication facilities and drainage facilities, road improvements and other minor public facility improvements, and any project, including residential subdivisions, that would substantially avoid impacts to Prime and Statewide Importance soils while maintaining agricultural viability. Projects that have been withdrawn are also included in this list of projects.

Minor Use Permits 70-139, 03-113, 99-021, 01-048, 02-022, 03-097, 04-035, and 06-090 are all wireless facilities that would not substantially impair the ongoing viability of the surrounding sites for agricultural use because they are accessory uses that cover a very small area. Administrative Permits 07-010 (oversize barn) and 02-042 do not have existing agricultural activities onsite, contain no soils of importance, and are minor expansions of an existing use. TM 5387 and MUP 02-042 propose condominiums in already developed areas. Permit numbers 98-0206, 05-0019, 99-0105, 05-0087, 01-0056, and 98-0049 are boundary adjustments that would not substantially impair the ongoing viability of the surrounding sites for agricultural use because they do not prevent the underlying land from being used for agriculture. Major Use Permit (MUP) 04-016 is an expansion of the existing Dai Dang Meditation Center. There are no existing agricultural

uses or soils of importance on the site. Minor Use Permit 04-019 is a minor expansion of an existing use consisting of a second dwelling unit with no existing agricultural uses or soils of importance onsite. MUPs 70-212-02 and 92-019-02 are minor alterations of existing uses that would not substantially impair the ongoing viability of the surrounding sites for agricultural use. TM 4956, Tentative Parcel Map (TPM) 20619, Administrative Permit 05-038, and MUP 05-055 have all been withdrawn.

5.2.2 Projects Analyzed With Existing Agriculture Or Prime Or Statewide Importance Soils Onsite

Fifteen remaining projects were analyzed for cumulative direct impacts to agricultural resources. Table 3, "Cumulative Project List," Page T-3, summarizes data for the project. It shows the estimated impact to Prime Farmland, or Farmland of Statewide Importance is 4.0 acres. Inclusion of project impacts to 6.0 acres of Farmland or Statewide Importance results in a total impact to important farmland of 10.0 acres. This impact compares to overall acreage of these soil types of 787 acres within the initial 8,000 acres studied. This is 1.2 percent of the total important farmland in the study area and is not cumulatively significant, since 777 acres of Prime Farmland or Farmland of Statewide Importance remain within the 8,000 acre study area. The Lilac Farms site located three miles from the project site in Valley Center has no Prime Farmland or Farmland of Statewide Significance.

Within the initial 8,000 acre study area, total impacts to agricultural resources, including the project, total 85,3 acres. This represents approximately one percent of the 8,000 acre study area and is not cumulatively significant. The Lilac Farms project impacts 273 acres most of which is grazing land. It is located too far from the project and other projects within the 8,000 acre study area to create any cumulative significant agricultural impacts.

Each project is discussed below.

MUP 72-618, Rawhide Ranch, is for one building (approximately 750 square feet in size) on a 37-acre ranch which may impact less than an acre of Farmland of Statewide Importance. This resource is located in the east central area of the parcel. No direct or indirect impacts are anticipated because there is no active agriculture onsite.

Tentative Map (TM) 5410, Marquart Ranch, is an approved subdivision on 44 acres and is located approximately 1.5 miles from the project site, east of Interstate 15. This project does not have Prime Farmland and/or Farmland of Statewide Importance onsite; however, it does have an existing avocado grove. There are minimal direct impacts (an estimated nine acres of grove) and no cumulative impacts identified in the County's file as a result of the Marquart Ranch project.

TM 5346, Dabbs TM, proposes to subdivide 38.4 acres into nine residential parcels of at least four acres in size each. It currently supports a planter nursery. There is no current plan to build houses on the site; however, plans will be required to conform to San Diego County requirements. Proposed parcel sizes of four acres each are adequate to support agricultural uses on the site. The project will directly impact an estimated ten acres of

Prime agriculture, including approximately 2.0 acres of Prime Farmland or Farmland of Statewide Importance. No indirect impacts are anticipated because it is similar to existing residential/agricultural use in the area where these uses co-exist.

MUP 94-025, Retreat, is a 28-acre parcel proposing a five-acre retreat within an undeveloped area of an existing grove. The grove remains intact and the retreat will not be located on important farmland. No direct or indirect impacts are anticipated because the grove will be retained and the project is consistent with agricultural and residential mixed uses in the surrounding area.

TPM 20763, McNulty, is a minor subdivision approved in June of 2004, dividing one parcel of approximately 4.8 acres into two lots; one 2.42 acres and the other 2.37 acres. Active agriculture onsite consists of deciduous fruits and nuts. This project directly impacts less than one acre of important farmland. No potential indirect impacts are expected because orchards and vineyards remain viable and the project is consistent with agricultural and residential mixed uses in the surrounding area.

TPM 20830, Hukari, is a subdivision of 30 acres into four lots plus a remainder lot. There is an existing avocado orchard onsite (approximately 28 acres) and it is estimated that approximately seven acres of avocados will be directly impacted by the project, but these trees are not on Prime Farmland or Farmland of Statewide Importance. It is expected that the orchard will remain viable and no indirect impacts are anticipated because the project is consistent with agricultural and residential mixed uses in the surrounding area.

TPM 20799, Stehly, is a subdivision of 11.7 acres into four parcels, in an existing avocado and citrus grove. A minimum of two acres of grove will remain on each parcel. Less than four acres of the existing grove will be directly impacted by the project. There is no Prime Farmland or Farmland of Statewide Importance on the site. It is expected that the orchard will remain viable and no indirect impacts are anticipated because the project is consistent with agricultural and residential mixed uses in the surrounding area.

TPM 20319, Kohl, proposes to subdivide 17 acres, into four lots and a remainder parcel. There is an existing avocado grove on the site. The estimated impact to agricultural uses is five acres. The agricultural analysis for TPM 20319 indicates that no significant direct or indirect agricultural impacts will occur, because the project is consistent with agricultural and residential mixed uses in the surrounding area.

TPM 20541, Woodhead, is a subdivision of 12.5 acres into four lots plus one remainder parcel. An existing avocado grove will be directly impacted. As detailed in the County file for this project, approximately 150 trees total will be removed as a result of the project, leaving about 200 trees per lot. There is no Prime Farmland or Farmland of Statewide Importance on the site. It is expected that the grove will remain viable and no indirect impacts are anticipated because the project is consistent with agricultural and residential mixed uses in the surrounding area.

TM 5492, Brisa del Mar, proposes a residential subdivision of 206 acres into 27 two-acre minimum lots. Two residences and a developed horse arena currently exist on the site. Most of the site is undeveloped. The area south of the horse arena and north of Camino del Rey Road is classified as Farmland of Local Importance and is proposed as dedicated open space. The County has determined that there is no active agriculture and no soils of importance on the site.

TPM 20845, Sanders, has been approved for the subdivision of 12 acres into four lots and a remainder parcel. This project directly impacts approximately four acres of greenhouse and/or truck crops on the site, 2.5 acres of which are Unique Farmland. There is no Prime Farmland or Farmland of Statewide Importance on the site. It is expected that the agricultural resources will remain viable and no indirect impacts are anticipated because the project is consistent with agricultural and residential mixed uses in the surrounding area.

TPM 21016, Pfaff TPM, proposes a minor subdivision of 7.79 acres into two single family residences. The avocado grove onsite is to remain on both parcels, and the existing agricultural use that is located within the proposed biological open space will be allowed to continue. There is no Prime Farmland or Farmland of Statewide Importance on the site. The Unique Farmland on the site will remain viable because the proposed lots are over two acres in size and agriculture will be retained onsite.

TPM 20727, Dressen, is a subdivision of 11.9 acres into two lots. The majority of the site consists of citrus and avocado grove, approximately two acres of which will be directly impacted. There is no Prime Farmland or Farmland of Statewide Importance on the site. This project was reviewed by County staff and was determined to not have significant adverse project or cumulative impacts. It is expected that the groves will remain viable and no indirect impacts are anticipated because the project is consistent with agricultural and residential mixed uses in the surrounding area.

Site Plan 99-043, Miller residence, is a 4.96-acre parcel that proposes a remodeled manufactured single family dwelling within an existing protea flower grove. Construction of the house will impact less than one acre of existing agricultural use. Agricultural use continues.

TM 5385, Lilac Ranch, although not located within the study area, was analyzed for cumulative agricultural impacts as a result of public comments on the project. Lilac Ranch is a 949.24-acre site proposing 354 single-family dwellings and is located within the Valley Center Community Planning Area approximately three miles east of the proposed project, and east of I-15. No Prime Farmland or Farmland of Statewide Importance occur on the site. The site has been used largely for cattle grazing (approximately 909 acres). Approximately 5.5 acres of abandoned avocado and 2.3 acres of active avocado orchard are present on the site. Although the large majority of this project site is used for crazing, and not for agricultural production, approximately 273 acres are impacted by proposed development. An 11-acre agricultural preserve is also proposed. The project site does not

contain any Prime Farmland or Farmland of Statewide Importance and accordingly does not result in any direct agricultural impact to these agricultural resources.

The Accretive Plan Amendment (PAA09-007) was submitted, on November 2, 2009, requesting permission to process a general plan amendment and specific plan for a master planned community in the Valley Center Community Planning Area. The plan consisted of a maximum of 1,746 dwelling units, a school, a neighborhood-serving commercial village center with retail uses and an active park on 416 acres. This PAA request was declined by the Director of the County Department of Planning and Land Use (DPLU), because the proposal would not be consistent with the existing General Plan or the proposed General Plan Update. Accretive appealed the decision of the Director denying the PAA to the Planning Commission, which heard the appeal on March 15, 2010, and scheduled a site visit for June 10, 2010. No action has been taken on the Accretive appeal to the Planning Commission of the Director's decision denying the PAA request at this time. At present, there is no Accretive project, since the PAA request has been denied by the Director of DPLU preventing the submission or processing of any general plan amendment or specific plan that would be necessary for the project. CEQA Guidelines Section 15130(b)(1) requires that the cumulative analysis in an EIR include past, present, and probable future projects. Since the Accretive project is not a probable future project it is not included in the cumulative analysis for agriculture.

Any detailed environmental analysis of the Accretive project at this time is highly speculative due to the lack of any specificity about the number of residential units that will ultimately be proposed, the square footage and nature of any commercial uses, on-site and off-site road and infrastructure improvements, the lack of any information on the planned school or park areas and by the lack of any clearly articulated development envelope for the planned future uses.

However a good faith effort has been made to evaluate the project given the limited information currently available to determine if it would alter the cumulative impact analysis. It is located approximately 3,000 feet east of I-15 with the northern portion of the project transecting West Lilac Road in Valley Center. The Accretive project is located approximately one mile east of the project site in the Valley Center Community Planning Area and is separated from the project site by both Old Highway 395 and I-15.

The lack of any information in the PAA on areas of the Accretive project that would be developed, as well as those on-site agricultural uses and resources that would be preserved, prevents any feasible analysis of its potential agricultural impacts at this time. A review of agricultural maps of the site indicates there is no Prime Farmland on the site. There is approximately 3.5 acres of Farmland of Statewide Importance on the site located near the southeastern boundary. The conceptual site plan provided as part of the PAA presently shows an open space corridor extending along the southern boundary of the project site and does not show development near the southeast boundary where the Farmland of Statewide Importance exists. However, until a specific development is submitted for the Accretive project, it cannot be determined what impacts may occur to agricultural uses and Farmland of Statewide Importance on-site.

Any agricultural impacts caused by the Accretive Project as ultimately proposed must be mitigated as specified in the County of San Diego Guidelines For Determining Significance of Agricultural Resources. These Agricultural Guidelines mandate an agricultural report evaluating agricultural impacts both directly, indirectly, and cumulatively and require mitigation for any significant agricultural impacts at a ratio of 1:1. At this juncture any evaluation of the agricultural impacts of the Accretive project are too speculative to permit an environmental analysis, given the lack of information on the project that will be proposed, development envelopes and their impacts on existing agricultural uses and soils.

In summary, the Accretive project is not a project as of this writing and accordingly, under the CEQA Guidelines it has not been included in the cumulative analysis for agriculture. However, a good faith attempt has been made in this report to evaluate the potential future agricultural impacts of the Accretive project. Based on the limited information available, the project does not impact Prime Farmland or Farmland of Statewide Importance and no cumulatively significant impacts are anticipated from the project in combination with the future development of the Accretive site.

Under the County Guidelines for Determining Significance of Agricultural Resources, a significant direct impact to agricultural resources occurs if a project results in the conversion of agricultural resources that meet soil quality criteria for Prime Farmland or Farmland of Statewide Importance and as a result a project would substantially impair the ongoing viability of the site for agricultural use. Twelve of the fifteen projects studied in the cumulative project analysis do not result in impacts to Prime Farmland or Farmland of Statewide Importance. The Rawhide Ranch project (MUP 72-618) results in an impact to less than one acre of Prime Farmland or Farmland of Statewide Importance, the Dabbs project (TM 5346) results in an impact of two acres, and the McNulty project (TPM 20763) impacts less than one acre. The project has direct impacts to 6.0 acres of important soils. Collectively, the project in combination with other anticipated development in the area results in the total loss of 10 acres of Prime Farmland or Farmland of Statewide Importance within the 8,000 acre area that was studied. This includes 787 acres of Prime Farmland or Farmland of Statewide Importance. This represents approximately 1.2 percent of important farmland within the study area. This is not a cumulatively significant direct impact to agricultural resources, since 777 acres (98.7%) of Prime Farmland or Farmland of Statewide Importance remain within the study area. The project, in combination with other anticipated development in the study area, does not result in any cumulatively significant agricultural impacts because the cumulative projects have avoided or minimized agricultural impacts or retained agricultural uses. Lilac Farms, located three miles east of the project, does not have any Prime Farmland or Farmland of Statewide Importance.

While the Lilac Farms project has been included in this analysis in response to comments, this project is located more than three miles from the project site in Valley Center. This project is located too far from the project site to create any cumulatively significant agricultural impacts. It is more properly analyzed as part of agricultural losses or gains within the San Diego region.

The project in combination with other anticipated development, excluding Lilac Farms, will result in the total loss of 82.6 acres of agricultural uses consisting of 34.3 acres impacted by the project and 48.3 acres by the other 15 projects within the project area. This is approximately one percent of agricultural uses within the 8,000 acre study area. With Lilac Farms considered agricultural impacts from the project in combination with all other development in the study area and Lilac Farms results in the loss of 358 acres of existing agriculture. This represents approximately 3.9 percent of the 8,000 acres considered.

To evaluate whether this 358 acres of impacted agricultural acreage occurs on a region wide basis, the 2008 San Diego County Crop Report was examined. This report is attached as Attachment F and evaluates land within San Diego County that remains an agricultural operation as of 2008 when compared to 2007. The 2008 San Diego County Crop Report indicates that 312,766 acres of land within San Diego County remain an agricultural operation as of 2008 compared to the 308,991 acres in 2007, an increase of 3,775 acres. Overall, agricultural acreage in San Diego County has increased from 172,262 acres in 1998 to 312,766 agricultural acres in 2008, an increase of 81 percent.

The loss of 358 acres of active agriculture, within dispersed areas of the region, is not cumulatively significant because overall agricultural acreage in San Diego County has increased 81% during the ten years between 1998 and 2008. Overall crop values have also increased both recently and historically from \$1.178 billion in 2007 to \$1.552 billion in 2008. This represents an increase of \$374 million in the value of agricultural crops produced within the region from 2007 to 2008.

According to the San Diego County 2008 Crop Statistics and Annual Report, fruit and nut crops make up approximately 15 percent of the value of the County's agricultural commodities, while the highest value crop, nursery and flowers, make up 66 percent of the total agricultural value. In 2008, avocado and citrus crops brought in approximately \$4,400 per acre. This is not a high-value crop when compared to nursery and flower crops in San Diego County, which brought in over \$100,000 per acre. Total avocado and citrus directly impacted in this cumulative study area constitutes 0.5 percent (\$3,000) of total avocado and citrus value in San Diego County. This loss is insignificant when measured against the \$1.552 billion of crop values in San Diego County in 2008.

Cumulative projects will not reduce the number of farms in the region because most projects in the study area opt for retention of a same-lot, residential and agricultural mixed use land use pattern.

According to the USDA's 2007 census of agriculture, the number of farms in San Diego County increased 27 percent between 2002 and 2007 from 5,225 to 6,687. The number of farms in the County continues to increase, despite development of specific parcels, because of the mixed use type of farming common to San Diego County. According to the 2007 San Diego County Crop Statistics and Annual Report, 68 percent of County farms are one to nine acres in size, with the median being four acres; and 92 percent of farms are family-owned, with 77 percent of farmers living on their land. Therefore, it is common in rural or

semi-rural areas of the County such as Bonsall for developments on large lots to retain agricultural functions.. The proposed project uses this approach.

This is reflected in the study area, where 13 of the 15 projects are designed in a manner that may retain agricultural uses. These include the project, which creates a 22.6-acre Agricultural Open Space Easement, and it is also expected for 13 of the 15 projects with agriculture that were studied for this report. These are TM 5346 (Dabbs), TM 5410 (Marquart), MUP 94-025, TPM 20319 (Kohl), TPM 20763 (McNulty), TPM 20830 (Hukari), TPM 20799 (Stehly), TPM 20541 (Woodhead), TPM 20845 (Sanders), TPM 21016 (Pfaff), TPM 20727 (Dressen), Site Plan 99-043, and TM 5385 (Lilac Ranch).

The 2008 San Diego County Crop Report continues to document substantial growth both in land in agricultural production throughout the County and in the value of San Diego County crops. Despite the loss of 10 acres of Prime Farmland or Farmland of Statewide Importance by the project in combination with other projects in the area, region wide agriculture and production in San Diego County has continued to grow substantially. Cumulative impacts from the direct loss of Prime Farmland or Farmland of Statewide Importance are therefore below the level of significance.

The project does not result in any indirect agricultural impacts. The 15 projects examined in detail in this cumulative impact analysis did not result in any cumulatively significant indirect impacts because they do not have agriculture or are designed so that agriculture can continue onsite and each of them is consistent with the agricultural and residential mixed uses in the surrounding area. Accordingly, the project, in combination with other anticipated projects in the area does not result in any cumulatively significant indirect agricultural impacts.

5.3 Mitigation Measures and Design Considerations

No mitigation is required.

5.4 Conclusions

A cumulative impact study area was defined and projects with potential impacts within the area were reviewed. Forty-one projects were examined in detail and of these, 15 were identified for further study. The impacts to Prime Farmland, Farmland of Statewide Importance, and total impacts to existing agriculture were compiled.

The project in combination with other cumulative projects in the area does not result in any cumulatively significant indirect impacts to agricultural uses in the area because all the projects have either avoided, minimized, or mitigated their impacts on agriculture. Further, these projects have been designed in a manner that is consistent with the mixed use agricultural and residential uses, in the study area. Collectively, the project, in combination with all other planned development in the area, and the Lilac Farms project located in Valley Center, will result in the total loss of 10 acres of Prime Farmland or Farmland of Statewide Importance. This represents

approximately 1.2 percent of the 787 acres of Prime Farmland or Farmland of Statewide Importance within the 8,000 acre study area and is not cumulatively significant.

Project impacts to 6.0 acres of PeC soils on site have been fully mitigated to a level below significant, by the preservation 13.8 acres of PeC soils within the 22.6-acre on-site, Agricultural Open Space Easement. Any impacts to PeC soils, within that Agricultural Open Space Easement, caused by grading or the creation of leach fields has been mitigated by requiring restoration of the PeC soils following completion of this work. The project does not result in any significant indirect impacts to agricultural uses within the area, since the project is consistent with the mixed agricultural and residential uses that have existed in this area for a number of years. Finally, agricultural uses, within the 22.6-acre Agricultural Open Space Easement buffer the off-site residential uses.

Other cumulative projects have minimized their impacts to agriculture. Thirteen of the 15 projects retain the potential for agricultural uses. Others have avoided impacts or have no agriculture present. Through a program of avoidance and preservation, cumulative impacts have been minimized and are not significant.

A range of County policies and ordinances have been enacted to minimize indirect impacts to existing agriculture and ensure its preservation and continued viability. This includes the requirement that prospective purchasers of lots acknowledge the presence of agriculture and its effects prior to purchasing lots. Project review by the County ensures compliance with these regulations. The project and other cumulative projects will fully comply with these regulations, therefore minimizing indirect effects to agriculture.

Overall agricultural acreage and value in San Diego County continues to increase, despite losses in specific regions. The 2008 San Diego County Crop Statistics & Annual Report indicates that the total agricultural land in production in San Diego County increased by 140,504 acres between 1998 and 2008, an increase of 81 percent. Crop values in San Diego County also substantially increased between 1998 and 2008 by \$373 billion. This represents an increase of 32 percent in crop values between 1998 and 2008. The loss of 10 acres of Prime Farmland or Farmland of Statewide Importance from the project in combination with other anticipated development in the area is not cumulatively significant given the increase of 140,504 acres of agricultural lands in production in San Diego County over the 10 years from 1998 to 2008. Therefore, the project in combination with other anticipated development in the area does not result in cumulatively significant agricultural impacts because agricultural acreage continues to expand in San Diego County and no mitigation is required.

Overall, the project follows the same pattern of successful agricultural uses on smaller lots exhibited in the Bonsall area and within the San Diego region. As noted in the 2007 and 2008 San Diego County Crop Statistics and Annual Report, 68 percent of San Diego County farms are one to nine acres in size, with a median farm size of four acres. Seventy-seven percent of County of San Diego farmers live on their land. That same pattern of successful agricultural production, in combination with rural residential uses, exists in Bonsall and throughout the study area. The project does not result in any significant agricultural impacts cumulatively and no further mitigation is required.

CHAPTER 6.0 GROWTH INDUCING ANALYSIS

6.1 Guidelines for the Determination of Significance

The following significance guidelines are the basis for determining the significance of growth-inducing impacts in San Diego County:

- a. The project could foster economic or population growth, or the construction of additional housing, directly or indirectly, in the surrounding environment.
 - b. The project would remove obstacles to population growth.
 - c. The project would encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.
- A. The project could foster economic or population growth, or the construction of additional housing, directly or indirectly, in the surrounding environment: Most of the area surrounding the project site is developed with either agricultural uses or mixed use agriculture together with rural residential dwellings. The County's General Plan designations, zoning ordinance, and Bonsall Community Plan limit residential development in this area to a combination of rural residential dwellings and agricultural uses. These planning policies do not permit intensive residential development in the area. The Bonsall Community Plan requires the preservation and enhancement of the rural community character of Bonsall and the preservation of agriculture. Protection of existing and future agriculture and horticulture as a prominent land use throughout the Bonsall area is mandated by the Bonsall Community Plan. The existing pattern of development in the area is consistent with the County's Plan. The County General Plan and Zoning Ordinance for the project site permits the development of 41 residential lots. The project proposes development of 28 residential lots which is 13 residential lots less than are permitted by the County General Plan and Zoning Ordinance for the project site. Accordingly, the project does not propose residential densities beyond those permitted by the County General Plan or Zoning Ordinance and does not foster population growth beyond that permitted in the County's adopted General Plan and Zoning Ordinance for the site. Furthermore, the project does not include expansions of any offsite facilities that could contribute to additional housing either directly or indirectly. Finally, the project preserves agriculture onsite, thus encouraging continuation of existing patterns of growth rather than fostering unwanted growth in the area by eliminating agriculture altogether. Thus, the project does not foster economic or population growth in the surrounding areas and no growth inducing impacts will occur.
- B. The project would remove obstacles to population growth: Access to the project site is already provided through existing roadways. No new offsite roads will be constructed in conjunction with the project, and water and electrical facilities are currently available to the site. Onsite septic systems will be provided for the residential lots. No offsite sewer facilities are proposed. Therefore, obstacles to population growth are not removed due to

this project and the project does not result in any growth-inducing impacts due to new infrastructure.

- C. The project would encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively: The project is consistent with the County General Plan, the County Zoning Ordinance and the Bonsall Community Plan. The project does not include any new offsite roads or the extension of any utility facilities having the potential to encourage or facilitate any other activities in the area. The project is consistent with the mixed use rural residential and agricultural uses in the surrounding area and does not propose any amendments to any existing County policies either onsite or offsite. Accordingly, the project will not encourage or facilitate other activities that could significantly affect the environment either individually or cumulatively.

6.2 Mitigation Measures and Design Considerations

No mitigation is required.

6.3 Conclusions

The project's potential growth inducing impacts have been studied in this analysis. County designations for the project and its surrounding area do not permit economic or population growth beyond that which has been anticipated and allowed in the San Diego County General Plan. The mixed agricultural and rural residential uses surrounding the project site have operated successfully in the area for a number of years without conversion of the agricultural uses to residential dwellings. The project proposes no onsite or offsite infrastructure that would remove obstacles to population growth, since all necessary facilities already exist at the project site, and offsite sewage facilities will not be utilized. Surrounding area agriculture and residences are similar to the proposed project, and offsite agricultural operations will be encouraged and preserved through compliance with the County's General Plan and other policies as stated above. No new activities are proposed that would significantly affect the environment.

CHAPTER 7.0 SUMMARY OF PROJECT IMPACTS AND MITIGATION

The project was analyzed by a consultant from the County of San Diego's qualified consultant list for agricultural studies. The project proposes the development of 28 residential lots on the 92.8 acre site, a number that is 13 residential lots less than permitted by the existing County General Plan and Zoning Ordinance. The project is consistent with the County General Plan, the County Zoning Ordinance and the Bonsall Community Plan and meets all of the agricultural goals and policies prescribed in the Bonsall Community Plan. Of the 90.93 acres of agricultural uses existing onsite, 34.3 acres will be impacted by the project.

The project has significant impacts to 6.0 acres of Farmland of Statewide Importance. The project will preserve 22.6 acres of existing agriculture in an Agricultural Open Space Easement which will be protected by an easement that will restrict uses to those required to support active agriculture. The easement includes 13.8 acres of PeC soils, which represents a preservation to impact ratio of 2.3:1. The Agricultural Open Space Easement will be professionally managed to ensure a sustained ongoing operation to assist lot owners in keeping additional areas in agriculture, and to continued compatibility with offsite agricultural operations. Any excavation for septic or leach field systems within PeC soils in the Agricultural Open Space Easement will include replacement of PeC soils over excavated areas. With this mitigation direct project impacts on agriculture have been reduced to a level below significance and no further mitigation is required.

Indirect impacts are not significant. The 22.6 acre Agricultural Open Space Easement and project design will buffer onsite agricultural and residential uses. The project retains a mixed use pattern with 20 of 26 lots supporting continued agriculture within a protected Agricultural Open Space Easement. This is similar to the surrounding uses, thereby minimizing the potential for land use conflicts between on- and offsite areas. Lots range in size from 2.1 to 5.9. Lots are large enough to allow for a residence while retaining an agricultural use, which is a common use pattern in San Diego County. By avoiding impacts to a significant part of the existing agriculture on the site, the site will buffer its uses from offsite areas. Mitigation in the form of an Agricultural Open Space Easement will further buffer uses. Additionally, experience has shown the type of agriculture currently carried out on the site, avocado and citrus groves, is largely compatible with a mixed-use approach to farming. Organic farming has been practiced on the project site since 2003 that excludes the use of pesticides or other chemicals having the potential to adversely impact adjoining uses. A sampling for pesticides onsite did not document the existence of any pesticides onsite. Proposed project design and mitigation will buffer the residential uses proposed and offsite uses. The project does not result in significant indirect agricultural impacts and no mitigation is required.

The project, in combination with other anticipated development within the cumulative agricultural study area, including the Lilac Farms project located three miles outside the study area, will impact a total of 10 acres of Prime Farmland or Farmland of Statewide Importance. This represents approximately 1.2 percent of the 787 acres of Prime Farmland or Farmland of Statewide Importance within the studied area and is not cumulatively significant. Seven-hundred and seventy acres of Prime Farmland or Farmland of Statewide Importance (98.2 percent) still remain within the study area.

Overall loss of agricultural and grazing land is 358.3 acres out of approximately 8,000 acres studied. The potential loss of agricultural land was also examined on a regional basis based upon the 2008 County of San Diego Crop Statistics and Annual Report. This report documented that land production in San Diego County increased from \$1,178,477,233 in 1998 to \$1,552,221,674 in 2008 or an increase of an excess of \$73 million during this 10-year period. Given the increase of 140,504 acres (81 percent) of land in agricultural production in the County in 2008, the loss of 10 acres of Prime Farmland or Farmland of Statewide Importance is not cumulatively significant and no mitigation is required.

No indirect cumulative agricultural impacts will occur from the project or the project in combination with other anticipated development in the study area since most of the projects retain agricultural uses onsite and have been designed to be compatible with the mixed agricultural and rural residential uses in the surrounding area. Therefore, no cumulatively significant indirect impacts to agricultural operations in the area will occur.

The project is not growth-inducing since the County General Plan and Zoning Ordinance for the site permits the development of 41 residential dwellings and the project proposes 28 homesites, 13 less than are permitted. Access to the project site is presently provided by both Aqueduct Road and Via Ararat Drive. Water service also exists at the project site. The project does not propose any new offsite roads or utility infrastructure having the potential to engender growth and therefore is not growth-inducing.

The project fully mitigates its project-level impacts to agriculture and no further mitigation will be required because the potential for agricultural production is preserved and uses are adequately buffered so that existing agriculture will not be negatively impacted.

CHAPTER 8.0 REFERENCES

California Department of Conservation, Division of Land Resource Protection

- 2006 Local Agricultural Resource Assessment Model
- 2004 Farmland Mapping and Monitoring Program, San Diego County Important Farmland 2002 Map.
- 1997 California Agricultural Land Evaluation and Site Assessment Model.

County of San Diego

- 2007 Guidelines for Determining Significance and Report Format and Content Requirements, Agricultural Resources.
- 2007 and 2008 Crop Statistics & Annual Report, Department of Agriculture, Weights & Measures.
- 1993 Bonsall Community Plan, Part XVI of San Diego County General Plan. Adopted December 14, 1983, amended March 24, 1993.
- 1989 Board of Supervisors' Policy I-38, Adopted September 11, 1998, last amended August 22, 1989.
- 1987 San Diego County Code of Regulatory Ordinances. Title 6 Health and Sanitation, Division 3. Crops and Plants, Chapter 4. Agricultural Enterprises and Consumer Information (§63.411 et seq.).

U.S. Department of Agriculture, Soil Conservation Service and Forest Service

- 1973 Soil Survey, San Diego, California
- 1970 Soil Survey, Sheet No. 34, San Diego Area, California (Rancho Santa Fe Quadrangle)

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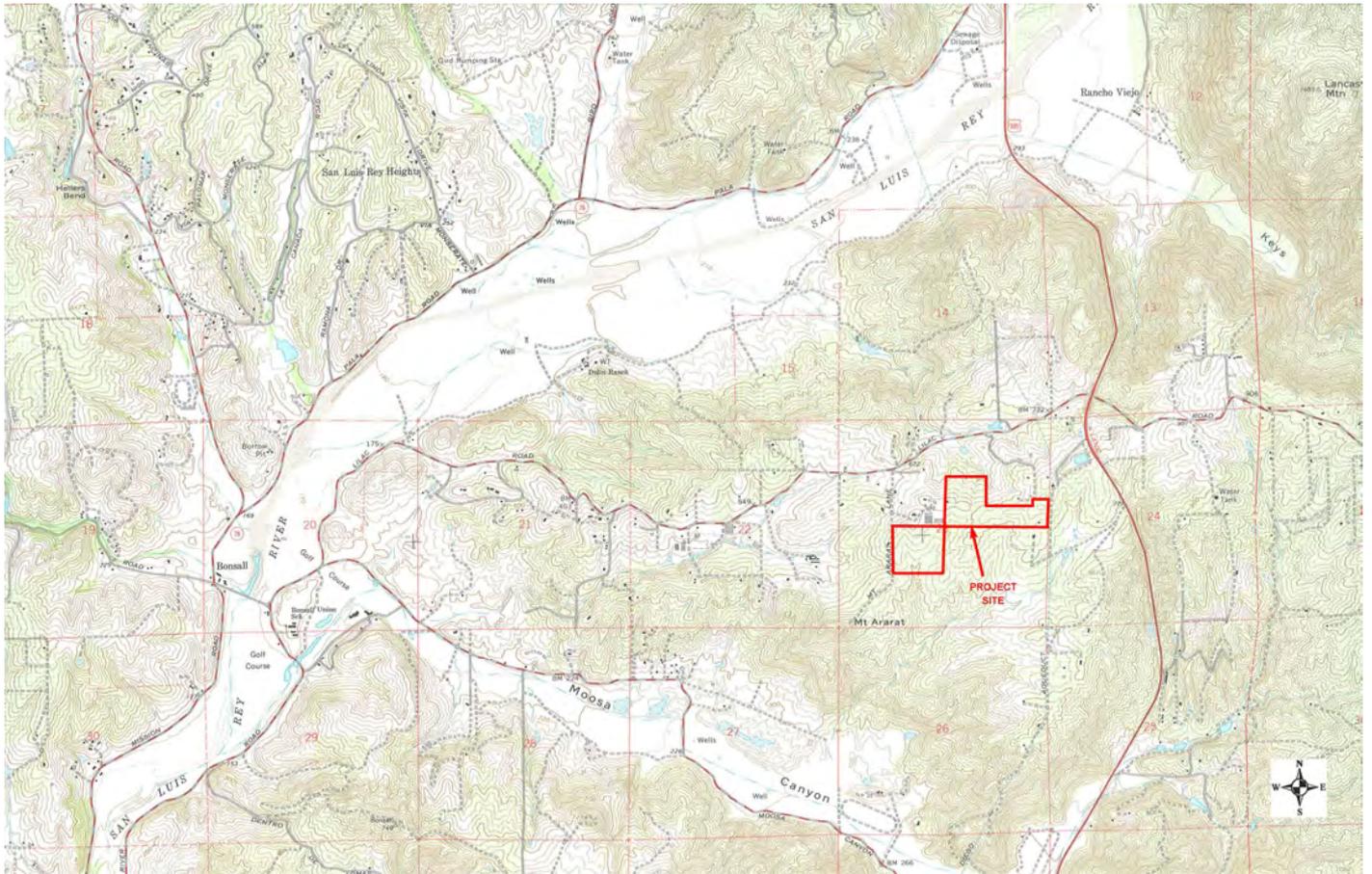
Phone conversation May 27, 2010

FIGURES



**TM 5276
Regional Vicinity Map**

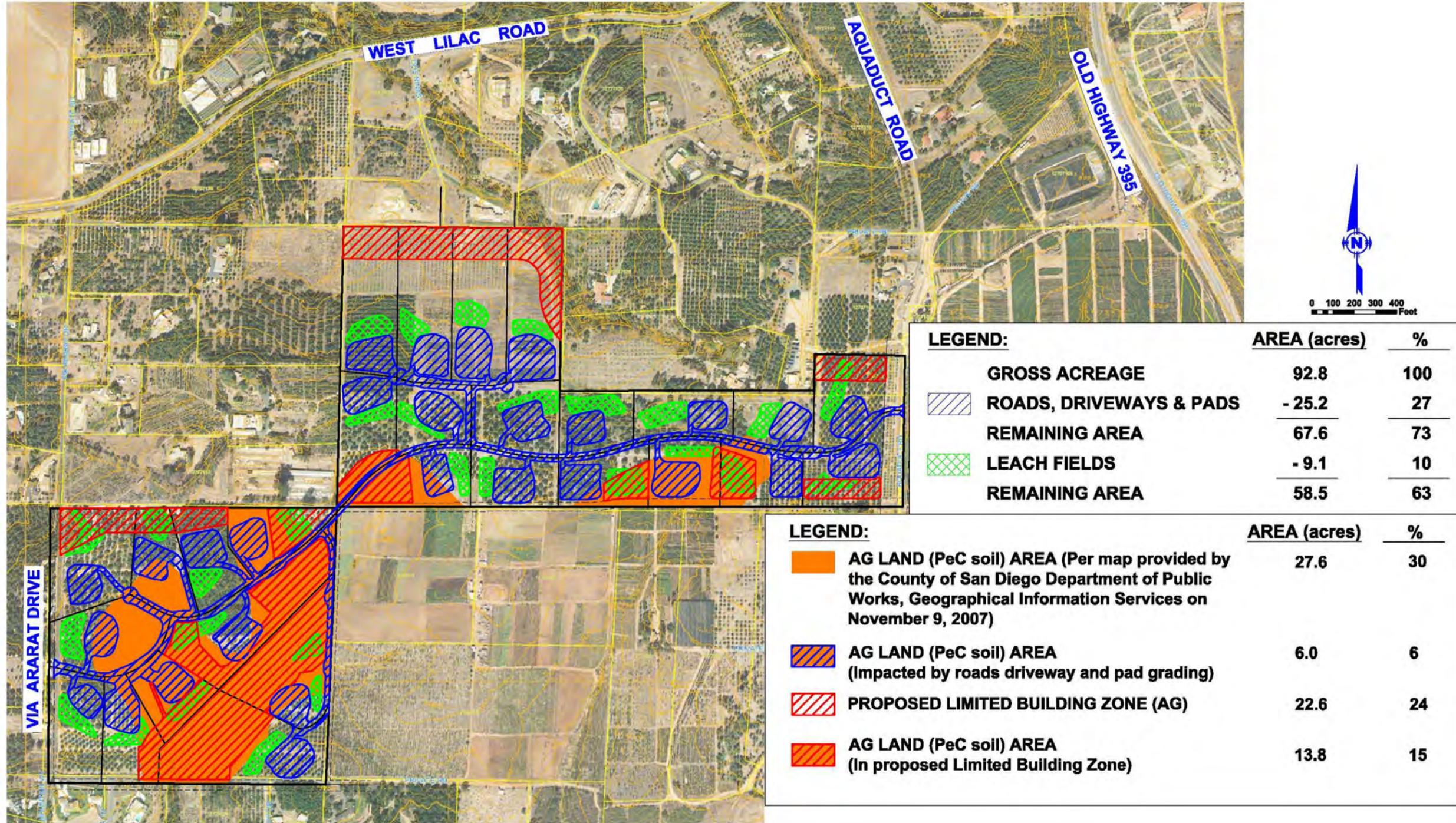
**Figure
1**



USGS Map

Figure
2

AGRICULTURAL IMPACTS & LIMITED BUILDING ZONE EXHIBIT
Based on the PRELIMINARY GRADING PLAN dated 11-4-2010



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DATE: NOVEMBER 4, 2010

TM 5276
Plot Plan on Aerial Photograph

Figure
3



TM 5276
Regional Aerial Photograph

Figure
4



PRIME FARMLAND

LAND WITH THE BEST COMBINATION OF PHYSICAL AND CHEMICAL CHARACTERISTICS ABLE TO SUSTAIN LONG TERM PRODUCTION OF AGRICULTURAL CROPS. THIS LAND MUST HAVE BEEN USED FOR PRODUCTION OF IRRIGATED CROPS AT SOME TIME DURING THE FOUR YEARS PRIOR TO THE MAPPING DATE.



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. THIS LAND MUST HAVE BEEN USED FOR PRODUCTION OF IRRIGATED CROPS AT SOME TIME DURING THE FOUR YEARS PRIOR TO THE MAPPING DATE.



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 NONIRRIGATED 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. FARMLANDS NOT COVERED BY THE ABOVE CATEGORIES BUT ARE OF SIGNIFICANT ECONOMIC IMPORTANCE TO THE COUNTY. THEY HAVE A HISTORY OF GOOD PRODUCTION FOR LOCALLY ADAPTED CROPS. THE SOILS ARE GROUPED IN TYPES THAT ARE SUITABLE FOR TRUCK CROPS (SUCH AS TOMATOES, STRAWBERRIES, CUCUMBERS, POTATOES, CELERY, SQUASH), ROMAINE LETTUCE, AND CAULIFLOWER) AND SOILS SUITED FOR ORCHARD CROPS (AVOCADOS AND CITRUS).



GRAZING LAND

LAND ON WHICH THE EXISTING VEGETATION IS SUITABLE FOR GRAZING OF LIVESTOCK. THE MINIMUM MAPPING UNIT FOR THIS CATEGORY IS 40 ACRES.



URBAN AND BUILT-UP LAND

RESIDENTIAL LAND WITH A DENSITY OF AT LEAST SIX UNITS PER TEN-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. COMMON EXAMPLES INCLUDE LOW-DENSITY RURAL DEVELOPMENTS, WETLANDS, DENSE BRUSH AND TIMBERLANDS, GRAVEL PITS, AND SMALL WATER BODIES.



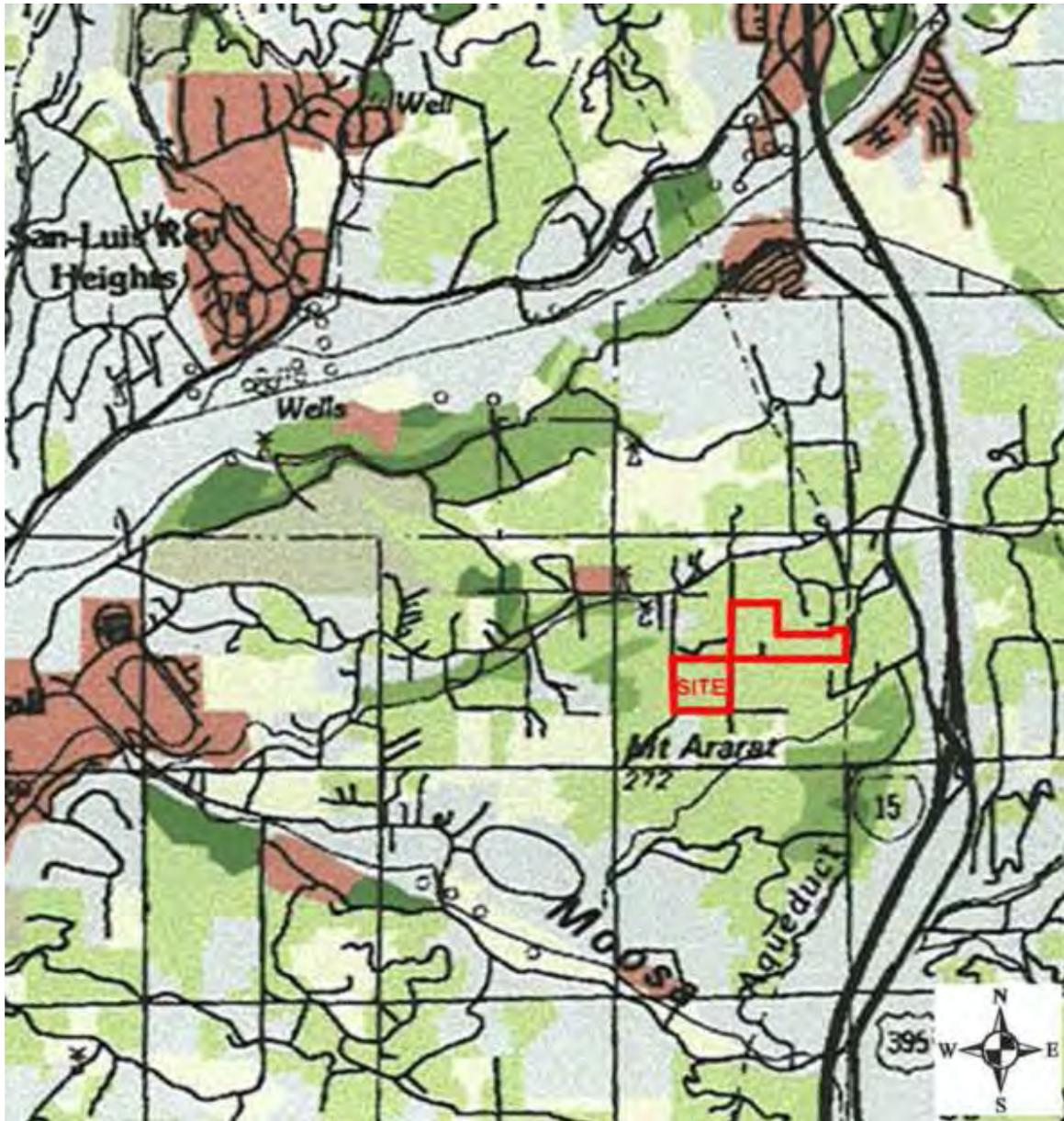
WATER

PERENNIAL WATER BODIES WITH AN EXTENT OF AT LEAST 40 ACRES.



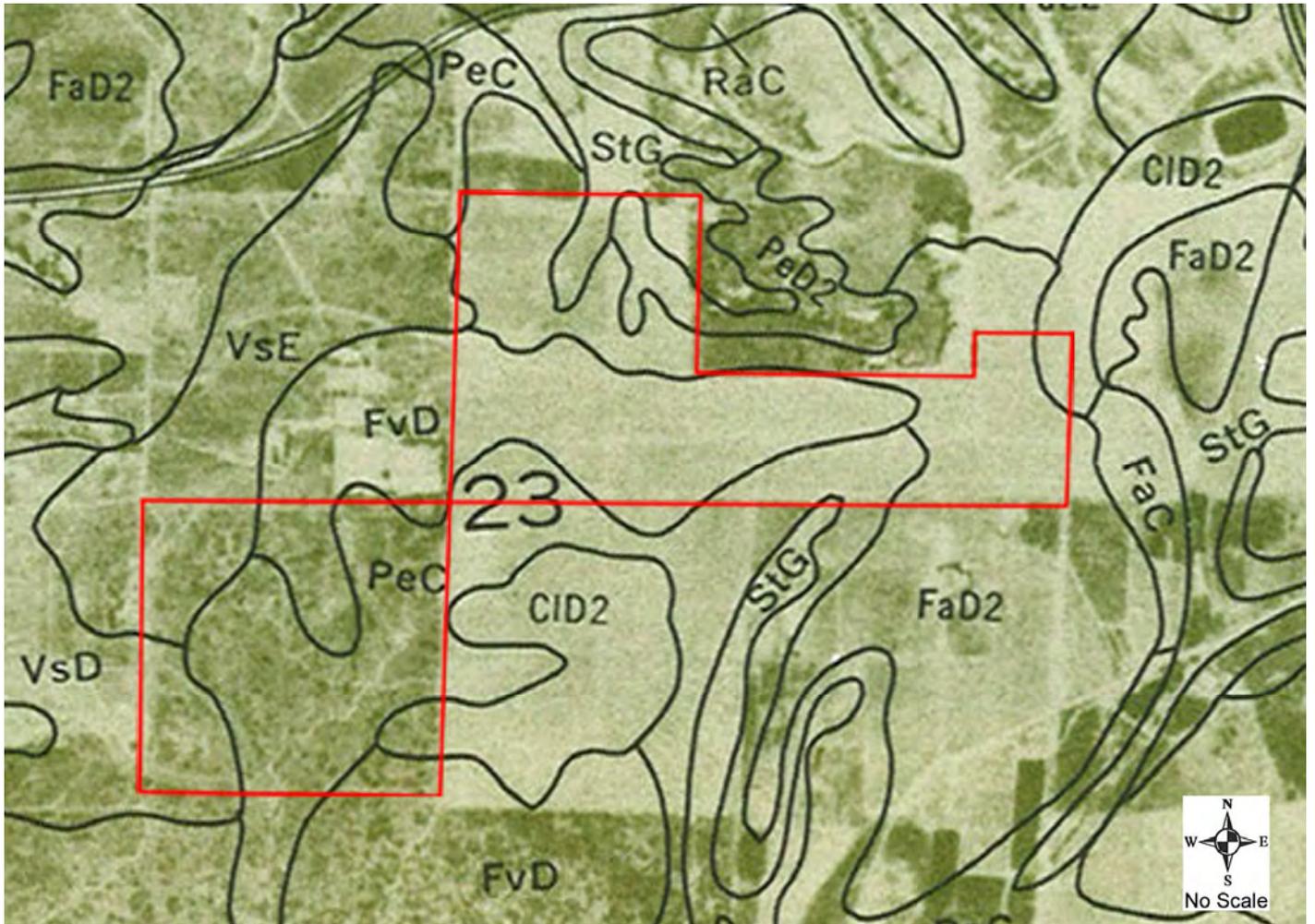
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FMMP Map Legend**

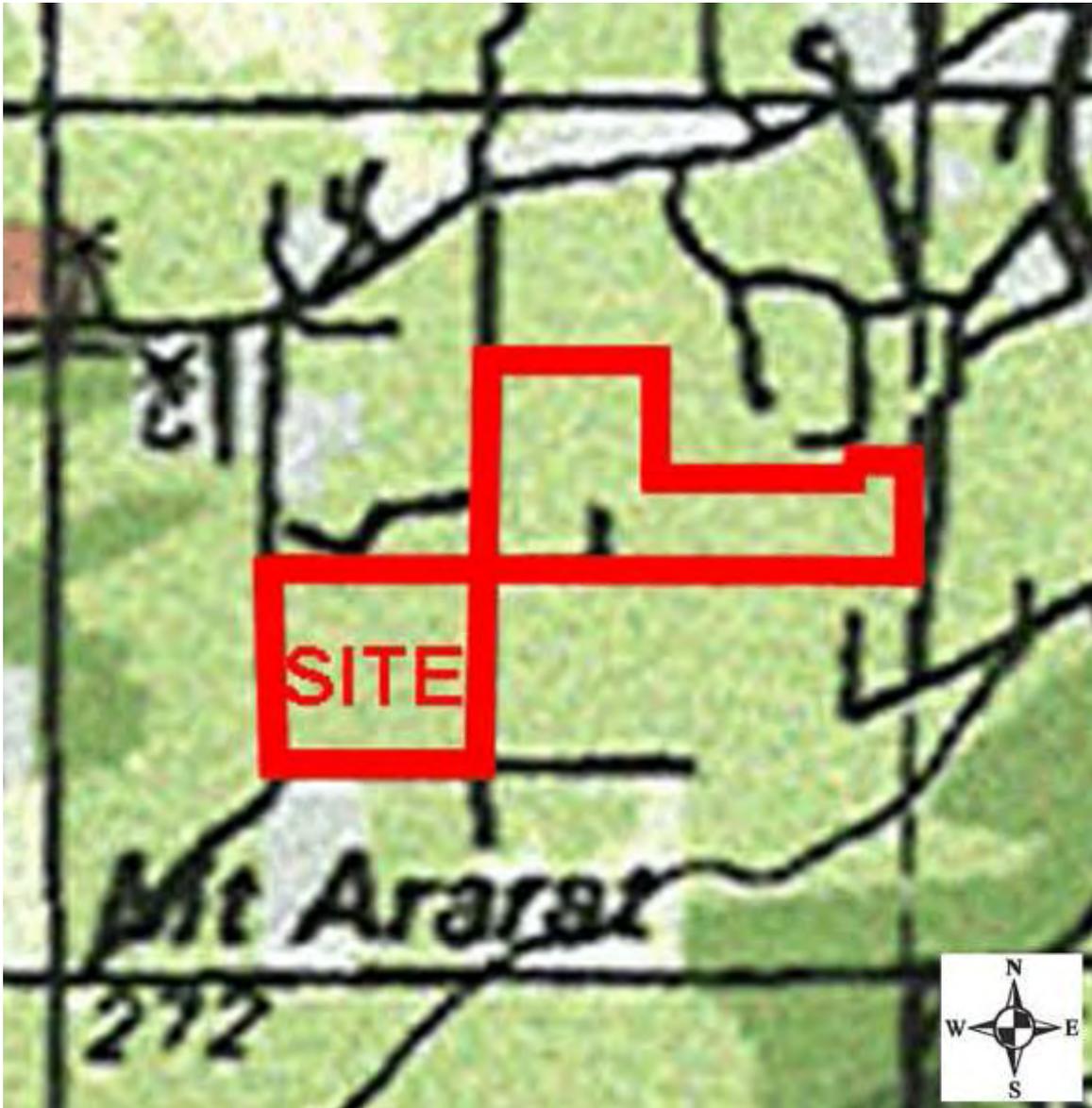
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5**

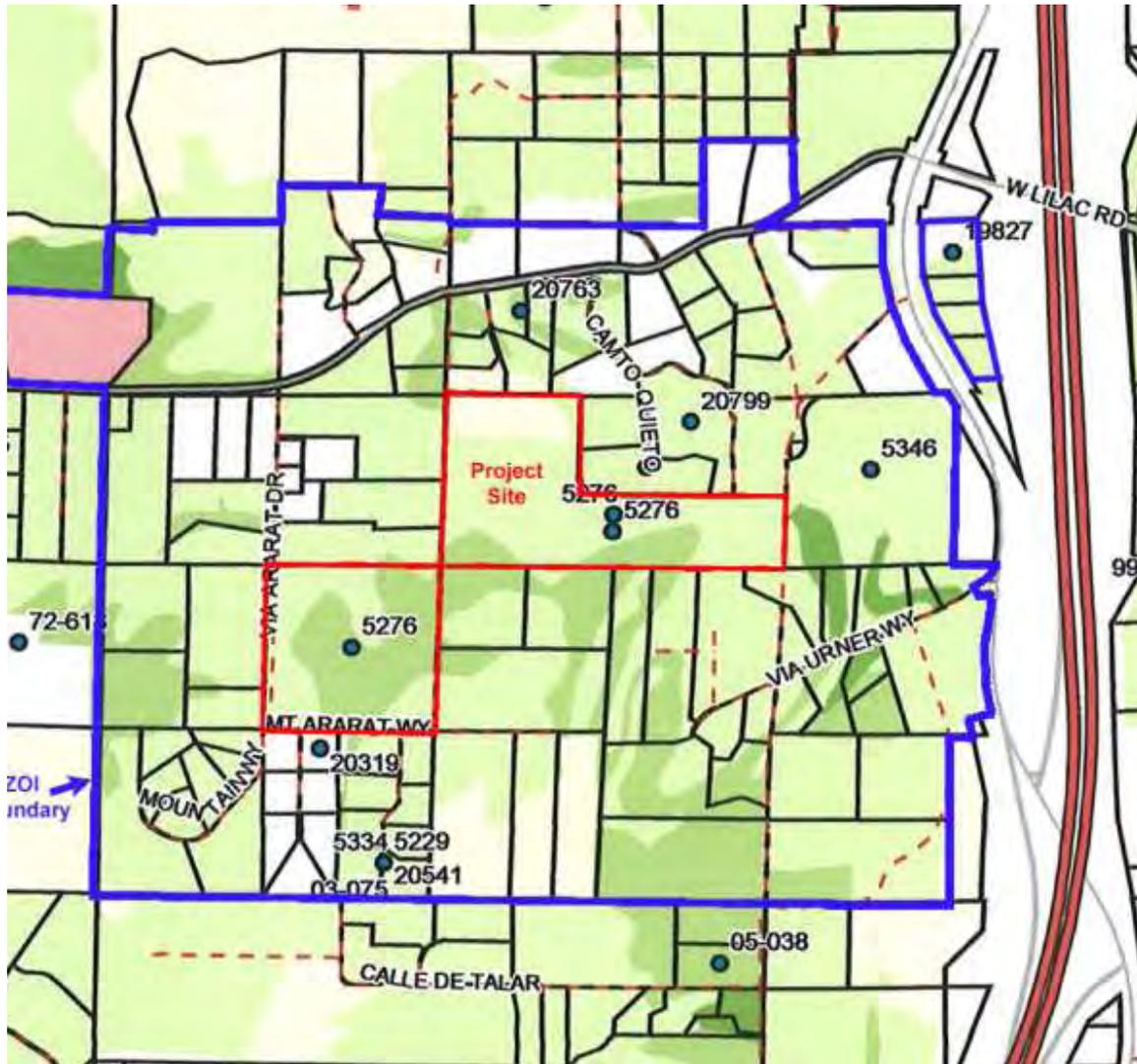


TM 5276
Regional FMMP Map

Figure
6

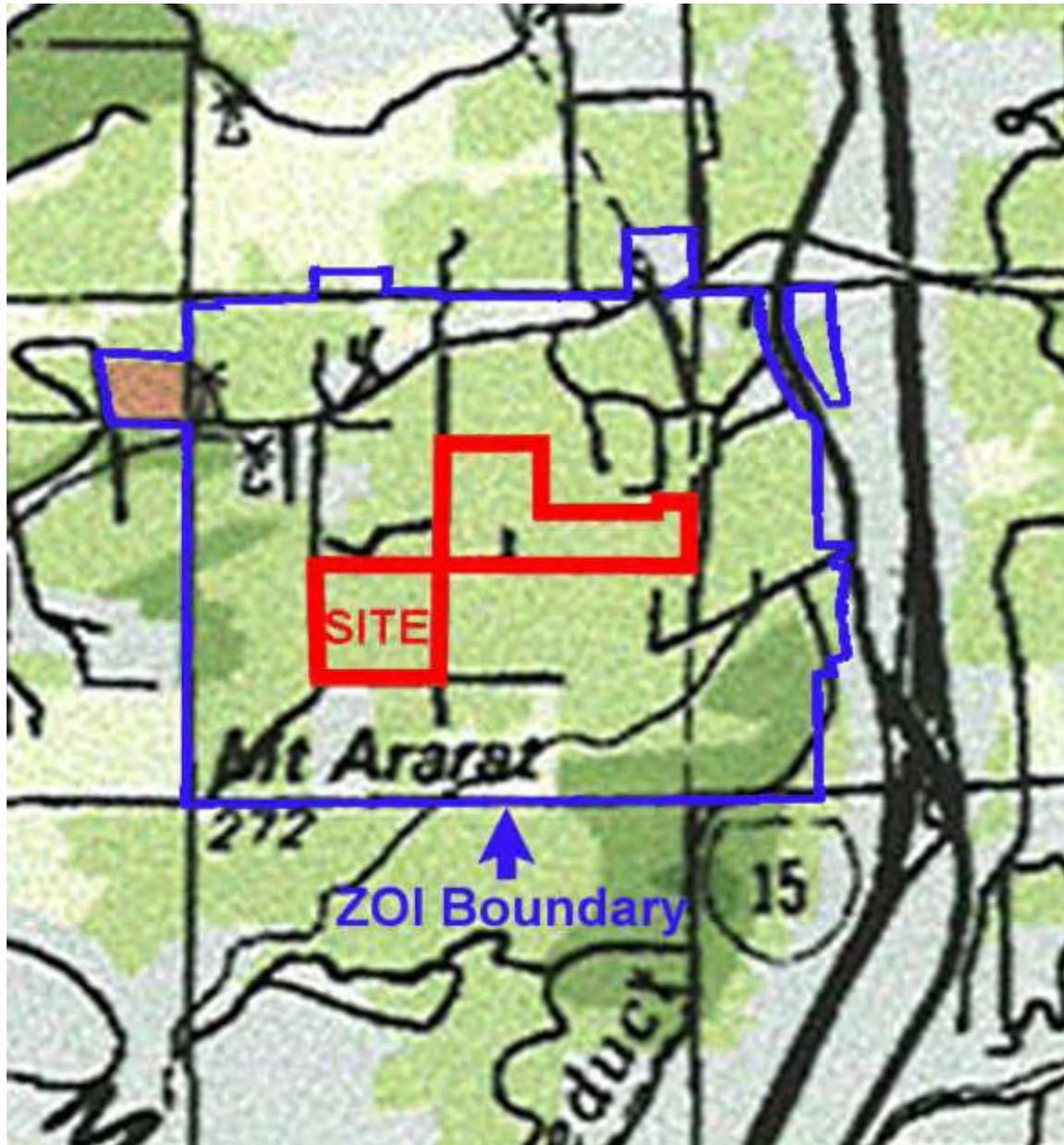


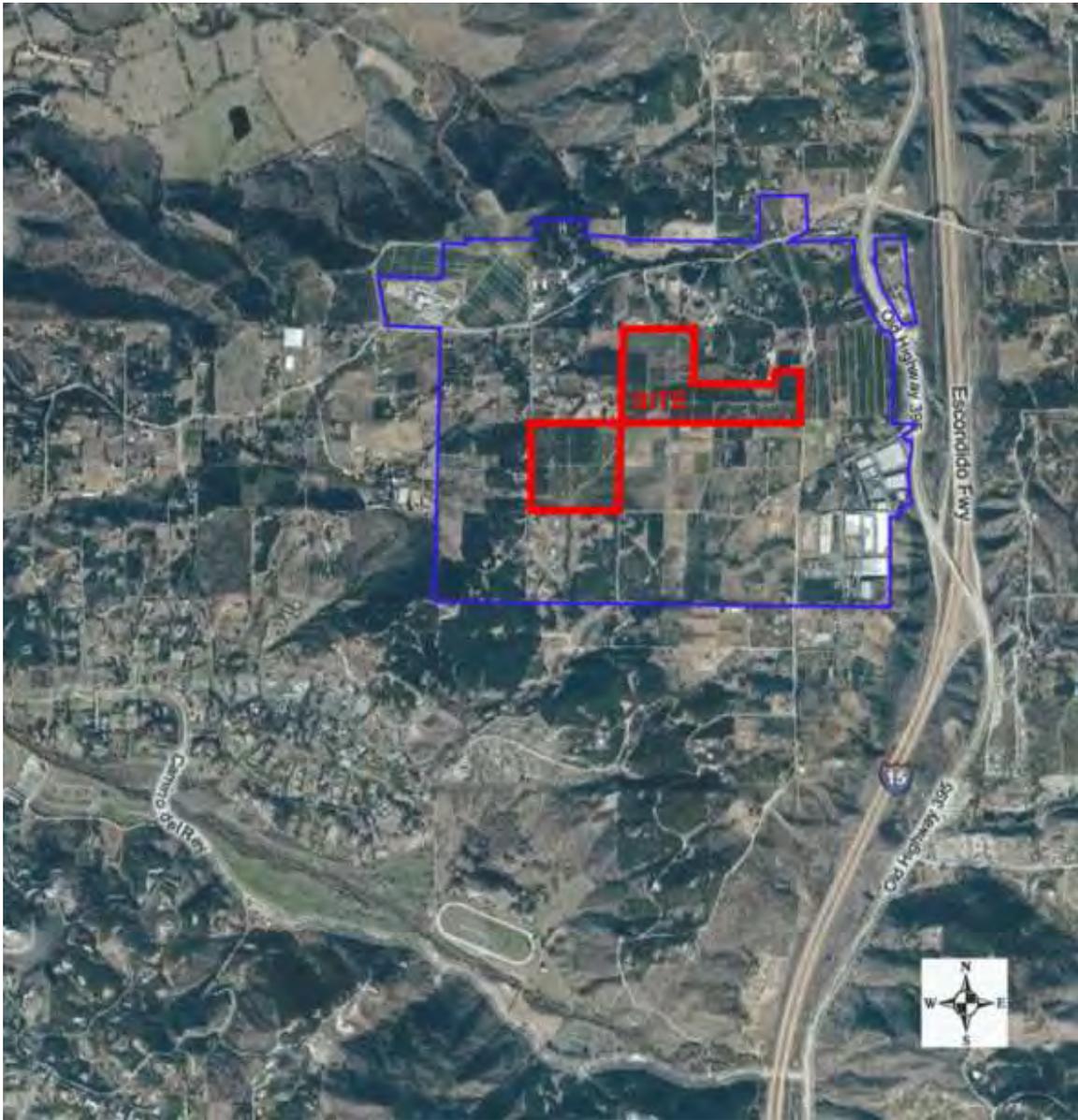




TM 5276
ZOI on FMMP Soils Map

Figure
9





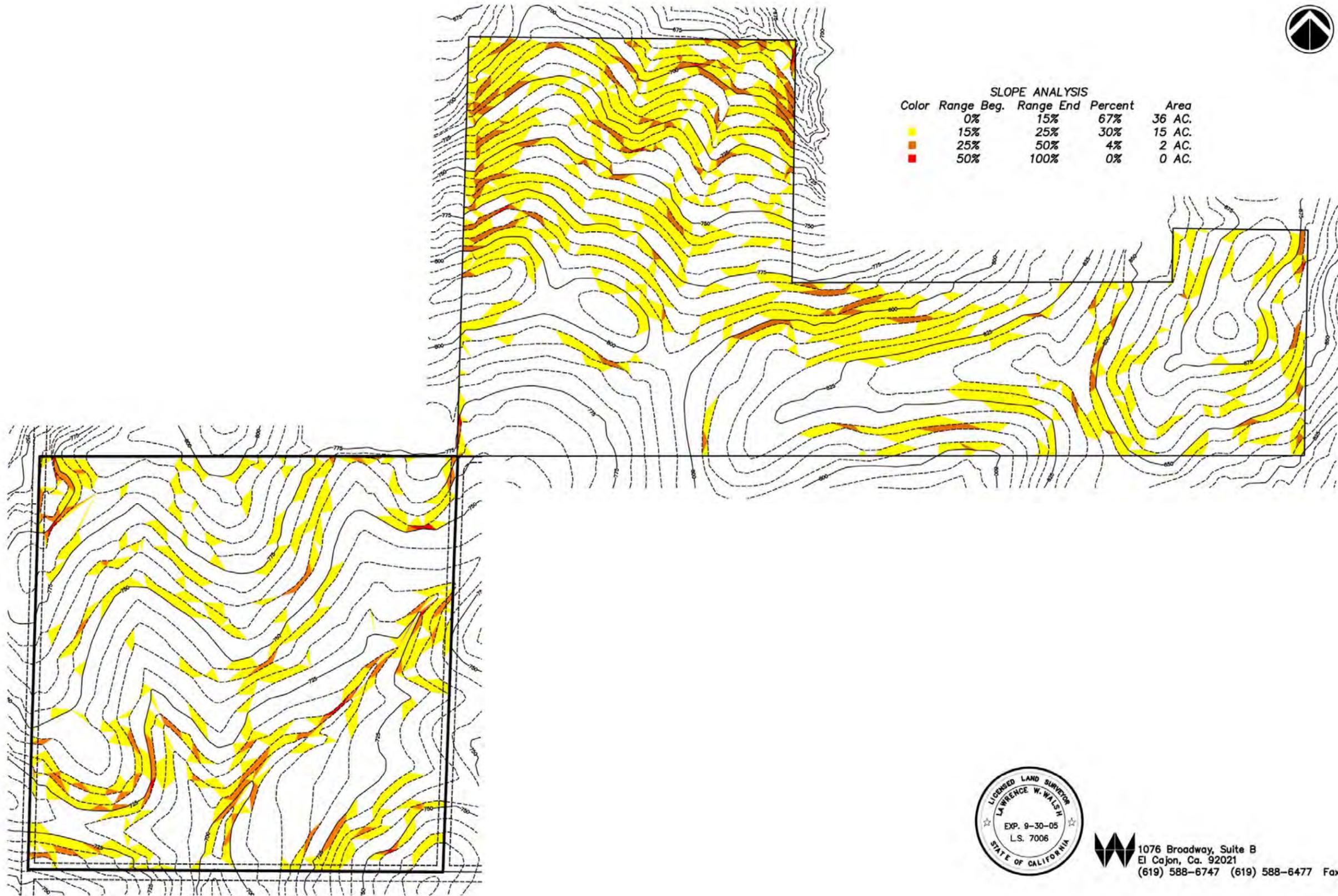
TM 5276
ZOI on Aerial Photograph

Figure
11



SLOPE ANALYSIS

Color	Range	Beg.	Range End	Percent	Area
	0%		15%	67%	36 AC.
Yellow	15%		25%	30%	15 AC.
Orange	25%		50%	4%	2 AC.
Red	50%		100%	0%	0 AC.

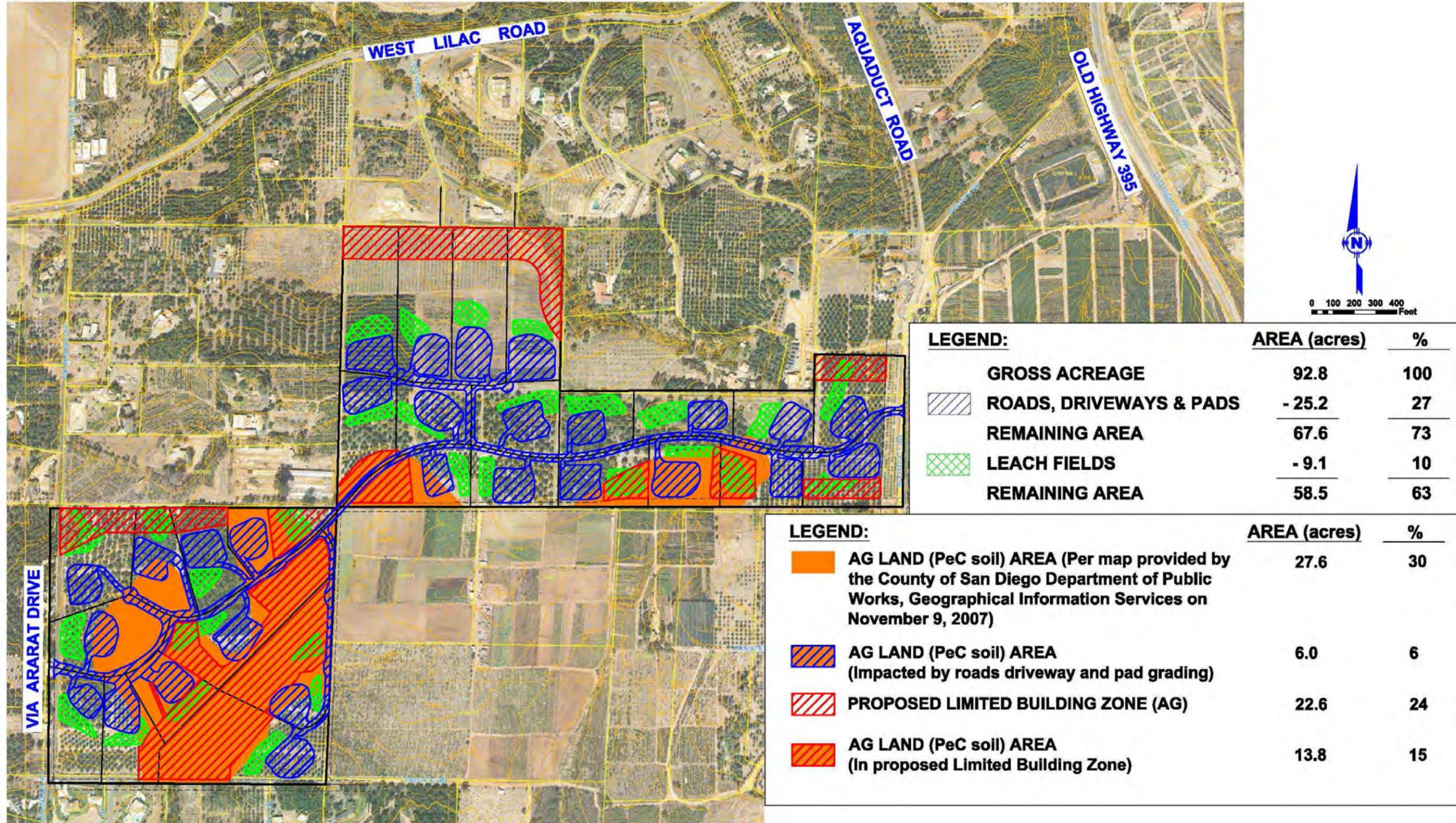


1076 Broadway, Suite B
El Cajon, Ca. 92021
(619) 588-6747 (619) 588-6477 Fax

TM 5276
Slope Map

Figure
13

AGRICULTURAL IMPACTS & LIMITED BUILDING ZONE EXHIBIT
Based on the PRELIMINARY GRADING PLAN dated 11-4-2010

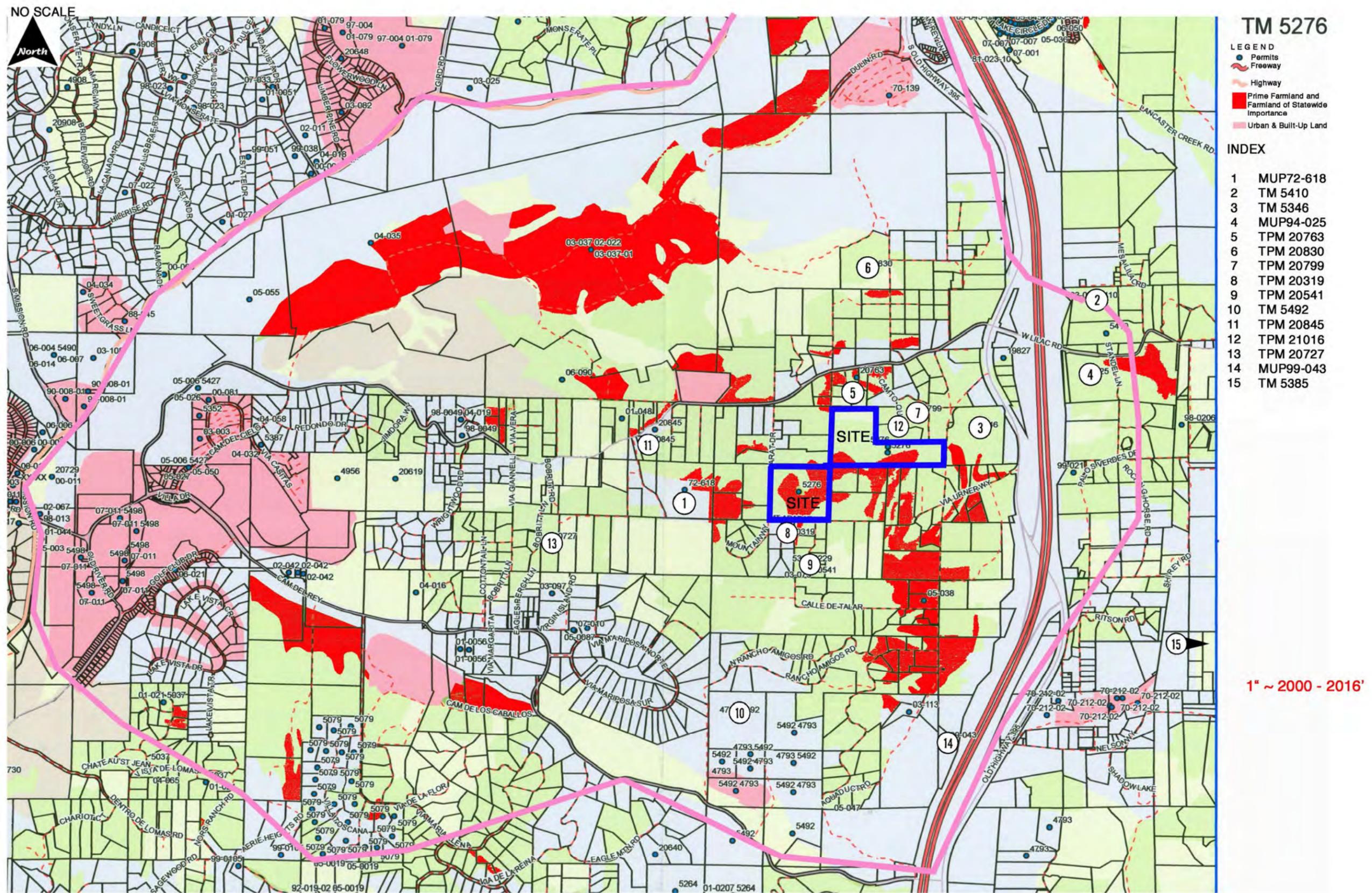


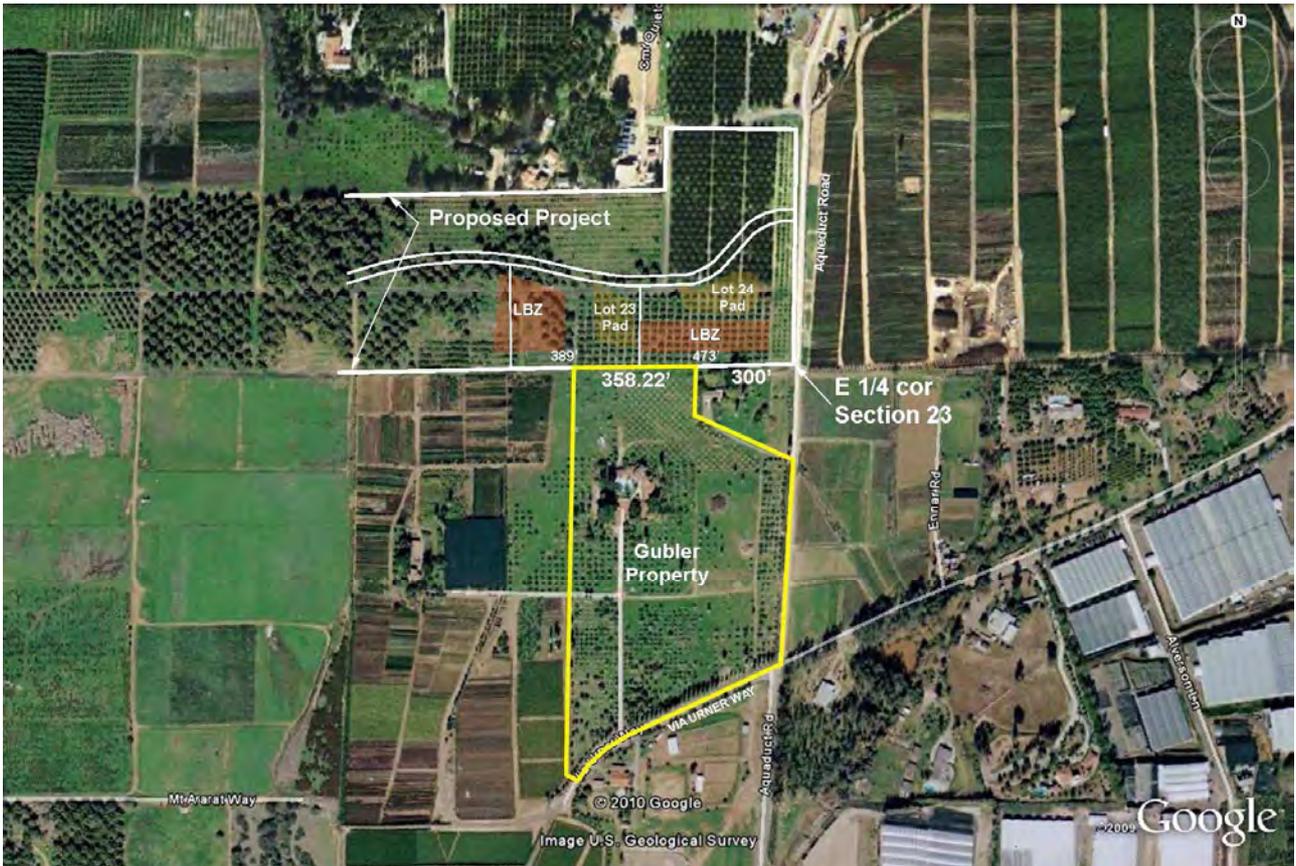
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DATE: NOVEMBER 4, 2010

TM 5276
Agricultural Impacts & Easement Exhibit

Figure 14





TM 5276
Property and Gubler Property

Figure
16

TABLES

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	CID2	1.82	.23	1.59	.02	0	0
Row 2	FaD2	20.78	1.42	19.36	.21	0	0
Row 3	FvD	26.63	1.61	25.02	.29	0	0
Row 4	PeC	27.6	1.9	25.70	.30	1	.30
Row 5	PeD2	2.79	.37	2.42	.03	0	0
Row 6	StG	3.44	.37	3.07	.04	0	0
Row 7	VsD	4.81	.41	4.40	.05	0	0
Row 8	VsE	5.84	.15	5.69	.06	0	0
Row 9	Total	92.8	Total	86.35			
Row 10	Soil Quality Matrix Score						.30

Source: Guidelines for Determining Significance, Agricultural Resources, DPLU 3/19/07

LARA Model Factor Ratings			
	LARA Model Rating		
	High	Moderate	Low
Required Factors			
Climate	X		
Water	X		
Soil Quality		X	
Complementary Factors			
Surrounding Land Uses	X		
Land Use Consistency	X		
Slope	X		

Source: Guidelines for Determining Significance, Agricultural Resources, DPLU 3/19/07

TM 5276
**Cumulative Projects That Do Not Substantially
 Impair Viability of Surrounding Agriculture**

**Table
 3**

Project Number	Reason for Determination of No Agricultural Impact	Project Number	Reason for Determination of No Agricultural Impact
ZAP 70-139	wireless facility (accessory use) ¹	BA 99-0105	boundary adjustment ¹
ZAP 03-113	wireless facility (accessory use) ¹	BA 05-0087	boundary adjustment ¹
ZAP 99-021	wireless facility (accessory use) ¹	BA 01-0056	boundary adjustment ¹
ZAP 01-048	wireless facility (accessory use) ¹	98-0049	boundary adjustment ¹
ZAP 02-022	wireless facility (accessory use) ¹	MUP 04-016	no agriculture onsite, no soils of importance onsite (minor expansion of existing use) ¹
ZAP 03-097	wireless facility (accessory use) ¹	ZAP 04-019	2 nd dwelling, no ag onsite (minor expansion of existing use) ¹
ZAP 04-035	wireless facility (accessory use) ¹	MUP 70-212-02	moderate deviation (minor alteration of existing use) ¹
ZAP 06-090	wireless facility (accessory use) ¹	MUP 92-019-02	moderate deviation (minor alteration of existing use) ¹
Admin 07-010	administrative permit, no agriculture onsite (minor expansion of existing use) ¹	TM 4956	withdrawn
Admin 02-042	administrative permit, no agriculture onsite (minor expansion of existing use) ¹	TPM 20619	withdrawn
MUP 04-032	additional condominiums in developed area	Admin 05-038	withdrawn
BA 98-0206	boundary adjustment ¹	MUP 05-055	withdrawn
BA 05-0019	boundary adjustment ¹	TM 5387	additional condominiums in developed area

¹ per Guidelines for Determining Significance, Agricultural Resources, Section 4.2.1



TM 5276
Cumulative Project List

Table
4

Fig.14 correspon ding #	Project Number	Project Name	Agricultural Use Onsite	Important Agricultural Resource? Prime Farmland (PF) Farmland of Statewide Importance (FSI) and Potential Direct Impacts		Direct Impact Estimate (Acres)
1	MUP 72-618	Rawhide Ranch	none	FSI	<1	<1
2	TM 5410	Marquart Ranch	avocado grove	none	0	10
3	TM 5346	Dabbs	active citrus & row crops	PF	2	9
4	MUP 94-025	Retreat	avocado grove	none	0	0
5	TPM 20763	McNulty	deciduous fruits & nuts	FSI	<1	<1
6	TPM 20830	Hukari	avocado orchard	none	0	3
7	TPM 20799	Stehly	avocado & citrus	none	0	<2
8	TPM 20319	Kohl	avocado grove	none	0	4
9	TPM 20541	Woodhead	avocado grove	none	0	4
10	TM 5492	Brisa del Mar	none	none	0	0
11	TPM 20845		greenhouse & truck crops	none	0	3
12	TPM 21016	Pfaff TPM	avocado grove	none	0	0
13	TPM 20727	Dressen	citrus & avocado grove	none	0	2
14	P 99-043	Miller	protea flower grove	none	0	<1
15	TM 5385	Lilac Farms	cattle rch, citrus/avocado grv	none	0	8.3
TOTAL					4	48.3

ATTACHMENTS

3.1 LARA Model Instructions⁶

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

Required Factors:

Water
Climate
Soil Quality

Complementary Factors:

Surrounding Land Uses
Land Use Consistency
Topography

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

Table 2. Interpretation of LARA Model Results

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

Data Availability

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

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

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

3.1.1 Water

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

Table 3. Water Rating ⁷

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

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

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

Water Quality and Quantity Limitations

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

Table 4. Groundwater Availability and Quality Effects on Water Rating

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

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

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

Water Rating Explanation

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

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

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

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

Groundwater Quantity and Quality Explanation

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

Table 5. Crop Water Use Averages

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

Source: UC Cooperative Extension, County of San Diego

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

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

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

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

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

3.1.2 Climate

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

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

Table 6. Climate Rating

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

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

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

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

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

3.1.3 Soil Quality

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

Step 1.

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

Step 2.

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

Step 3.

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

Step 4.

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

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

Step 5.

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

Step 6.

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

Step 7.

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

Step 8.

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

Step 9.

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

Step 10.

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

Table 7. Soil Quality Matrix

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

Table 8. Soil Quality Matrix Interpretation

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

Soil Quality Rating Justification

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

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

agriculturally. If the site has a soil quality score from 0.33 to 0.66 or has 10 acres or more of contiguous soils that meet the soil quality criteria for Prime Farmland or Farmland of Statewide Importance, the site is assigned the moderate importance rating. If less than one-third of the site or less than 10 contiguous acres of the agricultural resources onsite have soils that meet the Prime or Statewide Importance soil criteria, the site is assigned the low importance rating for soil quality. A ten acre threshold is included in the ratings to capture the potential for a large project site to have a substantial quantity of high quality soils and still receive a low importance rating due to the project's size in relation to the acreage of quality soils. Ten acres is an appropriate acreage to use in this context because ten acres would typically be able to support a wide range of agricultural uses in San Diego County. Furthermore, to be eligible for a Williamson Act Contract in an Agricultural Preserve, the County of San Diego Board of Supervisor's Policy 1-38 (Agricultural Preserves) recommends various minimum ownership sizes, with ten acres being the minimum, to be eligible for a contract. Ten acres is listed as the minimum size for various agricultural activities including poultry, tree crops, truck crops, and flowers. The requirement that the land be contiguous recognizes that small, scattered pockets of high quality soils are less valuable for agricultural use than an area of contiguous high quality soils.

3.1.4 Surrounding Land Use

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

Step 1.

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

Step 2.

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

Step 3.

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

Table 9. Surrounding Land Use Rating

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

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

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

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

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

3.1.5 Land Use Consistency

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

Step 1.

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

Step 2.

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

Step 3.

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

Table 10. Land Use Consistency Rating

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

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

3.1.6 Slope

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

Table 11. Slope Rating

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

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

Slope is included as a complementary factor in the LARA model to account for the importance that slope plays in the viability of a piece of land for agricultural production, a flat site allowing a greater range of potential agricultural uses and facilitating mechanization of operations. Gentle topography has other benefits such as reduced difficulty in managing irrigation runoff and reduced soil erosion as compared to more steep sites. Topography is not a required factor for a determination of importance because topography limitations can be overcome at a cost if the expected return on investment is high enough to warrant the expense (i.e. container based production, mass grading).

4.0 TYPICAL ADVERSE EFFECTS AND GUIDELINES FOR DETERMINING SIGNIFICANCE

4.1 Typical Adverse Effects

Typical adverse effects to agricultural resources are best considered in relation to the various types of impacts that are considered under CEQA: direct, indirect and cumulative. Direct impacts are straightforward: important agricultural resources are converted to a non-agricultural use, significantly reducing or eliminating the productive capacity of the land. Indirect effects are widely varied and require careful analysis of particular site conditions and farming operations. Indirect effects include significant impacts to active agricultural operations, Williamson Act Contracts, or to the viability of important agricultural resources. Indirect effects can result from growth inducement and the associated extension of infrastructure that can change rural character and increase the likelihood of agriculture urban interface conflicts. Indirect impacts can be caused by significant economic impacts to active agricultural operations that compromise their on-going viability and result in increased likelihood of conversion. Significant cumulative impacts result when a project's impacts are considerable when viewed in connection with the effects of past, present and probable future projects. Cumulative impacts are difficult to assess given the market driven and adaptable nature of agriculture. For example, a loss of agricultural land may occur in one area, while new land is converted to agriculture use elsewhere. Similarly, changes in agricultural commodity market prices could result in a shift in the type of agricultural commodities produced locally. Changes in the agricultural industry that result from external market factors could appear to be significant cumulative impacts to agriculture when they may only be a result of market adaptation to external economic conditions.

4.1.1. Direct Impacts

Direct impacts occur when a project would adversely impact locally important agricultural soils on a site that is determined to be important pursuant to the County LARA model. In San Diego County, important agricultural soils include not only soils with the USDA LCC ratings of I and II or Storie Index ratings of 80 or higher, but also includes soils of lesser quality as defined by the soil candidate listing for Prime Farmland and Farmland of Statewide Importance compiled by the USDA NRCS for San

IMPORTANT FARMLAND MAPPING CATEGORIES

The following definitions are used in preparing the Important Farmland Maps and the Farmland Conversion Report.

The definitions for Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Urban Built-up Land were developed by the USDA-SCS as part of their nationwide Land Inventory and Monitoring (LIM) system.

These LIM definitions have been modified for use in California. The most significant modification is that Prime Farmland and Farmland of Statewide Importance must be irrigated. Farmland of Local Importance has been identified by local advisory committees and vary from county to county, as intended by the LIM. Mapping of Grazing Land as part of an Important Farmland Map is unique to California. The minimum mapping unit is 10 acres unless otherwise specified. Units of land smaller than 10 acres will be incorporated into the surrounding map classifications.

Prime Farmland

Prime Farmland is land which has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management, according to current farming methods. Prime Farmland must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

Prime Farmland must meet all the following criteria:

a. Water

The soils have xeric, ustic, or aridic (torric) moisture regimes in which the available water capacity is at least 4.0 inches (10 cm) per 40 to 60 inches (1.02 to 1.52 meters) of soil, and a developed irrigation water supply that is dependable and of adequate quality. A dependable water supply is one which is available for the production of the commonly grown crops in 8 out of 10 years; and

b. Soil Temperature Range

The soils have a temperature regime that is frigid, mesic, thermic, or hyperthermic (pergelic and cryic regimes are excluded). These are soils that, at a depth of 20 inches (50.8 cm), have a mean annual temperature higher than 32°F (0° C). In addition, the mean summer temperature at this depth in soils with an O horizon is higher than 47° F (8° C); in soils that have no O horizon, the mean summer temperature is higher than 59° F (15° C); and

c. Acid-Alkali Balance

The soils have a pH between 4.5 and 8.4 in all horizons within a depth of 40 inches (1.02 meters); and

d. Water Table

The soils have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow cultivated crops common to the area to be grown; and

e. Soil Sodium Content

The soils can be managed so that, in all horizons within a depth of 40 inches (1.02 meters), during part of each year the conductivity of the saturation extract is less than 4 mmhos/cm and the exchangeable sodium percentage is less than 15; and

f. Flooding

Flooding of the soil (uncontrolled runoff from natural precipitation) during the growing season occurs infrequently, taking place less often than once every two years; and

g. Erodibility

The product of K (erodibility factor) multiplied by the percent of slope is less than 2.0; and

h. Permeability

The soils have a permeability rate of at least 0.06 inch (0.15 cm) per hour in the upper 20 inches (50.8 cm) and the mean annual soil temperature at a depth of 20 inches (50.8 cm) is less than 59° F (15° C); the permeability rate is not a limiting factor if the mean annual soil temperature is 59° F (15° C) or higher; and

i. Rock Fragment Content

Less than 10 percent of the upper 6 inches (15.24 cm) in these soils consists of rock fragments coarser than 3 inches (7.62 cm); and

j. Rooting depth

The soils have a minimum rooting depth of 40 inches (1.02 meters).

Farmland of Statewide Importance

Farmland of Statewide Importance is land other than Prime Farmland which has a good combination of physical and chemical characteristics for the production of crops. It must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

Farmland of Statewide Importance must meet all the following criteria:

a. Water

The soils have xeric, ustic, or aridic (torric) moisture regimes in which the available water capacity is at least 3.5 inches (8.89 cm) within a depth of 60 inches (1.52 meters) of soil; or within the root zone if it is less than 60 inches (1.52 meters) deep. They have a developed irrigation supply that is dependable and of adequate quality. A dependable water supply is one which is available for the production of the commonly grown crops in 8 out of 10 years; and

b. Soil Temperature Range

The soils have a temperature regime that is frigid, mesic, thermic, or hyperthermic (pergelic and cryic regimes are excluded). These are soils that, at a depth of 20 inches (50.8 cm), have a mean annual temperature higher than 32° F (0° C). In addition, the mean summer temperature at this depth in soils with an O horizon is higher than 47° F (8° C); in soils that have no O horizon, the mean summer temperature is higher than 59° F (15° C); and

c. Acid-Alkali Balance

The soils have a pH between 4.5 and 9.0 in all horizons within a depth of 40 inches (1.02 meters) or in the root zone if the root zone is less than 40 inches (1.02 meters) deep; and

d. Water Table

The soils have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow cultivated crops common to the area to be grown; and

e. Soil Sodium Content

The soils can be managed so that, in all horizons within a depth of 40 inches (1.02 meters), or in the root zone if the root zone is less than 40 inches (1.02 meters) deep, during part of each year the conductivity of the saturation extract is less than 16 mmhos/cm and the exchangeable sodium percentage is less than 25; and

f. Flooding

Flooding of the soil (uncontrolled runoff from natural precipitation) during the growing season occurs infrequently, taking place less often than once every two years; and

g. Erodibility

The product of K (erodibility factor) multiplied by the percent of slope is less than 3.0; and

h. Rock Fragment Content

Less than 10 percent of the upper 6 inches (15.24 cm) in these soils consists of rock fragments coarser than 3 inches (7.62 cm).

Farmland of Statewide Importance does not have any restrictions regarding permeability or rooting depth.

Unique Farmland

Unique Farmland is land which does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, that has been used for the production of specific high economic value crops at some time during the two update cycles prior to the mapping date. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality and/or high yields of a specific crop when treated and managed according to current farming methods. Examples of such crops may include oranges, olives, avocados, rice, grapes, and cut flowers. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

Characteristically Unique Farmland:

- a. Is used for specific high value crops; and
- b. Has a moisture supply that is adequate for the specific crop; the supply is from stored moisture, precipitation or a developed irrigation system; and
- c. Combines favorable factors of soil quality, growing season, temperature, humidity, air drainage, elevation, exposure, or other conditions, such as nearness to market, that favor growth of a specific food or fiber crop; and
- d. Excludes abandoned orchards or vineyards, dryland grains, and extremely low yielding crops, such as irrigated pasture, as determined in consultation with the County Cooperative Extension Director and Agricultural Commissioner.

High-value crops are listed in California Agriculture, an annual report of the California Department of Food and Agriculture. In order for land to be classified Unique Farmland, the crop grown on the land must have qualified for the list at some time during the two update cycles prior to the mapping date.

Farmland of Local Importance

Farmland of Local Importance is either currently producing crops, has the capability of production, or is used for the production of confined livestock. Farmland of Local Importance is land other than Prime Farmland, Farmland of Statewide Importance or Unique Farmland. This land may be important to the local economy due to its productivity or value. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use. In a few counties the local advisory committee has elected to additionally define areas of Local Potential (LP) farmland. This land includes soils which qualify for Prime Farmland or Farmland of Statewide Importance, but generally are not cultivated or irrigated. For reporting purposes, Local Potential and Farmland of Local Importance are combined in the acreage tables, but are shown separately on the Important Farmland Map.

Farmland of Local Importance is initially identified by a local advisory committee (LAC) convened in each county by FMMP in cooperation with the USDA-SCS and the county board of supervisors. LAC membership is very similar to the map reviewers list on page 6 of this document. Authority to recommend changes to the category of Farmland of Local Importance rests with the board of supervisors in each county. The FMMP presents each draft map to the board of supervisors for their review. After the presentation of this map, the board of supervisors has a 90-day review period in which to request any needed modifications. An extension may be granted upon request. The board of supervisors may then approve or disapprove the Farmland of Local Importance category. The FMMP will accept the recommendation of the board of supervisors if it is consistent with the general program guidelines.

If no action is initiated by the county to identify or adopt a Farmland of Local Importance definition within a year of contact by FMMP, the county will be deemed to have no adopted definition for Farmland of Local Importance.

Any revision to the initial board of supervisors' action on Farmland of Local Importance will require 30-day written notice to FMMP and members of the LAC. This process may require reconvening of the LAC.

County definitions of Farmland of Local Importance are contained in Appendix C.

Grazing Land

Grazing Land is defined in Government Code §65570(b)(3) as:

"...land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock."

The minimum mapping unit for Grazing Land is 40 acres.

Grazing Land does not include land previously designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance, and heavily brushed, timbered, excessively steep, or rocky lands which restrict the access and movement of livestock.

The FMMP convenes a grazing land advisory committee in each project county to help identify grazing lands. The committees consist of members of the local livestock ranching community, livestock ranching organizations, and the U. C. Cooperative Extension livestock advisor. The FMMP works with the president of the local Cattlemen's Association and the U.C. Cooperative Extension livestock advisor in selecting members of these committees.

Urban and Built-up Land

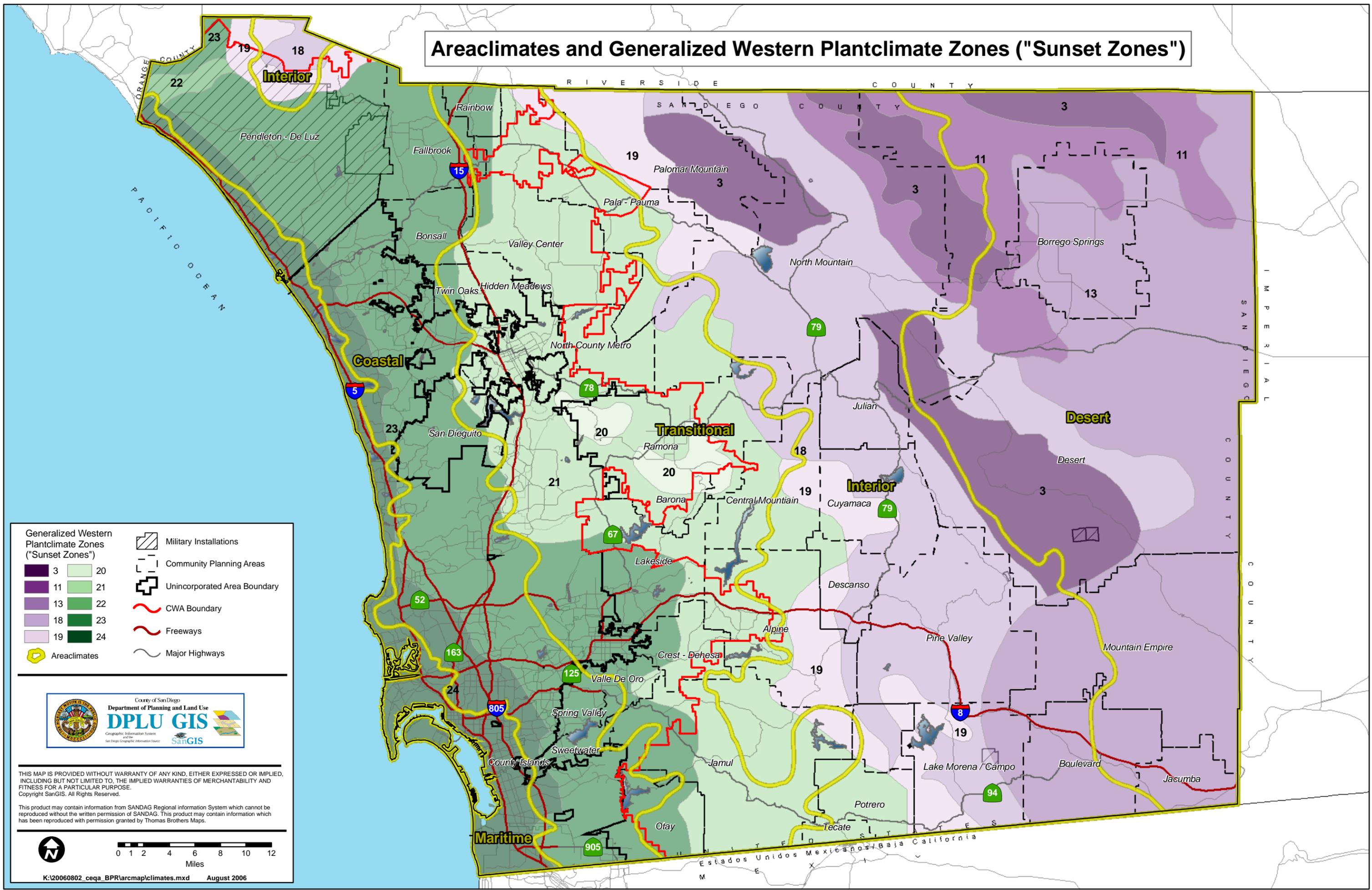
Urban and Built-up Land is used for residential, industrial, commercial, construction, institutional, public administrative purposes, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are mapped as a part of Urban and Built-up Land if they are a part of the surrounding urban areas.

Units of land smaller than 10 acres will be incorporated into the surrounding map classifications. The building density for residential use must be at least 1 structure per 1.5 acres (or approximately 6 structures per 10 acres). Urban and Built-up Land must contain man-made structures or buildings under construction, and the infrastructure required for development (e.g., paved roads, sewers, water, electricity, drainage, or flood control facilities) that are specifically designed to serve that land. Parking lots, storage and distribution facilities, and industrial uses such as large packing operations for agricultural produce will generally be mapped as Urban and Built-up Land even though they may be associated with agriculture.

Urban and Built-up Land does not include strip mines, borrow pits, gravel pits, farmsteads, ranch headquarters, commercial feedlots, greenhouses, poultry facilities, or road systems for freeway interchanges outside of areas classified as Urban and Built-up Land areas.

Within areas classified as Urban and Built-up Land, vacant and nonagricultural land which is surrounded on all sides by urban development and is less than 40 acres in size will be mapped as Urban and Built-up. Vacant and nonagricultural land larger than 40 acres in size will be mapped as Other Land.

Areaclimates and Generalized Western Plantclimate Zones ("Sunset Zones")



Generalized Western Plantclimate Zones ("Sunset Zones")

Areaclimates

Military Installations

Community Planning Areas

Unincorporated Area Boundary

CWA Boundary

Freeways

Major Highways

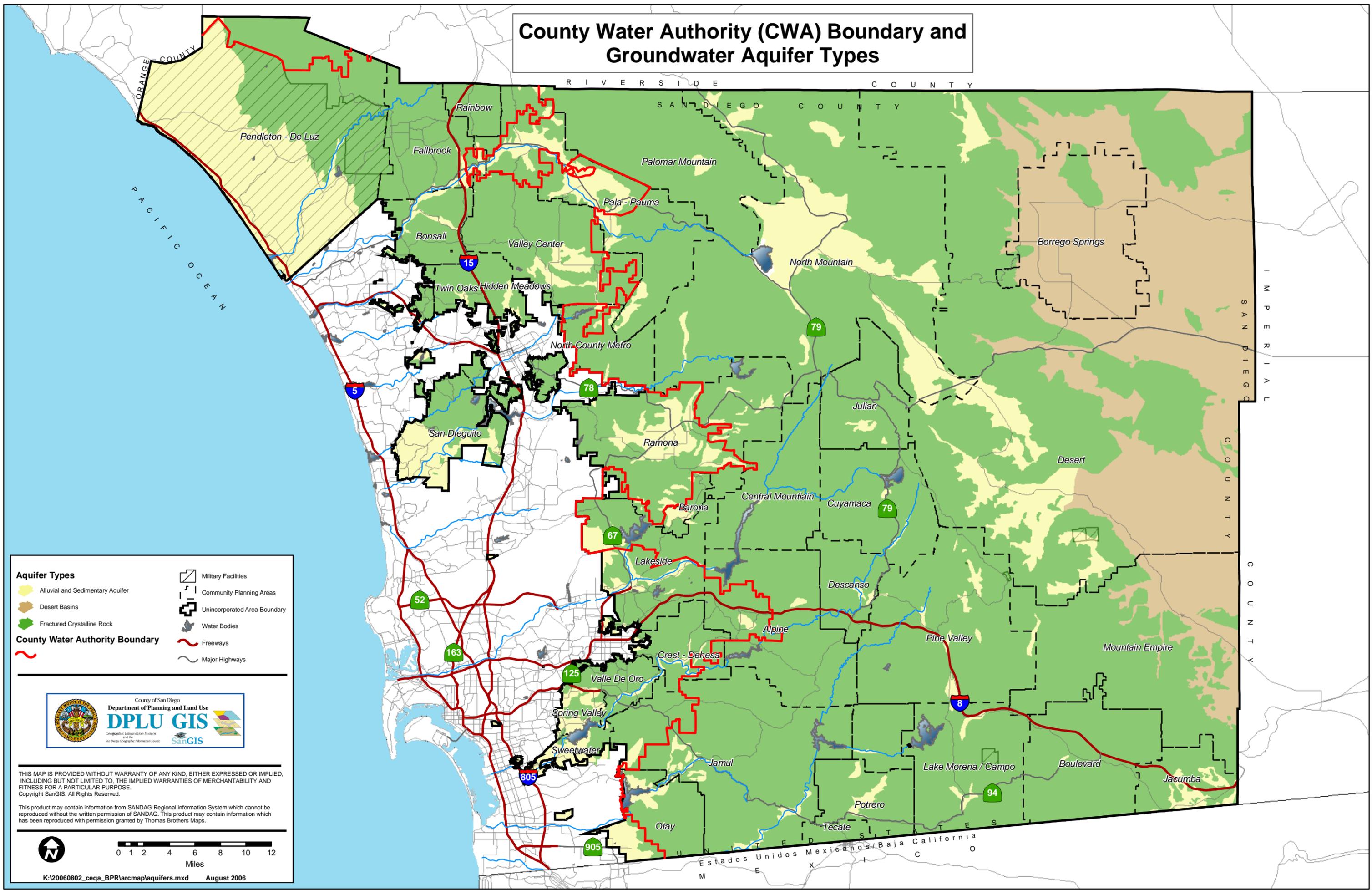


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County Water Authority (CWA) Boundary and Groundwater Aquifer Types

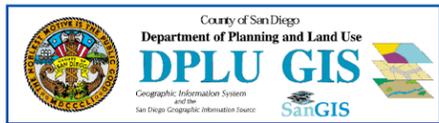


Aquifer Types

- Alluvial and Sedimentary Aquifer
- Desert Basins
- Fractured Crystalline Rock

County Water Authority Boundary

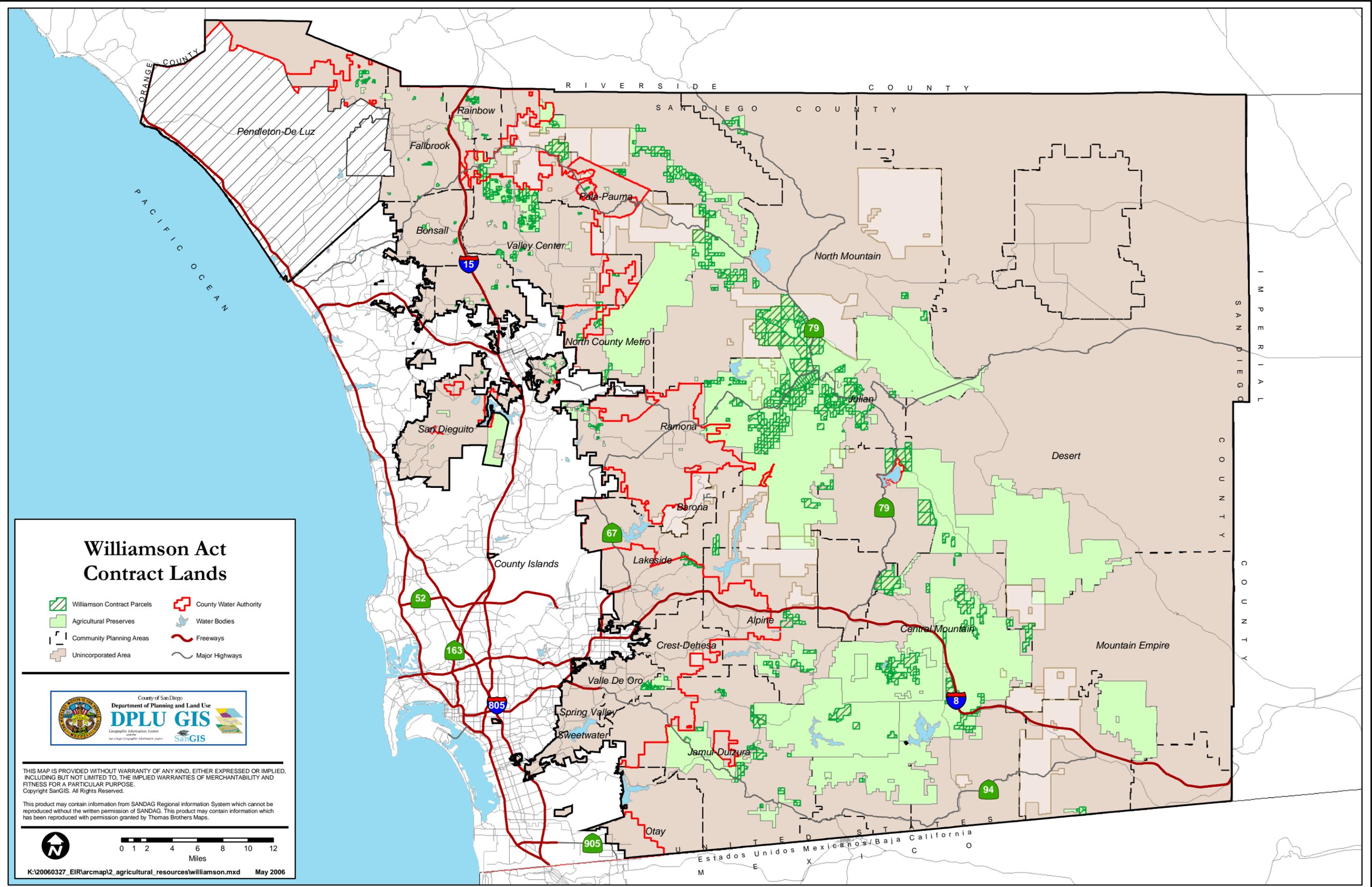
- Military Facilities
- Community Planning Areas
- Unincorporated Area Boundary
- Water Bodies
- Freeways
- Major Highways



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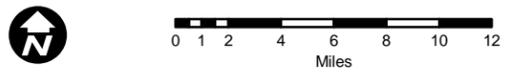
Williamson Act Contract Lands

-  Williamson Contract Parcels
-  Agricultural Preserves
-  Community Planning Areas
-  Unincorporated Area
-  County Water Authority
-  Water Bodies
-  Freeways
-  Major Highways



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2008 Crop Statistics & Annual Report



County of San Diego
Department of Agriculture, Weights & Measures

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The 2008 Crop Statistics and Annual Report was produced by Deputy Agricultural Commissioner/Sealer Dawn Nielsen and Agricultural Inspector Marcia Milam with assistance from GIS Analyst John Taylor.

Printed on recycled paper



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A.G. Kawamura, Secretary
 California Department of Food and Agriculture
 and
 The Honorable Board of Supervisors of the County of San Diego
 Supervisor Dianne Jacob, Chairwoman, 2nd District
 Supervisor Pam Slater-Price, Vice Chairwoman, 3rd District
 Supervisor Greg Cox, 1st District
 Supervisor Ron Roberts, 4th District
 Supervisor Bill Horn, 5th District

I respectfully submit the 2008 report of acreage, yield, and value of agricultural production for San Diego County. This report also contains the annual report of the many diverse programs within the Department of Agriculture, Weights and Measures that support the County's focus on children, the environment, and safe and livable communities.

Despite drought and a slowing economy, the total value of San Diego County agriculture increased 1% over 2007 for a final dollar value of \$1,552,221,674. This is mainly due to an increase in value for a few key crops. Cut flowers, avocados, citrus and eggs contributed greatly to the final value, as well as herbs, which made it into the Top Ten crops for the first time in 2008.*

San Diego County's unique topography creates a wide variety of microclimates resulting in nearly 30 different types of vegetation communities. This diversity allows for San Diego to grow over 200 different agricultural commodities - from strawberries and tomatoes along the coast, to apples in the mountain areas, to palm trees in the desert. The diversity and success of San Diego County's agricultural industry is reflected in the 37 crops with a value of over \$1 million.

This report would not be possible without the many farmers, ranchers, and nurserymen and women who provide the information vital to this report. In addition, I would like to thank industry groups for their support in the compilation of these statistics. Additionally, recognition should be given to the dedicated Agriculture, Weights and Measures staff who continually strive to provide our customers with superior service.

Sincerely,

Robert G. Atkins
 Agricultural Commissioner/
 Sealer of Weights and Measures

* All reported figures represent Freight on Board (F.O.B.) values for products. These are not net values and do not reflect cost of production. Total values may not add precisely due to rounding. Gross value of farm products does not reflect the total value to the economy.

Summary of Major Crops

Total Value	\$1,552,221,674
Change in Value from 2007	\$15,791,701
Percent Change	+1.0%
Total Acreage	312,766
Change in Acreage from 2007	3,775
Percent Change	+1.2%
Highest Value Crop, Per Acre	Indoor Flowering & Foliage Plants
Value Per Acre	\$498,564
Lowest Value Crop, Per Acre	Oat Grain
Value Per Acre	\$15

Overview of Changes

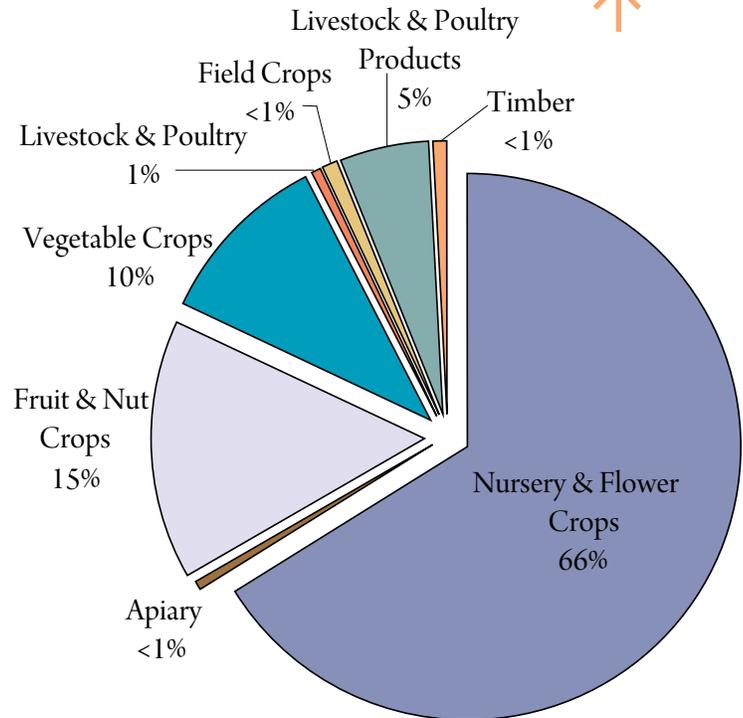
Indoor Flowering and Foliage Plants remains the number one crop in San Diego County although decreasing slightly in value (1%) to \$319,080,960. Ornamental Trees and Shrubs, which last year came in a close second, slipped a bit more (5%) to \$304,336,245. Overall acreage for nurseries and cut flowers increased slightly while the total value stayed nearly flat, increasing only 1%. In 2008, the total value for all nursery products (including cut flowers and foliage) topped the one billion dollar mark for the second year in a row, totaling \$1,042,703,756.

Fruit and Nut Crops increased in acreage (1%), and increased in value (4%). Avocados remain the largest fruit crop, increasing significantly this year (14%). Strawberries, however, decreased significantly in both acreage and value (48% each). This is attributed to improved data gathering.

Vegetables and Vine Fruits increased both in value (2%) and acreage (5%) this past year. Herbs increased in value (39%), pushing it into the Top Ten crops for San Diego County.

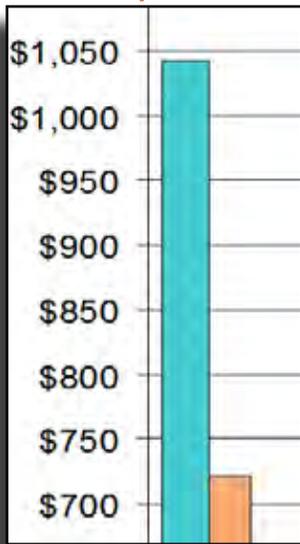
Livestock and Poultry decreased in value (39%), primarily as a result of the decrease in the price and number of cattle. Ratites and ratite products decreased significantly (-93% and -57%, respectively), as there were no reported sales for ratite chicks or hides for 2008. However, due to the increase in the price and number of eggs, Livestock and Poultry Products overall increased in value (17%).

Major Crop Percentages



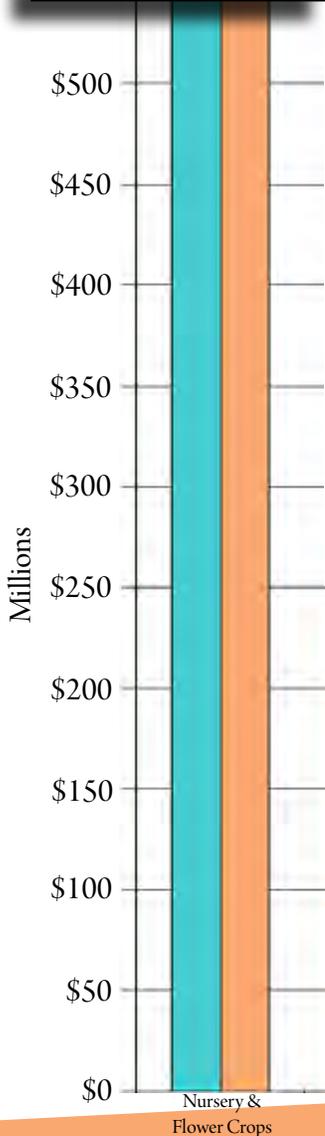
Comparisons of Major Crops

Two Year Comparison

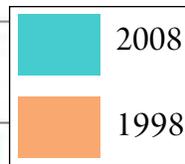


	2008		2007	
	Acres	Value	Acres	Value
Nursery & Flower Crops	10,670	\$1,042,703,756	9,836	\$1,042,461,078
Fruit & Nut Crops	43,624	\$239,810,088	46,180	231,160,982
Vegetable Crops	7,228	\$163,027,398	6,888	\$159,549,612
Field Crops	251,244	\$4,599,445	246,087	\$5,299,084
Apiary		\$3,186,328		\$3,423,868
Timber		\$870,000		\$749,310
Livestock & Poultry		\$12,575,250		\$20,461,957
Livestock & Poultry Products		\$85,449,409		\$73,324,083
Totals	312,766	\$1,552,221,674	308,991	\$1,536,429,973

Ten Year Comparison



	2008		1998	
	Acres	Value	Acres	Value
Nursery & Flower Crops	10,670	\$1,042,703,756	8,337	\$722,186,252
Fruit & Nut Crops	43,624	\$239,810,088	44,855	225,669,472
Vegetable Crops	7,228	\$163,027,398	12,563	\$128,472,996
Field Crops	251,244	\$4,599,445	106,507	\$6,147,451
Apiary		\$3,186,328		\$1,157,229
Timber		\$870,000		\$556,588
Livestock & Poultry		\$12,575,250		\$15,634,166
Livestock & Poultry Products		\$85,449,409		\$78,623,079
Totals	312,766	\$1,552,221,674	172,262	\$1,178,447,233



Crop Comparison 1998 to 2008

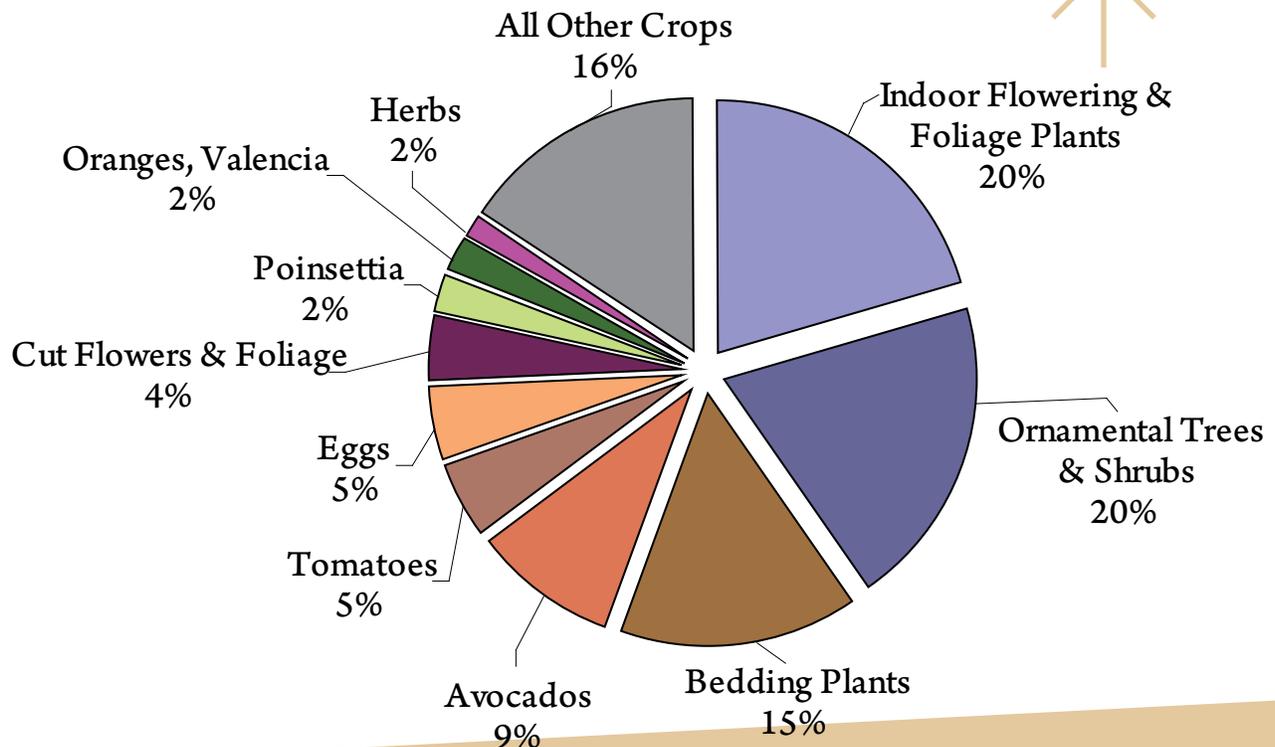
Top Ten Crops



	2008	2007	1998
Indoor Flowering & Foliage Plants	\$319,080,960	\$322,339,342	\$295,878,756
Ornamental Trees & Shrubs	\$304,336,245	\$321,830,298	\$129,986,578
Bedding Plants	\$237,288,380	\$237,048,120	\$146,565,455
Avocados	\$144,694,905	\$127,099,496	\$136,500,282
Tomatoes	\$74,241,799	\$88,061,693	\$35,313,316
Eggs	\$70,764,375	\$56,338,333	\$55,432,079
Cut Flowers & Foliage	\$67,455,433	\$60,204,650	\$81,326,059
Poinsettia	\$38,671,854	\$38,794,400	\$31,254,654
Oranges, Valencia	\$26,875,129	\$26,891,110	\$27,008,583
Herbs	\$23,555,340	\$17,000,948	\$22,385,918
All Other Crops	\$245,257,255	\$240,821,584	\$216,795,553



Top Ten Crop Percentages





What Makes San Diego Agriculture Unique?

- San Diego County is the most southwestern county in the United States with a geographic area of 4,200 square miles, approximately the size of Connecticut, and a population of more than 3 million.
- The National Weather Service describes the San Diego climate as the most nearly perfect in America, characterized as Mediterranean, with warm winters and cool summers.
- San Diego County's varied topography creates a wide fluctuation of microclimates resulting in nearly 30 different types of vegetation communities. This diversity allows San Diego to grow over 200 different agricultural commodities - from strawberries and tomatoes along the coast, to apples in the mountain areas, to palm trees in the desert.
- San Diego County has the 6th highest urban population among counties in the United States, but the County also has the 16th largest agricultural economy.

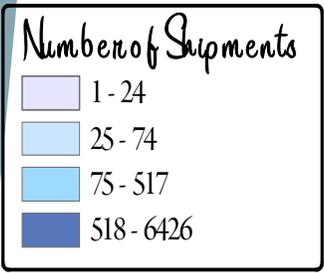
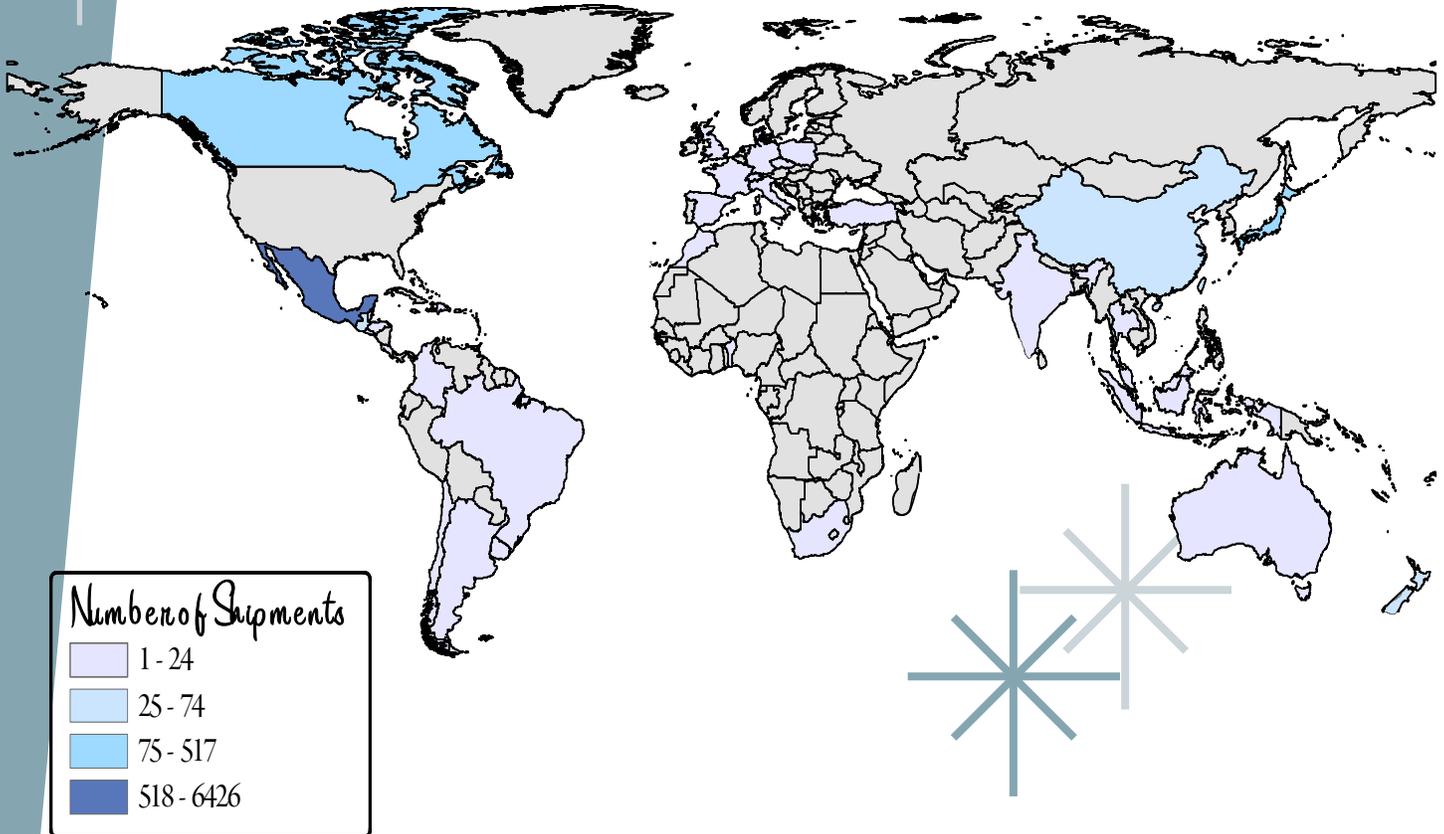


- Nearly 27% of farms in San Diego County are operated by women.
- Agriculture in San Diego County covers 312,766 acres and is a key contributor to San Diego County's economy, along with Defense, Manufacturing, Tourism and Biotechnology.
- San Diego County has 6,687 farms, more than any other county in the United States!!
- 68% of San Diego County farms are 1-9 acres. A median size farm in San Diego is only 4 acres!

- The high cost of water and land makes farming in San Diego County expensive and encourages growers to raise products with a high dollar value per acre.
- San Diego County ranks number one in both California and the nation in the production value of nursery, floriculture, and avocados.
- Statewide, San Diego County is in the top five in the production of avocados, oranges, lemons, grapefruit, tangerines, floriculture, nursery, eggs, fresh market tomatoes, mushrooms, and honey.
- San Diego County produces the highest dollar value per acre (\$4,963/acre) of any county in California.
- San Diego County has the largest community of organic growers in the state and nation, with 343 farms growing more than 150 crops!



Trading Partners



60 Countries, 8065 Shipments

Argentina	4	El Salvador	3	Korea	17	Puerto Rico	74
Australia	21	European Union	1	Kuwait	2	Qatar	1
Bahamas	7	France	2	Macau	7	Saint Martin	1
Barbados	1	French Polynesia	3	Malaysia	4	Singapore	10
Benin	1	Germany	20	Malta	1	South Africa	12
Bermuda	47	Guadeloupe	1	Martinique	1	Spain	5
Brazil	1	Guam	15	Mauritius	1	Switzerland	1
Canada	517	Guatemala	43	Mexico	6,426	Taiwan	36
Chile	4	Honduras	9	Micronesia	3	Thailand	4
China	65	India	2	Morocco	1	Trinidad & Tobago	5
Colombia	8	Indonesia	3	Netherlands	7	Turkey	4
Costa Rica	24	Israel	17	New Zealand	48	United Kingdom	14
Cyprus	1	Italy	8	N. Mariana Islands	1	Uruguay	2
Czech Republic	1	Jamaica	8	Philippines	1	Vietnam	4
Denmark	2	Japan	513	Poland	4		
Dominican Republic	16						



Photo credit: George Sharp

Nursery Crops

Crop	Year	Acres	Total
Bedding Plants, Color	2008	980	\$237,288,380
	2007	920	\$237,048,120
Bulbs, Corms, Rhizomes, Roots, Tubers	2008	185	\$3,409,920
	2007	165	\$3,617,295
Cacti & Succulents	2008	235	\$20,201,775
	2007	216	\$17,489,088
Citrus, Avocado, & Subtropical Fruit Trees	2008	275	\$15,071,100
	2007	235	\$13,120,990
Herbaceous Perennials	2008	382	\$26,878,284
	2007	330	\$19,414,890
Indoor Flowering & Foliage Plants	2008	640	\$319,080,960
	2007	598	\$322,339,342
Ornamental Trees & Shrubs	2008	3,765	\$304,336,245
	2007	3,502	\$321,830,298
Poinsettia	2008	142	\$38,671,854
	2007	142	\$38,794,400
Miscellaneous Nursery Products*	2008	605	\$10,309,805
	2007	591	\$8,602,005

Nursery & Cut Flower Crops

Cut Flower & Foliage Crops

Crop	Year	Acres	Total
Leptospermum	2008	396	\$1,898,028
	2007	332	\$1,801,764
Proteas	2008	550	\$3,437,500
	2007	500	\$3,466,140
Wax Flowers	2008	770	\$5,357,660
	2007	705	\$4,722,090
Other Cut Flowers	2008	950	\$36,846,700
	2007	890	\$36,628,882
Foliage	2008	795	\$19,915,545
	2007	710	\$13,585,774

Nursery & Cut Flower Totals

	Year	Acres	Total
Nursery	2008	7,209	\$975,248,323
	2007	6,699	\$982,256,428
Cut Flowers & Foliage	2008	3,461	\$67,455,433
	2007	3,317	\$60,204,650
Total	2008	10,670	\$1,042,703,756
	2007	9,836	\$1,042,461,078

Value of Ornamental Trees & Shrubs

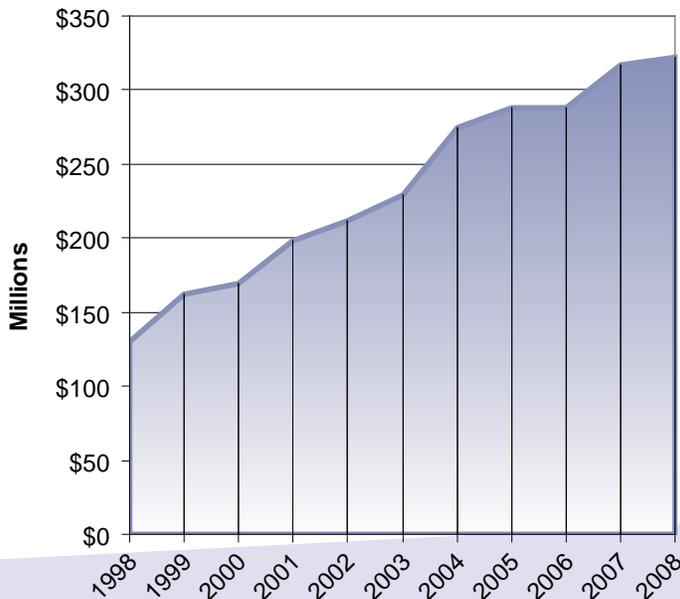


Photo credit: travellman43

San Diego Agriculture Quick Fact

San Diego County ranks #1 out of 2,703 counties in the United States that produce Nursery, Greenhouse, Floriculture and Sod crops.

*Includes Turf and Cut Christmas Trees

Fruit & Nut Crops*



Photo credit:miramar 2009

Crop	Year	Acres	Tons /Acre	Tons Total	US \$ /Ton	Total
Apples	2008	270	1.5	405	814	\$329,670
	2007	442	1.1	486	723	\$351,523
Total Avocados	2008	26,549		59,805		\$144,694,905
	2007	26,064		67,002		\$127,099,496
Hass	2008	24,506	2.3	56,364	2,476	\$139,556,769
	2007	24,208	2.7	65,362	1,910	\$124,840,656
Lamb-Hass	2008	1,100	2.1	2,310	1,852	\$4,278,120
	2007	995	1.0	995	1,812	\$1,802,940
Other	2008	943	1.2	1,132	760	\$860,016
	2007	861	0.8	646	706	\$455,900
Berries, Misc.	2008	221	6.4	1,414	4,400	\$6,223,360
	2007	127	9.4	1,194	4,350	\$5,193,030
Total Citrus	2008	14,650		216,092		\$64,586,235
	2007	14,464		205,051		\$60,450,517
Total Grapefruit	2008	2,217	16.8	37,246		\$7,351,129
	2007	2,145	17.4	37,323		\$6,535,386
Fresh Market	2008		12.7	28,156	233	\$6,560,325
	2007		13.2	28,314	206	\$5,832,684
Byproduct	2008		4.1	9,090	87	\$790,804
	2007		4.2	9,009	78	\$702,702

Crop	Year	Acres	Tons /Acre	Tons Total	US \$ /Ton	Total
Kumquats	2008	219	2.5	548	1,595	\$873,263
	2007	224	3.0	672	1,764	\$1,185,408
Total Lemons	2008	3,922	12.6	49,417		\$20,047,695
	2007	3,743	12.8	47,910		\$17,852,613
Fresh Market	2008		8.5	33,337	543	\$18,101,991
	2007		8.6	32,190	496	\$15,966,141
Byproduct	2008		4.1	16,080	121	\$1,945,704
	2007		4.2	15,721	120	\$1,886,472
Total Limes	2008	357	10.5	3,749		\$1,170,068
	2007	351	10.8	3,791		\$1,079,430
Fresh Market	2008		6.5	2,321	455	\$1,055,828
	2007		6.9	2,422	405	\$980,870
Byproduct	2008		4.0	1,428	80	\$114,240
	2007		3.9	1,369	72	\$98,561



Photo credit:heqarty david

At a Glance...10 Years of Avocados*

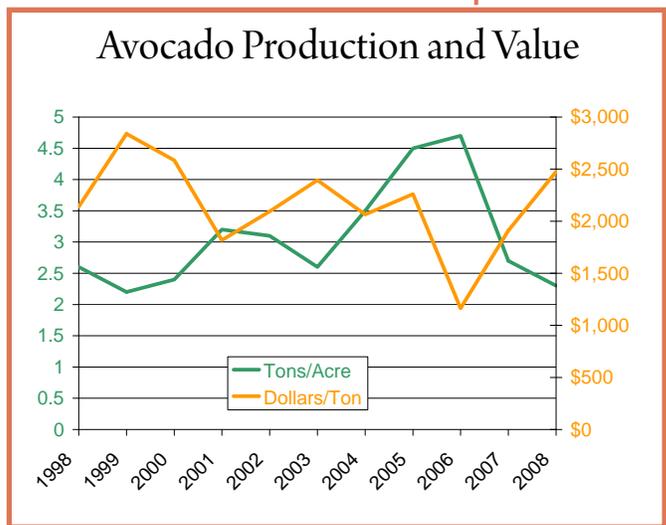


Photo credit:avlyz

Year	Value of Avocados	Value of Agriculture	% of Total
1998	\$136,500,282	\$1,178,447,233	11.6%
1999	\$147,846,527	\$1,236,343,113	12.0%
2000	\$149,549,586	\$1,254,509,514	11.9%
2001	\$138,624,103	\$1,289,741,407	10.7%
2002	\$152,277,067	\$1,297,278,470	11.7%
2003	\$146,171,423	\$1,351,225,412	10.8%
2004	\$175,006,539	\$1,462,117,741	12.0%
2005	\$251,452,135	\$1,531,541,236	16.4%
2006	\$137,305,800	\$1,461,665,261	9.4%
2007	\$127,099,496	\$1,536,429,974	8.3%
2008	\$144,694,905	\$1,552,221,674	9.3%



Photo credit:Aquafornia

Fruit & Nut Crops

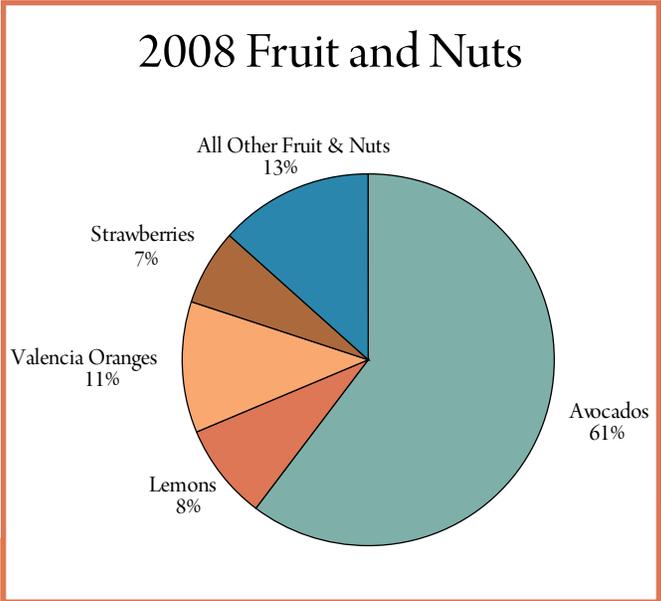
Crop	Year	Acres	Tons /Acre	Tons Total	US \$ /Ton	Total
Total Navels	2008	1,472	11.2	16,486		\$4,296,768
	2007	1,420	10.6	15,052		\$3,721,820
Fresh Market	2008		7.5	11,040	330	\$3,643,200
	2007		7.1	10,082	310	\$3,125,420
Byproduct	2008		3.7	5,446	120	\$653,568
	2007		3.5	4,970	120	\$596,400
Total Valencias	2008	5,531	17.2	95,133		\$26,875,129
	2007	5,632	15.4	86,733		\$26,891,110
Fresh Market	2008		12.9	71,350	336	\$23,973,566
	2007		11.3	63,642	379	\$24,120,166
Byproduct	2008		4.3	23,783	122	\$2,901,563
	2007		4.1	23,091	120	\$2,770,944
Total Tangerines	2008	932	14.5	13,514		\$3,972,184
	2007	949	14.3	13,571		\$3,184,749
Fresh Market	2008		11.0	10,252	355	\$3,639,460
	2007		10.7	10,154	281	\$2,853,358
Byproduct	2008		3.5	3,262	102	\$332,724
	2007		3.6	3,416	97	\$331,391

Crop	Year	Acres	Tons /Acre	Tons Total	US \$ /Ton	Total
Grapes, Wine	2008	365	1.7	621	1,021	\$633,531
	2007	328	1.9	623	995	\$620,084
Macadamia Nuts	2008	63	0.7	44	2,871	\$126,611
	2007	61	0.9	55	3,458	\$189,844
Misc Fruit & Nuts*	2008	707				\$5,186,552
	2007	538				\$4,298,620
Persimmons	2008	354	5.5	1,947	841	\$1,637,427
	2007	420	6.1	2,562	643	\$1,647,366
Total Strawberries	2008	445	33.8	15,041		\$16,391,798
	2007	863	34.7	29,947		\$31,310,503
Fresh Market	2008		19.5	8,678	1,482	\$12,860,055
	2007		20.2	17,433	1,430	\$24,928,618
Processing	2008		14.3	6,364	555	\$3,531,743
	2007		14.5	12,514	510	\$6,381,885

Total Fruit & Nuts		
Year	Acres	Total
2008	43,624	\$239,810,088
2007	43,307	\$231,160,982



Photo credit:Beyond Forgetting



San Diego Agriculture Quick Fact

According to the USDA's 2007 Census of Agriculture, the number of farms in San Diego County increased 27% between 2002 and 2007, from 5,255 to 6,687.

*Includes Apricots, Cherimoyas, Guavas, Peaches, Pears, Walnuts and Others.

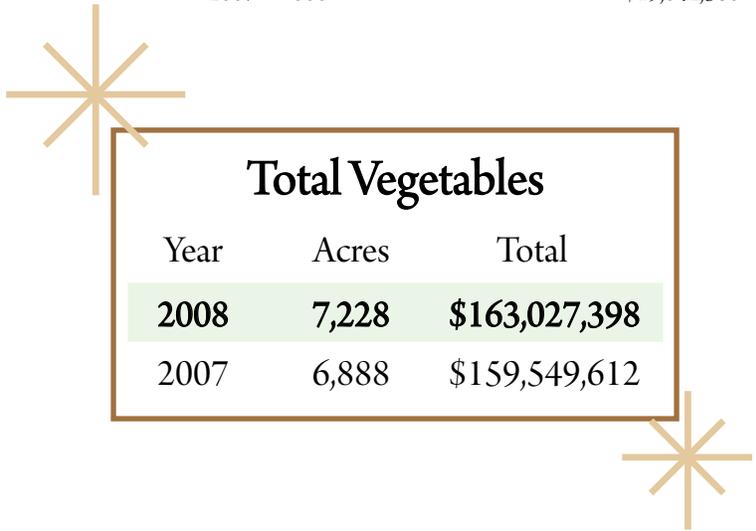
Vegetable Crops*



Photo credit: Sandra Mora

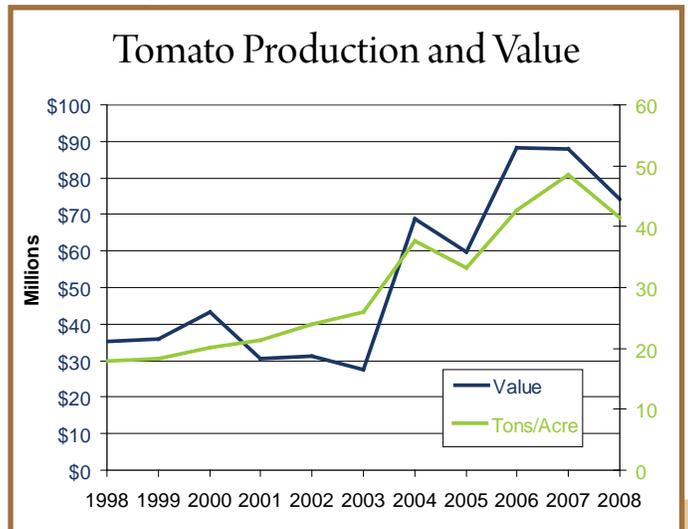
Crop	Year	Acres	Tons /Acre	Tons Total	US \$ /Ton	Total
Beans, Snap	2008	306	5.4	1,652	\$1,330	\$2,197,692
	2007	296	7.2	2,131	\$1,404	\$2,992,205
Bunch Veg.*	2008	885				\$7,801,275
	2007	583				\$4,908,568
Corn, Sweet	2008	144	7.6	1,094	\$472	\$516,557
	2007	176	7.8	1,373	\$656	\$900,557
Cucumbers	2008	339	16.4	5,560	\$518	\$2,879,873
	2007	347	16.8	5,830	\$780	\$4,547,088
Herbs	2008	482	18.0	8,676	\$2,715	\$23,555,340
	2007	359	18.2	6,534	\$2,602	\$17,000,948
Lettuce	2008	580	11.0	6,380	\$519	\$3,311,220
	2007	590	10.8	6,372	\$600	\$3,823,200
Melons	2008	166	4.8	797	\$318	\$253,382
	2007	144	4.5	648	\$430	\$278,640
Mushrooms	2008	19	132.0	2,508	\$3,240	\$8,125,920
	2007	19	170.0	3,230	\$3,155	\$10,190,650
Oriental Veg.**	2008	67				\$549,534
	2007	61				\$585,710
Peppers	2008	188	18.1	3,403	\$730	\$2,484,044
	2007	154	18.2	2,803	\$688	\$1,928,326

Crop	Year	Acres	Tons /Acre	Tons Total	US \$ /Ton	Total
Potatoes	2008	603	12.5	7,538	\$367	\$2,766,263
	2007	603	16.5	9,950	\$200	\$1,989,900
Squash	2008	241	10.7	2,579	\$594	\$1,531,748
	2007	355	10.8	3,834	\$652	\$2,499,768
Tomatoes	2008	2,179	41.5	90,429	\$821	\$74,241,799
	2007	2,313	48.5	112,181	\$785	\$88,061,693
Misc Veg.***	2008	1,029				\$32,812,752
	2007	888				\$19,842,360



At a Glance...10 Years of Tomatoes

Year	Value	Tons/Acre
1998	\$35,313,316	17.9
1999	\$35,803,562	18.3
2000	\$43,372,452	20.2
2001	\$30,578,337	21.3
2002	\$31,071,677	23.9
2003	\$27,481,381	25.9
2004	\$68,858,898	37.6
2005	\$59,729,263	33.2
2006	\$88,378,386	42.6
2007	\$88,061,693	48.5
2008	\$74,241,799	41.5



* Includes Collards, Green Onions, Mustard and Turnip Greens, Parsley, Radishes and Spinach
 ** Includes Bamboo Shoots, Bok Choy, Chinese Greens, Daikon, Gai Choy, Gai Lon and Snap Peas
 *** Includes Cauliflower, Celery, Chayote, Sweet Potatoes, Tomatillos and Others



Photo credit: Sir Mervs

Field & Specialty Crops

Field Crops

Crop	Year	Acres Harvested	Tons/ Acre	Tons Total Production	US \$ /Ton	Total
Barley, Grain	2008	250	1.1	275	160.00	\$44,000
	2007	900	1.2	1,080	148.00	\$159,840
Greenchop	2008	85	22.0	1,870	27.00	\$50,490
	2007	85	21.5	1,828	27.20	\$49,708
Hay, Oat	2008	1,000	1.3	1,300	92.00	\$119,600
	2007	1,000	1.2	1,200	71.00	\$85,200
Oat, Grain	2008	250	0.1	25	150.00	\$3,750
	2007	275	0.1	28	140.00	\$3,850
Pasture, Irrigated	2008	1,560			1,880.00	\$2,932,800
	2007	1,905			1,880.00	\$3,581,400
Range	2008	248,072			5.80	\$1,438,818
	2007	241,882			5.80	\$1,402,916
Silage	2008	27	13.7	370	27.00	\$9,987
	2007	40	14.7	588	27.50	\$16,170

Total Field

Year	Acres	Total
2008	251,244	\$4,599,445
2007	246,087	\$5,299,084



San Diego Agriculture Quick Fact

In 2007, San Diego bee keepers produced over a million pounds of honey! San Diego ranks 5th in the state for honey production.

Timber Crops

Crop	Year	Value
Timber	2008	\$120,000
	2007	\$170,000
Firewood	2008	\$750,000
	2007	\$579,310



Photo credit: HOBO

Total Timber

Year	Total
2008	\$870,000
2007	\$749,310

Apiary Crops

Crop	Year	Value
Honey	2008	\$2,001,886
	2007	\$2,206,236
Bees Wax	2008	\$62,997
	2007	\$54,222
Bees & Queens	2008	\$150,200
	2007	\$166,889
Pollen	2008	\$65,810
	2007	\$84,971
Pollination	2008	\$905,435
	2007	\$911,550

Total Apiary

Year	Total
2008	\$3,186,328
2007	\$3,423,868

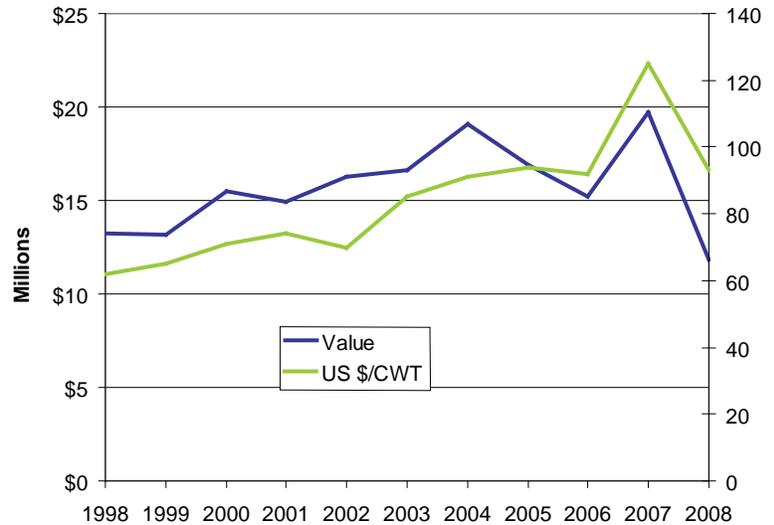
Livestock, Poultry & Products



Livestock & Poultry

Crop	Year	Number of Head	Total CWT*	US \$/CWT	Total
Cattle and Calves	2008	17,000	127,500	\$92.90	\$11,844,750
	2007	21,000	157,500	\$125.00	\$19,687,500
Hogs and Pigs	2008	800	2,000	\$48.00	\$96,000
	2007	1,300	3,250	\$48.80	\$158,600
Chickens	2008	557,500	22,300	\$24.00	\$535,200
	2007	557,500	22,300	\$20.00	\$446,000
Ratites Total	2008				\$8,000
	2007				\$118,000
Chicks	2008	0		n/a	\$0
	2007	550		\$110.00	\$60,500
Meat	2008	1,000 lbs		\$8.00	\$8,000
	2007	10,000 lbs		\$5.75	\$57,500
Lambs and Sheep	2008	1,000	1,000	\$91.30	\$91,300
	2007	573	573	\$90.50	\$51,857

Value and Price of Cattle and Calves



San Diego Agriculture Quick Fact

With more than 2 million "layers," San Diego County ranks 3rd in the state for numbers of egg-laying chickens.

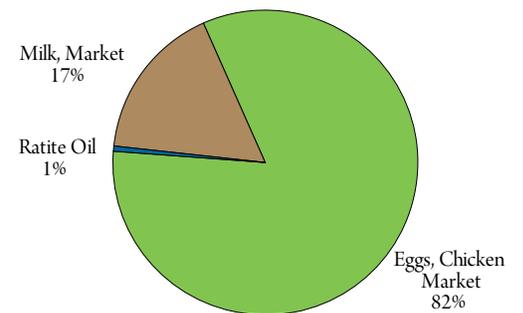
Total Livestock & Poultry

Year	Number	Total
2008	576,300	\$12,575,250
2007	580,923	\$20,461,957

Livestock & Poultry Products

Crop	Year	Number	Total CWT	US \$/Unit	Total
Milk, Market	2008		816,582	\$17.31	\$14,135,034
	2007		840,718	\$18.67	\$15,699,000
Eggs, Chicken Market	2008	70,764,375 dz		\$1.00	\$70,764,375
	2007	64,020,833 dz		\$0.88	\$56,338,333
Ratite Products Total	2008				\$550,000
	2007				\$1,286,750
Hides	2008	0		n/a	\$0
	2007	50		\$135.00	\$6,750
Ratite Oil	2008	1,100 gal		\$500.00	\$550,000
	2007	1,000 gal		\$1,280.00	\$1,280,000

Livestock and Poultry Products



Total Livestock & Poultry Products

Year	Total
2008	\$85,449,409
2007	\$73,324,083

* * * Our Girl "Friday"

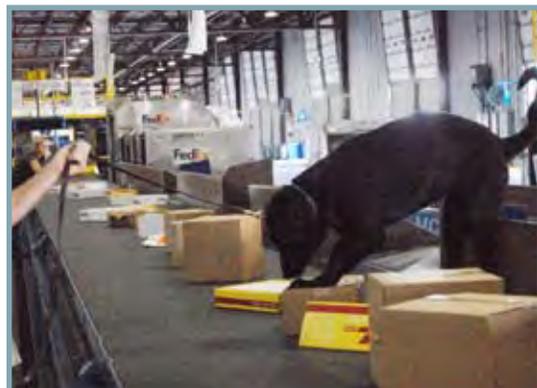
Benjamin Franklin said, "An ounce of prevention is worth a pound of cure." In 2008, San Diego County gained not just an ounce of prevention, but 60 pounds of it! This past year, we welcomed Friday, a 3-year-old female black Labrador retriever, our newest tool in the search for unmarked and often illegal agricultural products. Without proper certification and inspection, these products enter the county bringing unwanted disease and insect pests. Once these pests are here, it is difficult and expensive to control the resulting damage. The best way to prevent damage to our crops is to stop agricultural pests from entering the county in the first place.

Historically, man's best friend has performed many roles for people, such as hunting, herding, protection, and assisting handicapped individuals. But today, the dog's nose is cutting edge technology and has aided in sniffing out all sorts of things: bombs hidden in luggage, mold or termites buried deep in your house, and diseases such as diabetes and cancer in humans. Dogs' noses have nearly 220 million smell-sensitive cells compared to man's five million smell cells, giving them such a superior sense of smell. Add the fact that dogs are great team players and you have the perfect sleuthing pal.

Like many dogs used in sleuthing jobs, Friday came from humble beginnings and was rescued from an animal shelter. The USDA tests and rejects hundreds of dogs just to find a single candidate to undergo the rigors of the training. Friday was the star pupil of her class. She met her partner, Inspector Jeremy Partch, in October of 2008, and the two of them



Friday and her partner, Jeremy Partch



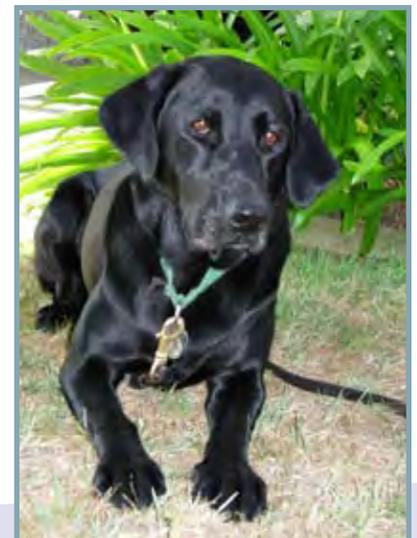
Friday, hard at work

completed a ten-week training course at the USDA's National Detection Dog Training Center in Orlando, Florida. Initially, Friday was trained to detect fruit such as citrus, mango, guava, and apples. As her training continues, she has added additional scents to her repertoire. She has also learned to walk on conveyor belts and search vehicles to detect illegal or unmarked plant material.

Friday arrived during a year when two quarantines were enacted in San Diego County: Asian Citrus Psyllid (ACP) and Mediterranean Fruit Fly (MFF). During the summer of 2008, a small population of ACP was found in San Diego County. An aggressive control and quarantine program was implemented to protect local and statewide growers from this invasive pest. ACP carries the deadly bacterial disease called "citrus greening". Fortunately, this disease has not been found in California. Last November, Mediterranean Fruit Fly (MFF) was found in the El Cajon area of San Diego County and a quarantine was implemented which included treatments, increased trapping and sterile fly releases. The female MFF can lay eggs in more than 250 fruits and vegetables and the burrowing larvae render the fruit inedible.

San Diego County was one of three counties in California awarded a contract for a canine inspection team by the California Department of Food and Agriculture. As part of the team, Friday inspects packages at a variety of parcel terminals. In the past, parcel inspections have been limited to an inspector's ability to recognize suspicious packages, which are often designed to conceal their contents. Statewide in 2008, dog teams intercepted 972 unmarked packages containing plant material. Sixty four pests were found, and 54 were found to be of significant concern, having either an A or Q rating.

We are excited to have such an effective resource in the effort to protect San Diego County's \$1.5 billion agricultural industry. She is truly our girl Friday.



Friday, sitting pretty for the camera

See http://www.cdffa.ca.gov/PHPPS/ar/pe_interior_cdt.html for more information on California Dog Teams.

Sustainable Agriculture

The California Department of Food and Agriculture (CDFA) defines A-rated pests as organisms of known economic importance, subject to state-enforced action involving eradication, quarantine, containment, rejection, or other holding action.

A-Rated Pest Finds

<i>Allopeas clavulinum</i> , Allopeas Snail	6
<i>Aspidiotus destructor</i> , Coconut Scale	3
<i>Bactrocera dorsalis</i> , Oriental Fruit Fly	2
<i>Bactrocera oleae</i> , Olive Fruit Fly	4
<i>Ceratitis capitata</i> , Mediterranean Fruit Fly	13
<i>Ceroplastes floridensis</i> , Florida Wax Scale	1
<i>Ceroplastes rubens</i> , Red Wax Scale	4
<i>Ceroplastes rusci</i> , Fig Wax Scale	18
<i>Ceroplastes sp.</i> , Wax Scale	2
<i>Chrysodeixis eriosoma</i> , Green Garden Looper	2
<i>Chrysomphalus aonidum</i> , Florida Red Scale	1
<i>Coccus viridis</i> , Green Scale	3
<i>Diaprepes abbreviatus</i> , Diaprepes Root Weevil	1
<i>Fusarium oxysporum</i> , Fusarium Wilt	1
<i>Howardia biclavis</i> , Mining Scale	1
<i>Hydrilla verticillata</i> , Hydrilla	1
<i>Pinnaspis strachani</i> , Lesser Snow Scale	5
<i>Pseudaulacaspis cockerelli</i> , Magnolia White Scale	102
<i>Pseudaulacaspis pentagona</i> , White Peach Scale	1
<i>Pseudococcus citriculus</i> , Citriculus mealybug	1
<i>Radopholus similis</i> , Burrowing Nematode	1
<i>Solenopsis invicta</i> , Red Imported Fire Ant	7



Diaprepes Root Weevil



Mediterranean Fruit Fly

The CDFA defines Q-rated pests as organisms requiring a temporary 'A' action, pending determination of a permanent rating. The organism is suspected to be of economic importance, but its status is uncertain because of incomplete identification or inadequate information.

Q-Rated Pest Finds

<i>Agaillia sp.</i> , Leafhopper	5	<i>Pheidole sp.</i> , Ant	1
<i>Aulacaspis yasumatsui</i> , Cycad Aulacaspis Scale	3	<i>Phytophthora ramorum</i> , Sudden Oak Death	1
<i>Carausius morosus</i> , Indian Walking Stick	1	<i>Pinnaspis buxi</i> , Boxwood Scale	1
<i>Ceroplastes sp.</i> , Wax Scale	28	<i>Puccinia horiana</i> , Chrysanthemum White Rust	1
<i>Cicadellidae</i> , Sharpshooter egg masses	2	<i>Ripersiella sp.</i> , Root Mealybug	8
<i>Coloeptera sp.</i> , Wood-boring Beetles	3	<i>Succineidae sp.</i> , Amber Snail	7
<i>Diaphorina citri</i> , Asian Citrus Psyllid	1,082	<i>Uromyces transversalis</i> , Gladiolus Rust	1
<i>Euphyllura olivina</i> , Olive Psyllid	2	<i>Vinsonia stellifera</i> , Stellate Scale	1
<i>Fulgoroidea sp.</i> , Planthopper	1	<i>Xiphinema sp.</i> , Dagger Nematode	1
<i>Halyomorpha halys</i> , Marmorated Stink Bug	1	<i>Zachrysia provisorica</i> , Cuban Land Snail	4
<i>Klambothrips myopori</i> , Myoporum Thrips	31	Various Lepidoptera	5
<i>Palmicultor lumpurensis</i> , Bamboo Mealybug	19	Various Mealybugs	7
<i>Palmicultor palmarum</i> , Palm Mealybug	1	Various Scales	4
<i>Peronospora sp.</i> , Downy Mildew	2	Various Snails	6



Yellow Starthistle



Purple Loosestrife



Pest Management Technicians spraying Perennial Pepperweed

Invasive Weed Control Activities

Weed	Rating	Removal Methods	Scope of Treatment
Spotted Knapweed <i>Centaurea biebersteinii</i>	A	Herbicides Hand Removal	3 Sites, 10.2 Acres
Purple Loosestrife <i>Lythrum salicaria</i>	B	Herbicides Hand Removal	2 Sites, 1 Acre
Perennial Pepperweed <i>Lepidium latifolium</i>	B	Herbicides Hand Removal	18 Sites, 215 Acres
Tamarisk <i>Tamarix ramosissima</i>	B	Herbicides	1 Site, 32.9 Acres
Cape Ivy <i>Delairea odorata</i>	C	Herbicides	1 Site, 0.2 Acres
Yellow Starthistle <i>Centaurea solstitialis</i>	C	Herbicides Hand Removal	8 Sites, 14 Acres

* Programs and Services

Pest Detection is a critical component of the statewide pest prevention network, providing an early warning system designed to detect the introduction and prevent the establishment of harmful insect pests such as fruit flies, Japanese beetle, and Gypsy moth. In 2008, a total of 253,909 trap inspections were conducted.



Pesticide Regulation is responsible for the implementation of state and federal pesticide laws and regulations. Inspections, investigations, and permits ensure pesticides are used in a responsible manner that protects the environment, the public and the employees of businesses that handle pesticides. Highlights for 2008:

- Successfully supported industry's legislative efforts to include San Diego County in the Structural Fumigation Enforcement Program.
- Completed over 1,100 pesticide use monitoring inspections to assess and document whether pesticide use activities were in compliance with laws designed to assure safety of handlers, field workers, the public and the environment.
- Presented four Fieldworker Training sessions in Spanish at various locations throughout the county to help growers ensure worker safety.

Agricultural Water Quality carries out the requirements of the County's Stormwater Permit, issued by the San Diego Regional Water Quality Control Board (RWQCB) and provides hazardous materials information for first responders and citizens. Education, inspections and investigations are aimed at reducing contaminants in local waterways. Inspections focus on "high priority commercial facilities," including nurseries, greenhouses, agricultural and structural pest control businesses, and equestrian facilities. Highlights for 2008:

- Improved compliance with Stormwater Training requirements by developing a forms package to simplify training and documentation and decreased need for on-site re-inspections by using new "Return to Compliance" documentation form.
- Completed a vision session with Department of Public Works to streamline stormwater inspections.

Integrated Pest Control performs eradication and control of invasive weeds such as spotted knapweed, tamarisk, and perennial pepperweed. Other activities include rodent bait production and weed control on roadsides, airports, flood control channels, sewage treatment plants and inactive landfills. In 2008:

- 3,062 acres of weed control performed on County roadsides and airports.
- 176 County-operated facilities received structural pest control.
- 20,854 pounds of rodent bait manufactured.

Civil Actions serves as an advocate at hearings for violations found by inspectors in all programs. In 2008, a total of 402 cases were completed in the following categories:

- | | |
|---|--------------------------------------|
| • Certified Farmers' Market Actions: 21 | • Quarantine Actions: 1 |
| • Structural Pesticides Actions: 35 | • Agricultural Pesticide Actions: 53 |
| • Standards Enforcement Actions: 290 | • Organics Program Actions: 2 |

Plant Health and Pest Prevention performs annual inspections of nurseries throughout the county to ensure cleanliness and proper licensing, certifies that San Diego's outgoing agricultural products meet the plant cleanliness requirements of the importing country, state or county and inspects shipments of produce and plants coming into San Diego County from other countries and states for exotic pests. Highlights for 2008:

- 8,694 acres of nursery stock inspected at 632 production facilities.
- 65 new nurseries licensed.
- 1,385 outgoing plant shipments certified as free of glassy-winged sharpshooter.
- 16,200 shipments of incoming plant material inspected and 84 exotic noxious pests intercepted.
- 16,975 shipments of agricultural commodities certified for export to 60 countries and 22 states.
- 314 nurseries comprising 5,310 acres inspected for sudden oak death, 1 positive find requiring 31 trace forwards.



Standards Enforcement conducts consumer protection regulatory work by checking weighing and measuring devices, price verification of scanners, certified farmers' markets, organic farming, and fruit, vegetable and shell egg quality. Highlights for 2008:

- 45,963 commercial weighing and measuring devices (scales, gas pumps, utility sub-meters, taximeters, etc.) inspected, providing assurance of accuracy to both purchasers and sellers in transactions based upon weight, measure, or count. 93% of commercial devices inspected were in compliance on initial inspection.
- 36 active farmers' markets in San Diego County and 149 local growers certified.
- 343 growers registered as organic in San Diego County, the largest community of organic growers in the country.
- 58 egg facilities inspected for quality 192 times.
- 556 consumer complaints about commercial meters, petroleum and price overcharges investigated.

Environmental Services prepares crop statistics, documents agricultural losses and provides agricultural information to land use projects involving agricultural lands. Special projects include community outreach and media relations.



The County Veterinarian operates the only County-run animal disease diagnostic laboratory in the State, as well as the Entomology and Plant Pathology laboratories. Their services are critical for rapid insect and plant disease identification and minimizing new pest infestations. The San Diego Animal Disease Diagnostic Laboratory examines specimens from domestic animals and wildlife for pathogens affecting animals and diseases transmissible to humans, including rabies, plague, West Nile Virus, Newcastle disease, E. coli, and Avian Influenza. Highlights for 2008:

- 3,399 necropsies and other tests were performed, comprising 786 domestic dogs, 377 domestic cats, 1,327 birds, 62 livestock, 37 equine, 239 wildlife, 18 fish/reptiles/amphibians, 178 tick group tests and 846 rabies tests.
- The Plant Pathology lab processed 9,959 samples.
- The Entomology Lab processed 41,189 samples and handled 1,074 bee calls.



Contact Us



Main Phone: (858)694-8988 Website: www.sdcawm.org Email: sdcawm@sdcountry.ca.gov

Program	Services	Number
Agricultural Water Quality	Stormwater; agricultural hazardous material storage	(858)694-8980
Entomology	Insect identification; apiary registration; pest surveys	(858)694-3076
Environmental Services	Crop statistics; land use issues; public information	(858)694-2775
Integrated Pest Control	Invasive weed control; rodent bait production	(858)694-3540
Plant Health & Pest Prevention	Licenses to sell nursery products, flowers & foliage; shipping certificates; incoming shipment inspection; nursery inspections; glassy-winged sharpshooter; sudden oak death	(760)752-4700
	Inspection Request Line	(760)752-4713
Pest Detection	Exotic insect trapping/eradication	(858)571-4209 (800)300-TRAP
Pesticide Regulation	Voluntary compliance inspections; registration; operator identification numbers; pesticide use reporting; restricted materials permits; employee pesticide training requirements; pesticide complaints	(858)694-8980
Plant Pathology	Plant disease diagnostic services; plant disease surveys	(858)694-2753
Standards Enforcement	Certified farmers' markets; certified producer certificates; organic handler/producer; egg producer/handler; scanner registration; commercial weighing & measuring devices; device serviceperson; weighmaster	(858)694-2778
Veterinarian	Animal necropsies and associated lab services; wildlife damage complaints	(858)694-2838

Department Personnel

Robert G. Atkins, Agricultural Commissioner/Sealer of Weights & Measures

Donald Bradburn, Deputy Director
Special Programs & Support

Nikos Gurfield,
County Veterinarian

Lisa Leondis, Deputy Director
Agriculture & Standards

Jim Byers, Deputy Commissioner & Sealer
STANDARDS ENFORCEMENT

Ha Dang, Deputy Commissioner & Sealer
PESTICIDE REGULATION

Karen Melvin, Deputy Commissioner & Sealer
PEST DETECTION

Cathy Neville, Deputy Commissioner & Sealer
PLANT HEALTH AND PEST PREVENTION

Dawn Nielsen, Deputy Commissioner & Sealer
INTEGRATED PEST MANAGEMENT, ENVIRONMENTAL
ISSUES

Plant Health & Pest Prevention

Bixby, Clark: Supv ASI
Dobbins, Katie: Supv ASI
Moore, Megan: Supv ASI
Brandon, Delores: Supv ASI

McGuire, Charity: Adm Sec I
Myers, Robin: Office Asst
Austin, Ashley: Sdt Worker

Agriculture/Standards Inspectors:

Agnes Jr., Sulpicio	Ghebretseha, Kahsai	Rodriguez, Vicente
Basinski, Nick	Goss, Nicole	Savage, Andrea
Betschart, Chris	Javed, Saiqa	Sixtus, Ann
Delaval, Robert	MacGregor, Robert	Terhall, Greg
Desserich, Steve	McNair, Narriman	Westrick, Jeff
Farhoomand, Manige	Olivares, Jorge	Wube, Muluneh
Feeley, Mike	Partch, Jeremy	Yeane, Priscilla
Fritz, David		

Insect Detection Specialists:

Fanelli, Joseph	Seeby, Gene	Van Cleve, Merle
Hill, Evelyn	Thewlis, Joan	Wristen, Daniel
Robinson, Steve	Torres, Claudia	

Pesticide Regulation

Appel, Nancy: Supv ASI
Redding, Stasi: Supv ASI
Wynn, Jim: Supv ASI

Bilog, Gemma: Sr Office Asst
Joseph, Sabumon: Office Asst
Raymond, Suzanne: Ofc Asst
Thomas, Tina: Office Assistant

Ag/Standards Inspectors:

Amador, Abdel	Elder, Travis	Sapp, Jason
Anzaldo Veronica	Estrella, Dinna	Silva, Nestor
Arriaga, Jose	Moreno, Lauren	Springer, Kathryn
Avina, Tony	Moss, Adrienne	Syzonenko, Nancy
Bacon, Warren	Olsen, Ted	Wann, Ryan

Animal Disease Diagnostic Laboratory

Brewer, Karin: Reg Vet Tech	Kellum, Dr. David: Ag Scientist
Diosa, April: Student Worker	Keon, Elyse: Office Support
Doggett, Deborah: Dis Rsrch Sci	Lim, Arleen: Disease Rsrch Sci
Dunne, Gundula: Vet Officer	Mahoney, Dr. Kerry: Vet Pathlgst
Ellis, Tracy: Ag Scientist	Nolan, Pat: Ag Scientist
Grewal, Dr.Saran: Ag Scientist	Rickman, Dr. Barry: Vet Pathlgst
Heaton, Edith: Reg Vet Tech	Silber, Dr. Alex: Vet Pathlgst
Jaworski, Dalphne: Sr Rsrch Sci	Waldrop, Bill: IDS II
Jones, George: Apiary Spec.	

Administration

Aragaki, Susie: Admin Analyst	Goff, Linda: Admin Trainee
Allen, Veronica: Admin Analyst	Marshall, Marilyn: Off Support
Belenzo, Armando: Acct Tech	Pieper, Cirila: Acct Clerk
Chin, Shirley: HR Officer	Powell, Marci: Admin Sec IV
Espiritu, Erlinda: Purch Clerk	Rushton, Belinda: HR Assistant
Foronas, Aida: Sr Accountant	

Standards Enforcement

Davis, Cindy: Supv ASI
Mares, Marco: Supv ASI
Williams, Rick: Supv ASI

Burton, Ris: Office Asst
Roughton, Mark: Sr Office Asst
Widjaja, Sutjipto: Office Asst

Ag/Standards Inspectors:

Bloomer, Tom	Dewall, Paula	Ong, Quang
Braaten, Glenn	Gordon, Lynn	Porter, Kevin
Bryant, Robert	Guidry, Lee	Roma, Robert
Connelly, Neil	Holbrook, Tim	Shipley, Brad
Deguzman, Janice	Kebede, Atlaw	Silva, Annie
Deneau, Louis	Lyles, Mark	Stevens, Mazen

Pest Detection

Breuninger, Tim: Sr IDS
Feeley, Linda: Sr IDS
Gross, Charles: Sr IDS

Guyot, Cameron: Dept. Clerk
Thomas, Christine: St. Worker
Duh, Tina: St. Worker

Insect Detection Specialists:

Alfaro, Orlando	Fregoso, Jorge	Oluwasakin, Daniel
Allingham, Guy	Hernandez, Alberto	Pierce, Franklin
Arne, Richard	Hock, Kim	Robles, Ivan
Avila, Rishi	Jama, Mohamed	Roskop-Waters, Kara
Blank, Linda	Joseph, Roy	Rowin, Mary
Burkman, Brian	Leech, Bill	Rushton, Paul
Burquez, Raul	Miller, Bob	Sharon, Alan
Buttner, Mark	Moss, Belinda	Velardi, John
Casillas, Manuel		Wagner, Valerie

Integrated Pest Control

Martinez, Mark: Supv PM Tech
Graves, Walter: Env Planner
Winans, Bill: Sr ASI

Pest Management Technicians

Cadena, Paul
Daly, James

Gardner, Bruce
Wood, Ray

Environmental Issues

Carr, Colleen: Sr ASI
Milam, Marcia: ASI

Information Technology/Gis

Acosta, Vince: Sr ASI
Taylor, John: GIS Analyst

Civil Actions

Lorang, Sally: Civil Actions Invstgtr
Peck, Mike: Sdt Worker



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