APPENDIX C

Land Evaluation and Site Assessment Report

DUDEK

Assessment (LESA)
North River Farms Project
Oceanside, California

Prepared for

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MAY 2018

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California Land Evaluation and Site Assessment (LESA)
North River Farms Project

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EXECUTIVE SUMMARY

The purpose of this California Land Evaluation and Site Assessment (LESA) is to provide agencies and decision makers with a succinct and technically developed optional methodology to assist with assessment to ensure that potentially significant impacts or effects on the environment, exclusively related to agricultural land conversions, are quantitatively considered in the environmental review process (California Public Resources Code, Section 21095), including in the California Environmental Quality Act (CEQA).

Findings

The California Agricultural LESA model is used to determine the agricultural significance of a given property. It considers the context of the parcel within its subregion, availability of water, occurrence of soil types conducive to crop production, and other factors. As described herein, the LESA performed for the project site determined that the site assessment score exceeds the CEQA threshold, while the land evaluation is under the threshold. In order to be considered a significant agricultural resource, both the land evaluation and site assessment subscores must be equal to or greater than the CEQA threshold. Therefore, the project site is not considered to represent a significant agricultural resource based on the LESA score, and the project would not result in significant impacts on agricultural resources.

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1 PROJECT SETTING

1.1 Purpose of this California Land Evaluation and Site Assessment

The purpose of this Land Evaluation and Site Assessment (LESA) is to provide agencies and decision makers with a succinct and technically developed methodology to assist with assessment of the potentially significant effects on the environment related to agricultural land conversions considered in the environmental review process (California Public Resources Code, Section 21095), including in the California Environmental Quality Act (CEQA).

The California LESA Model was developed in 1997 and was based on the 1981 Land Evaluation and Site Assessment Guidebook prepared for the U.S. Department of Agriculture's (USDA's) Natural Resources Conservation Service (NRCS) Model. The California LESA Model evaluates measures of soil resource quality, a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. In application to a specific project, the factors are rated, weighted, and combined, resulting in a single numeric score. The final project score, which is a combination of the Land Evaluation (LE) and Site Assessment (SA) subscores becomes the final LESA score and the basis for making a determination of a project's potential significance.

The California Land Evaluation and Site Assessment (LESA) Instruction Manual (1997) developed by the California Department of Conservation (DOC), Office of Land Conservation, is the guidance and instructional document utilized to conduct analysis for the project. The California Land Evaluation and Site Assessment (LESA) Instruction Manual (1997) is included as Appendix A to this document.

1.2 Introduction

Integral Communities is considering residential and commercial project development on an approximately 176.6-acre site (project site) located in the City of Oceanside in northern San Diego County, California (see Figure 1). The subject site is located on lands that have been historically been and are currently being used for agricultural uses. The project site is bisected in the central region by North River Road and is bordered by existing agriculture and the San Luis Rey River to the south, with mixed agricultural and residential development to the north (see Figure 2). The proposed project includes a Planned Development (PD) Plan that provides for the development of up to 720 residential units, a 120-room boutique hotel, and 45,000 square feet of mixed use commercial, plus circulation network improvements, farm activities, and recreational facilities (see Figure 3).

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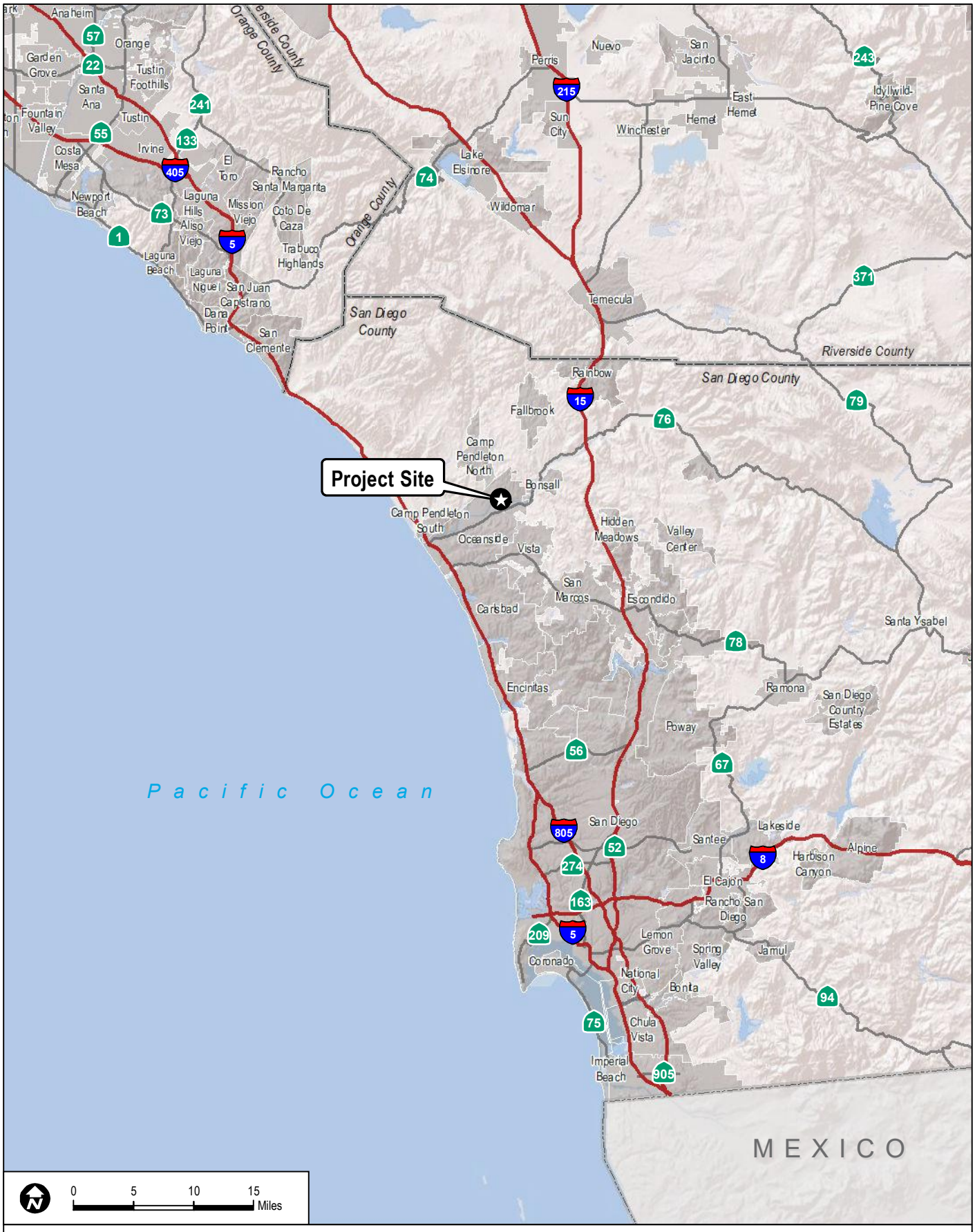

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FIGURE 1

Regional Map

Agricultural Resources Technical Report for the North River Farms Project

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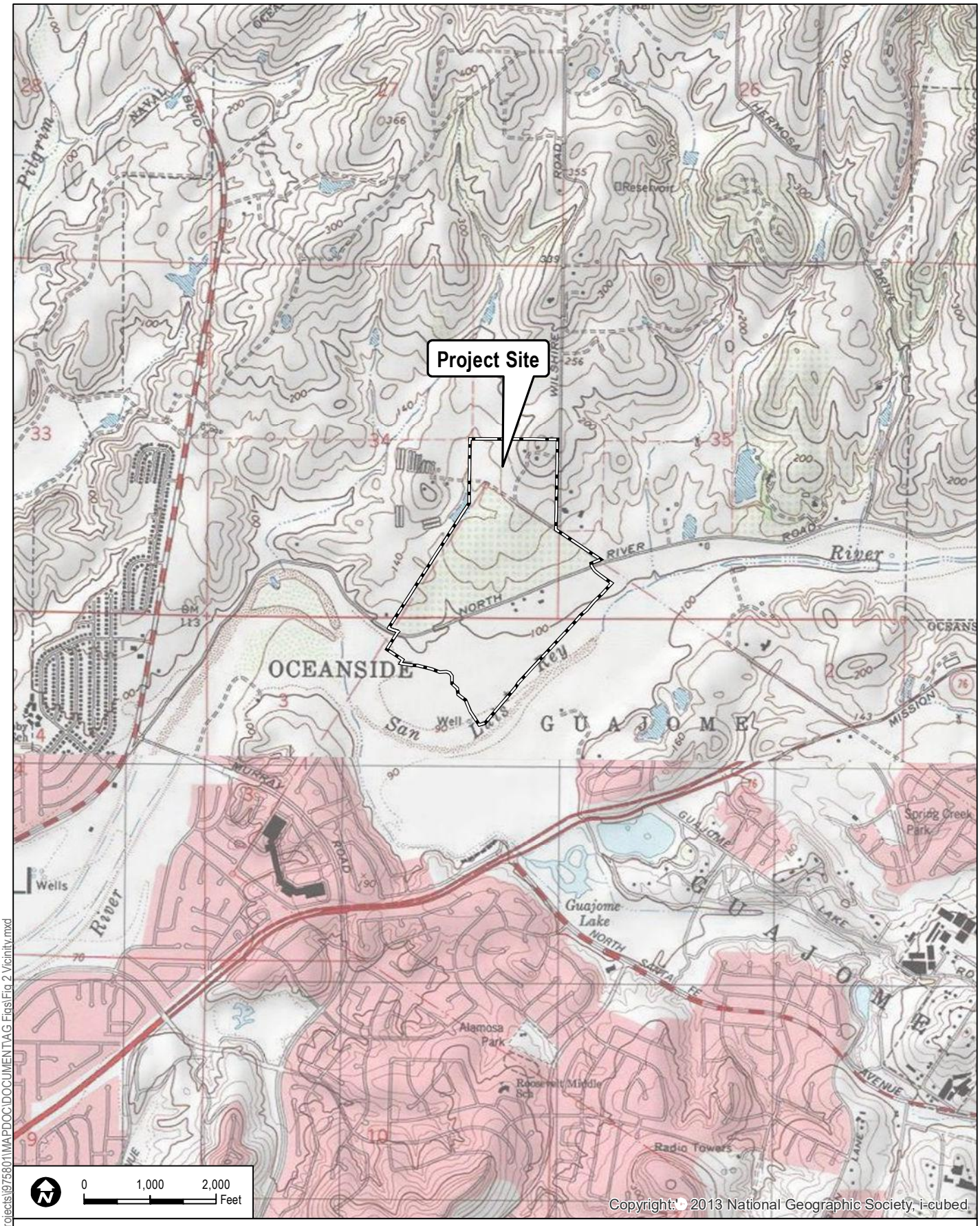

SOURCE: USGS 7.5-Minute Series San Luis Rey Quadrangle.

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FIGURE 2

Vicinity Map

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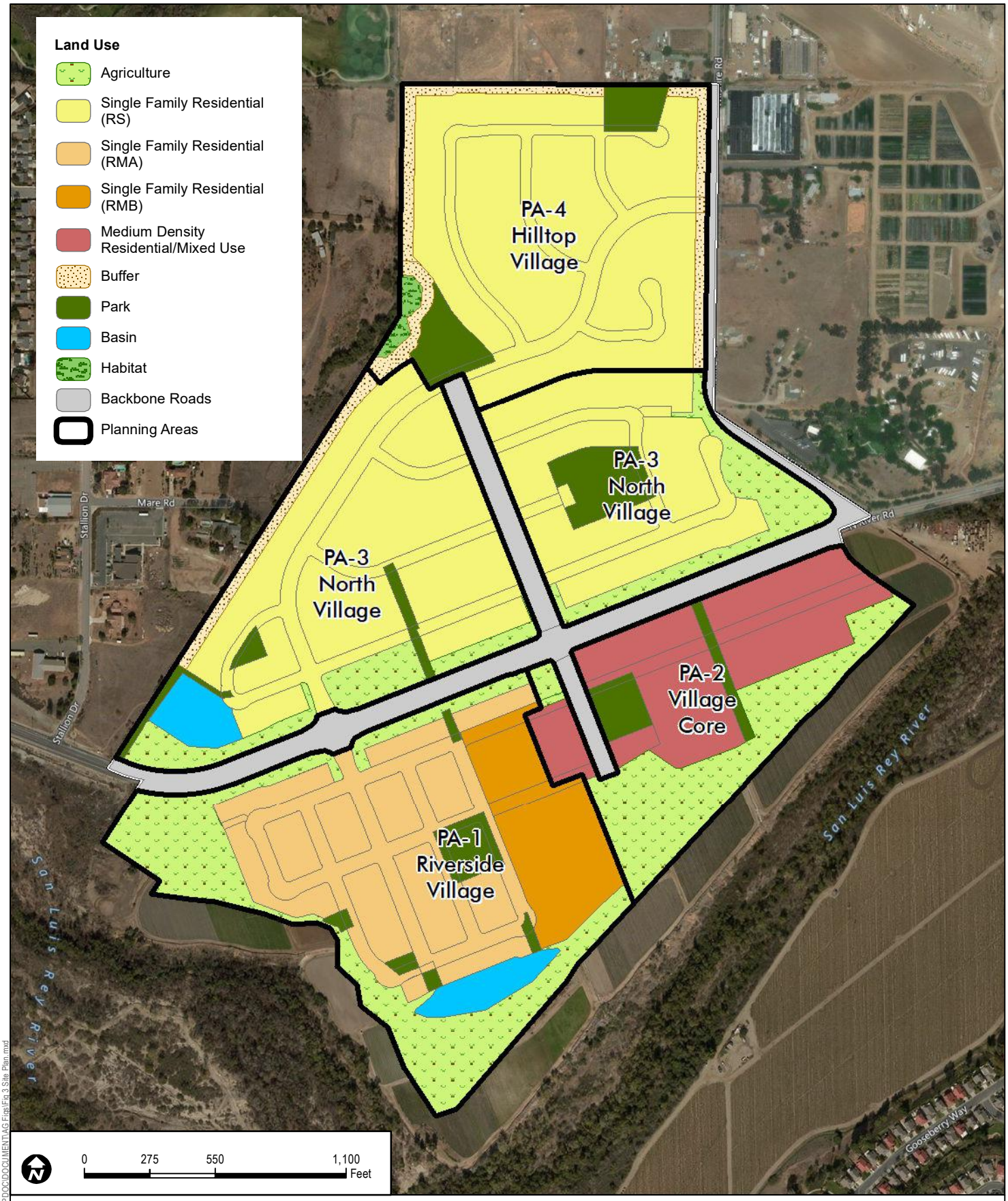

AERIAL SOURCE: BING MAPPING SERVICE; SITE PLAN: FUSCOE ENGINEERING 2018

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FIGURE 3

Site Plan

Agricultural Resources Technical Report for the North River Farms Project

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1.3 Project Description

The proposed project is located in the northeastern portion of the City of Oceanside (City) at the gateway to an informal area of the City known as South Morro Hills (Figure 1). The project site is bound suburban development to the west, including the Morro Hills Master Plan (Arrowood), residential and institutional church uses off of Stallion Road, a dog and horse boarding facility to the north, Wilshire Road and Paradise Falls wedding and event venue to the east, and farming activity bordering the San Luis Rey River to the south (Figure 2).

The project site is currently used by Rocket Farms Herbs Inc., as agricultural land to cultivate culinary herbs. Several existing and vacant single-family structures are located in the northern and central portions of the project site. Additionally, structures on site include a single-family residence converted into an office building, storage structures, temporary greenhouses, a transfer facility, and a water filtration facility with an associated lined pond and water tank. A network of unimproved roads and an irrigation system also extent throughout the project site.

The proposed project includes the development of four separate Planning Areas within the 176.6-acre site that would support a variety of uses, including single-family detached and cluster residential developments, a 100-room boutique hotel, a mixed use core comprised of 30,000 square feet of commercial and educational space, production farming activity, neighborhood gardens, and recreation.

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2 REGULATORY SETTING

2.1 Federal

2.1.1 Farmland Protection Policy Act (7 U.S.C. Section 4201)

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. Further, the FPPA directs federal programs to be compatible with state and local policies for the protection of farmlands. The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners of such land. Information regarding the FPPA is provided for background information in this agricultural technical report.

The FPPA is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It ensures that, to the extent possible, federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every 2 years.

For the purpose of the FPPA, farmland includes Prime Farmland, Unique Farmland, and Farmland of Statewide or Local Importance, defined in 7 U.S.C. Section 4201:

> Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the Secretary. Prime farmland includes land that possesses the above characteristics but is being used currently to produce livestock and timber. It does not include land already in or committed to urban development or water storage; unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops, as determined by the Secretary. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops when treated and managed according to acceptable farming methods. Examples of such crops include citrus, tree nuts, olives, cranberries, fruits, and vegetables; and Farmland, other than prime or unique farmland, that is of statewide or local importance for the production of food, feed, fiber, forage, or oilseed crops, as determined by the appropriate State or unit of local government agency or agencies, and that the Secretary determines should be considered as farmland for the purposes of this chapter[.]

Projects are subject to the FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency (NRCS 2017). As the proposed project does not have federal involvement, the FPPA is not applicable in this situation.

2.2 State

2.2.1 California Department of Conservation

The California DOC is the state agency that administers both the State Farmland Mapping and Monitoring Program (FMMP) and the California Land Conservation Act, more commonly known as "The Williamson Act." The Important Farmland Mapping Program compiles information of the state's important farmlands, including tracking farmland proposed for development, and provides this information to state and local government agencies for use in planning and for decision makers and decision-making bodies. The FMMP Important Farmland Maps are based on a classification system that combines technical soil ratings and current land use. Important Farmland Categories include Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-up Land, and Other Land. FMMP's Important Farmland Maps require that Prime Farmland, meet the following criteria: 1) 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, which equates to four years. Therefore, the land must have been used for irrigated agricultural production at some point in time during a four-year period of time prior to the most recent date of the Important Farmland Map date (DOC 2017); and 2) The soil must meet the physical and chemical criteria for Prime Farmland or Farmland of Statewide Importance as determined by the USDA NRCS. NRCS compiles lists of which soils in each survey area meet the quality criteria. Factors considered in qualification of a soil by NRCS (DOC 2017) include:

- Water moisture regimes, available water capacity, and developed irrigation water supply
- Soil temperature range
- Acid-alkali balance
- Water table
- Soil sodium content
- Flooding (uncontrolled runoff from natural precipitation)
- Erodibility
- Permeability rate
- Rock fragment content
- Soil rooting depth.

The soils information presented in this analysis is derived from statewide soils maps that have been prepared by both state and federal government entities. The California DOC, Division of Land Resource Protection, and the USDA NRCS, both conduct regular and ongoing assessments of soil types and then prepare detailed soil maps. Once soils are mapped, they are grouped into the following categories that have specific definitions. The categories and definitions are as follows:

Prime Farmland. In California, the FMMP maps all statewide farmlands. The FMMP's soils study area is contiguous with modem soil surveys developed by the USDA. The FMMP requires that any land designated as Prime must meet the criteria related to land use and soils.

As such, farmland with the optimal combination of physical and chemical features to sustain long-term agriculture is described as Prime. The land has been determined to have the soil quality, growing season, and moisture supply needed to produce sustained high crop yields (DOC 2017).

Farmland of Statewide Importance. As with Prime Farmland, Farmland of Statewide Importance must also meet both the criteria described above with respect to land use and soils and is similar to the Prime Farmland category. The difference is that Farmland of Statewide Importance tolerates greater shortcomings of the soil, such as greater slopes or less ability to store moisture (DOC 2017).

Unique Farmland. This category of farmland is categorized as having lesser quality soils, but is still used for the production of leading agricultural crops. This farmland is typically irrigated, but can also include non-irrigated orchards or vineyards found in some climatic zones in the state. These lands must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date (DOC 2017).

Farmland of Local Importance. Lands that have been determined by local jurisdictional authorities such as county boards of supervisors or local advisory committees to have a specific importance to the local agricultural economy are considered Farmland of Local Importance (DOC 2017).

The FMMP has three other categories of land:

Grazing Land. Land that is particularly suited to the grazing of livestock given existing vegetation. This particular designation was developed in concert with the California Cattlemen's Association, University of California Cooperative Extension, and a host of other groups with an interest in grazing and livestock (DOC 2017).

Urban and Built-Up Land. This category refers to land that is occupied by structures with a building density of at least one unit to 1.5 acres or six structures to a 10-acre parcel. This

category includes land uses such as residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other developed purposes (DOC 2017).

Other Land. All other lands that do not fall into the categories above are subsumed into this category. Examples of these lands include low-density rural developments, brush, timber wetland, riparian areas not suitable for livestock grazing, confined livestock poultry or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. In addition, vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land (DOC 2017).

The California DOC developed the California LESA Model (Model). Embedded within the Model is the NRCS soils information upon which the FMMP is woven. Hence, since the soils data is already included in the LESA Model and Analysis, no further discussion is presented here, but is instead addressed in the analysis.

The California Land Conservation Act of 1965 or the Williamson Act

The California Land Conservation Act of 1965, better known as the Williamson Act as mentioned above, provides for reduced property taxation on agricultural land in exchange for a 10-year continuously rolling agreement. The purpose of the Williamson Act is the long-term conservation of agricultural and open space lands. The act establishes a program to enroll land in Williamson Act whereby the land is enforceably restricted to agricultural, open space, or recreational uses or uses deemed to be "compatible" with the agricultural land uses or compatible recreational uses as outlined in the act in exchange for reduced property tax assessments.

The Act requires that each participating local government have a set of uniform rules for administering Williamson Act and Farmland Security Zone contracts within its jurisdiction. None of the project site is under a Williamson Act contract.

Farmland Security Zone Act

The Farmland Security Zone Act is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy. (Government Code Sections 51296–51297.4). Farmland Security Zone Act contracts are sometimes referred to as "Super Williamson Act Contracts." Under the provisions of this act, a landowner already under a Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone contracts must be for an initial term of at least 20 years. As with Williamson Act contracts, each year an additional year is automatically added to the contract term unless a notice of nonrenewal

is given. In return for a further 35% reduction in the property tax value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into nonagricultural uses during the term of the contract. Farmland Security Zone contracts may also be cancelled, but only upon finding that cancellation would both service the purposes of the Williamson Act, and that cancellation would be in the public interest (Government code Section 51297). None of the project site is under a Farmland Security Zone contract.

2.3 Regional Planning Context

2.3.1 City of Oceanside General Plan

Agricultural resources are addressed in the City of Oceanside's General Plan, Environmental Resource Management Element. As stated there in, the agriculture industry in Oceanside is valued at approximately $12 million annually. This accounts for approximately 10% of San Diego County's agricultural output. Major crops include avocados, tomatoes, citrus, and nursery stock. There are two primary areas of significant agricultural production in the City. The fist, Morrow Hills agricultural area (where the project is located), is generally north of Mission Avenue and east of Vandegrift Boulevard. Avocados are the primary crop in the Morro Hills area and production contributes to the North County output of over 90% of all avocados in California. The second area is the Rancho del Oro property between Mission Avenue and Oceanside Boulevard. The ranch contains the largest lime grove in California, more than 10% of the State's total lime plantings, plus significant numbers of lemons, oranges, tangelos, and avocados. In all, there are over 41,500 trees on 2,200 acres. The following goal and objective related to agriculture can be found in the General Plan:

Goal: Evaluate the state of the environment and formulate a program of planned management, wise utilization, and preservation of our natural resources to ensure the health, safety, and welfare of present and future generations.

Objective: Agriculture – Designate as agriculture in the Land Use Element those areas of prime agriculture land that can still be economically cultivated.

2.4 Land Evaluation and Site Assessment

The LESA Model is split into two sections, the Land Evaluation (LE) Factors, and the Site Assessment (SA) Factors. LESA includes scoring sheets for ease of information summary and appraisal.

Soils On-site

Figure 4 provides an overview of the soil types on the project site.

Part One: Scoring of Land Evaluation Factors

The California LESA Model includes two LE factors that are separately rated:

a. USDA Land Capability Classification (LCC) Rating. The LCC indicates the suitability of soils for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops and the risk of damage to soils when they are used in agriculture. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest rating (Class I). Specific subclasses are also utilized to further characterize soils. An expanded explanation of the LCC is included in most soil surveys.

b. Storie Index Rating. The Storie Index provides a numeric rating (based on a 100-point scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based upon soil characteristics only. Four factors that represent the inherent characteristics and qualities of the soil are considered in the index rating. The factors are profile characteristics, texture of the surface layer, slope, and other factors (e.g., drainage, salinity).

There are nine soil types occurring within the project site (Table 1).

Table 1
Project Soils Summary and Soil Acreage

Soil Type	Acreage
Bonsall sandy loam, 2 to 9% slopes, eroded	2.25
Bosanko clay, 2 to 9% slopes	30.36
Bosanko clay, 9 to 15% slopes	2.21
Fallbrook sandy loam, 9 to 15% slopes, eroded	8.49
Placentia sandy loam, 5 to 9% slopes, eroded	74.16
Placentia sandy loam, 9 to 15% slopes, eroded	21.84
Tujunga sand, 0 to 5% slopes	23.42
Visalia sandy loam, 0 to 2% slopes	10.33
Visalia sandy loam, 2 to 5% slopes	3.58
Total	**176.64 acres**

Pursuant to the LESA Model, Table 2 summarizes the numeric conversions of Land Capability Classification Units. Table 3 provides a summary of soils types on the project site.

Table 2
Numeric Conversions of Land Capability Classification Units

LCC	LCC Point Rating
I	100
IIe	90

Table 2
Numeric Conversions of Land Capability Classification Units

LCC	LCC Point Rating
IIs,w	80
IIIe	70
IIIs,w	60
IVe	50
IVs,w	40
V	30
VI	20
VII	10
VIII	0

Table 3
Summary of Soils on the Project Site

Soil Type	NRCS Farmland Classification	Storie Index	Land Capability Class
Bonsall sandy loam, 2 to 9% slopes, eroded	Farmland of Statewide Importance	54 (Grade 3)	IVe (if irrigated) IVe (if non-irrigated)
Bosanko clay, 2 to 9% slopes	Farmland of Statewide Importance	26 (Grade 4)	IIIe (if irrigated) IIIe (if non-irrigated)
Bosanko clay, 9 to 15% slopes	Not Prime Farmland	25 (Grade 4)	IIIe (if irrigated) IIIe (if non-irrigated)
Fallbrook sandy loam, 9 to 15% slopes, eroded	Not Prime Farmland	70 (Grade 2)	IVe (if irrigated) IVe (if non-irrigated)
Placentia sandy loam, 5 to 9% slopes, eroded	Farmland of Statewide Importance	46 (Grade 3)	IVe (if irrigated) IVe (if non-irrigated)
Placentia sandy loam, 9 to 15% slopes, eroded	Not Prime Farmland	45 (Grade 3)	IVe (if irrigated) IVe (if non-irrigated)
Tujunga sand, 0 to 5% slopes	Farmland of Statewide Importance	48 (Grade 3)	IIIs (if irrigated) IVe (if non-irrigated)
Visalia sandy loam, 0 to 2% slopes	Farmland, if irrigated and either protected from flooding or not frequently flooded during the growing season	86 (Grade 1)	I (if irrigated) IIe (if non-irrigated)
Visalia sandy loam, 2 to 5% slopes	Farmland, if irrigated	88 (Grade 1)	IIe (if irrigated) IIe (if non-irrigated)

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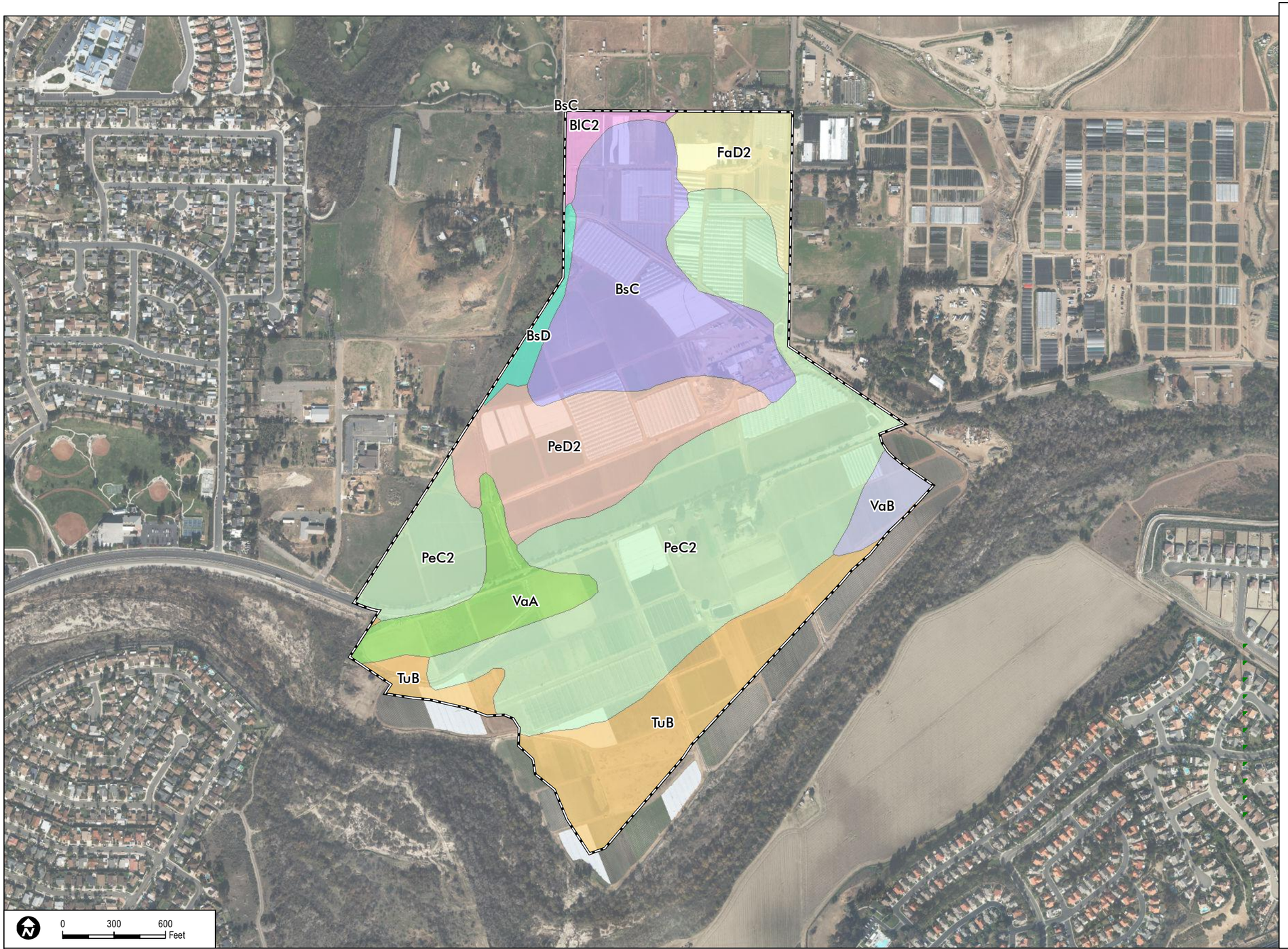

Project Site

Soils Code

- BlC2
- BsC
- BsD
- FaD2
- PeC2
- PeD2
- TuB
- VaA
- VaB

MUSYM	MUName
BlC2	Bonsall sandy loam, 2 to 9 percent slopes, eroded
BsC	Bosanko clay, 2 to 9 percent slopes
FaD2	Fallbrook sandy loam, 9 to 15 percent slopes, eroded
VaB	Visalia sandy loam, 2 to 5 percent slopes
BsC	Bosanko clay, 2 to 9 percent slopes
PeC2	Placentia sandy loam, 5 to 9 percent slopes, eroded
TuB	Tujunga sand, 0 to 5 percent slopes
BsD	Bosanko clay, 9 to 15 percent slopes
PeD2	Placentia sandy loam, 9 to 15 percent slopes, eroded
PeC2	Placentia sandy loam, 5 to 9 percent slopes, eroded
VaA	Visalia sandy loam, 0 to 2 percent slopes

SOURCE: AERIAL-BING MAPPING SERVICE; SOILS-USDA

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FIGURE 4

Soils Map

Agricultural Resources Technical Report for the North River Farms Project

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Table 4 equates to Table 1A of Land Evaluation Worksheet entitled *Land Capability Classification and Storie Index Scores* in the California Agricultural LESA Model Instruction Manual prepared by the California DOC (updated in 2011).

Table 4
Land Capability Classification and Storie Index Scores

A	B	C	D	E	F	G	H
Soil Map Unit	*Project Acres*	*Proportion of Project Area*	*LCC*	*LCC Rating*	*LCC Score*	*Storie Index*	*Storie Index Score*
Bonsall sandy loam, 2 to 9% slopes, eroded	2.25	0.01	IVe	50	0.50	54	0.54
Bosanko clay, 2 to 9% slopes	30.36	0.17	IIIe	70	11.90	26	4.42
Bosanko clay, 9 to 15% slopes	2.21	0.01	IIIe	70	0.70	25	0.25
Fallbrook sandy loam, 9 to 15% slopes, eroded	8.49	0.05	IVe	50	2.50	70	3.50
Placentia sandy loam, 5 to 9% slopes, eroded	74.16	0.42	IVe	50	21.00	46	19.32
Placentia sandy loam, 9 to 15% slopes, eroded	21.84	0.13	IVe	50	6.50	45	5.85
Tujunga sand, 0 to 5% slopes	23.42	0.13	IIIs	60	7.80	48	6.24
Visalia sandy loam, 0 to 2% slopes	10.33	0.06	I	100	6.00	86	5.16
Visalia sandy loam, 2 to 5% slopes	3.58	0.02	IIe	90	1.80	88	1.76
Totals	**176.64**	**1.0**		**LCC Total Score**	**58.70**	**Storie Index Total Score**	**47.04**

Hence, the application of the Land Evaluation Tool results in an LCC score of 58.70 and a Storie Index Score of 47.04. Of the nine soil types on the project site, four are Farmland of Statewide Importance and three are Not Prime Farmland. The remaining two soil types are Farmland, if irrigated, and Farmland, if irrigated and either protected from flooding or not frequently flooded during the growing season. The project site is dominated by active agricultural land uses. Thus, the irrigated LCC rating has been utilized to most accurately reflect the situation of the land and ability to support crops.

Part 2: Scoring of Site Assessment Factors

The California LESA Model includes four SA factors that are separately rated:

1. The Project Size Rating
2. The Water Resources Availability Rating

3. The Surrounding Agricultural Land Use Rating
4. The Surrounding Protected Resource Land Rating

The analysis for the Site Assessment is as follows.

1. Project Size Rating: The Site Assessment relies upon the following Project Size Scoring rubric (Table 5), which corresponds to Table 3 in the LESA Model Instruction Manual prepared by the California DOC (1997).

Table 5
Project Size Scoring

LCC Class I or II Soils		LCC Class III Soils		LCC Class IV or lower Soils	
Acres	*Score*	*Acres*	*Score*	*Acres*	*Score*
80 or above	100	160 or above	100	320 or above	100
60–79	90	120–159	90	240–319	80
40–59	80	80–119	80	160–239	60
20–39	50	60–79	70	100–159	40
10–19	30	40–59	60	40–99	20
Fewer than 10	0	20–39	30	Fewer than 10	0
		10–19	10		
		Fewer than 10	0		

According to the LESA Model Instruction Manual prepared by the California DOC (updated in 2011):

> The inclusion of the measure of a project's size in the California Agricultural LESA Models is a recognition of the role that farm size plays in the viability of commercial agricultural operations. In general, larger farming operations can provide greater flexibility in farm management and marketing decisions. Certain economies of scale for equipment and infrastructure can also be more favorable for larger operations. In addition, larger operations tend to have greater impacts upon the local economy through direct employment, as well as impacts upon support industries (e.g., fertilizers, farm equipment, and shipping) and food processing industries.

As such, the application of this test to the project results in a score of 60 based on the size of the project. See Table 6.

Table 6
Project Size Score

A	B	C	D	E
Soil Map Unit	*Project Acres and LCC*	*LCC Class I - II*	*LCC Class III*	*LCC Class IV- VIII*
Bonsall sandy loam, 2 to 9% slopes, eroded	IVe	-	-	2.25
Bosanko clay, 2 to 9% slopes	IIIe	-	30.36	-
Bosanko clay, 9 to 15% slopes	IIIe	-	2.21	-
Fallbrook sandy loam, 9 to 15% slopes, eroded	IVe	-	-	8.49
Placentia sandy loam, 5 to 9% slopes, eroded	IVe	-	-	74.16
Placentia sandy loam, 9 to 15% slopes, eroded	IVe	-	-	21.84
Tujunga sand, 0 to 5% slopes	IIIs	-	23.42	-
Visalia sandy loam, 0 to 2% slopes	I	10.33	-	-
Visalia sandy loam, 2 to 5% slopes	IIe	3.58	-	-
Totals	**176.64**	**13.91**	**55.99**	**106.74**
Project Size Scores	**-**	**30**	**60**	**40**
Highest Project Size Score	**60**			

2. Water Resources Availability Rating: The Water Resources Availability Rating is based upon identifying the various water sources that may supply a given property, and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought. Table 7, Water Resources Availability, corresponds to Table 4 in the LESA Model Instruction Manual prepared by the California DOC (updated in 2011).

Table 7
Water Resources Availability

A	B	C	D	E
Project Proportion	*Water Source*	*Proportion of Project Area*	*Water Availability Score*	*Weighted Availability Score (CxD)*
1	Irrigated	1.00	80	80
	Total		**Total Water Resources Score**	**80**

3. Surrounding Agricultural Land Use Rating: Determination of the surrounding agricultural land use rating is based upon the identification of a project's "Zone of Influence," which is defined as that land near a given project, both directly adjoining and within a defined distance away, that is likely to influence, and be influenced by, the agricultural land use of the subject project site.

4. Surrounding Protected Resource Land Rating: The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating, and is scored in a similar manner. Protected resource lands are those lands with long-term use restrictions that are compatible with or supportive of agricultural uses of land.

The surrounding land uses include agriculture and rural residential uses (Figure 5). The total acreage within the Zone of Influence is 1,375.

Table 8 corresponds to Site Assessment Worksheet 3 in the LESA Model Instruction Manual prepared by the California DOC (updated in 2011), which is a table that combines criteria 3 and 4.

Table 8
Surrounding Agricultural Land Use and Surrounding Protected Resource Land

A	B	C	D	E	F	G
Total acres	*Acres in Agriculture*	*Acres of Protected Resource Land*	*Percent in Agriculture*	*Percent Protected Land*	*Surrounding Agricultural Land Score*	*Surrounding Protected Resource Land Score*
1,375	455	0	33%	0%	0	0

Based on the criteria in the preceding table, the score for this portion of the project is 0 points for the surrounding land use score and 0 points for the surrounding protected resource land score.

The Final LESA Scoresheet, Table 9, corresponds to Table 8, Final LESA Score Sheet, in the LESA Model Instruction Manual prepared by the California DOC (updated in 2011).

Table 9
Final LESA Score Sheet

	Factor Scores	Factor Weight	Weighted Factor Scores
Land Evaluation Factors			
Land Capability Classification	58.70	0.25	14.68
Storie Index	47.04	0.25	11.76
Land Evaluation Subtotal		0.50	26.44 4
Site Assessment Factors			
Project Size	60	0.15	9
Water Resource Availability	80	0.15	12
Surrounding Agricultural Land	0	0.15	0
Protected Resource Land	0	0.05	0
Site Assessment Subtotal		0.50	21
		Final LESA Score	**47.4**

According to the LESA Model Instruction Manual prepared by the California DOC (updated in 2011), the California LESA Model is weighted so that 50% of the total LESA score of a given project is derived from the LE factors, and 50% from the SA factors. Individual factor weights are listed below, with the sum of the factor weights required to equal 100%. A single LESA score is generated for a given project after all of the individual Land Evaluation and Site Assessment factors have been scored and weighted.

Table 10 is taken directly from the California Agricultural LESA Instruction Manual, 1997 prepared by the California DOC, Office of Land Conservation (Appendix A), and summarizes the significance levels of the individual LE and SA scores as well as the combined significance of the total LA and SE scores. The combined LE and SA score determines the final level of significance of a project under the California Agricultural LESA Model.

Table 10
California LESA Model Scoring Thresholds

Total LESA Score	**Scoring Decision**
0–39 Points	Not Considered Significant
40–59 Points	Considered Significant only if the LE and the SA subscores are each greater than or equal to 20 points.
60–79 Points	Considered Significant unless either the LE or the SA subscore is less than 20 points.
80–100 Points	Considered Significant

Although the total score, 47.4, is between the 40–59 scoring criteria for Significant, this is qualified by the fact that in order to be considered Significant, both the LE and SA subscores must be equal to or greater than 20. In the case of the project, both the LE and SA score exceeds the threshold of 20. Therefore, the project site is considered to represent a significant agricultural resource based on the LESA score, and the project would result in **significant impacts** to agricultural resources. Mitigation is required in order to reduce this impact to below a level of significance.

2.5 Mitigation Measures

The project shall implement the following mitigation measure in order to reduce impacts to below a level of significance.

MM-AG-1: They County of San Diego has an agricultural conservation program known as the Purchase of Agricultural Conservation Easement (PACE) Program. The PACE Program promotes the long term preservation of agriculture in the County of San Diego. The project applicant shall be required to purchase PACE mitigation credits from the County of San Diego for the direct loss of 176.6 acres of agricultural land.

2.6 References

California Public Resources Code, Section 21095

Government Code Sections 51296–51297.4

Government code Section 51297

Department of Conservation (DOC). 2017. Important Farmland Mapping Categories and Soil Taxonomy Terms. Accessed February 23, 2018. http://www.conservation.ca.gov/dlrp/fmmp/Documents/soil_criteria.pdf

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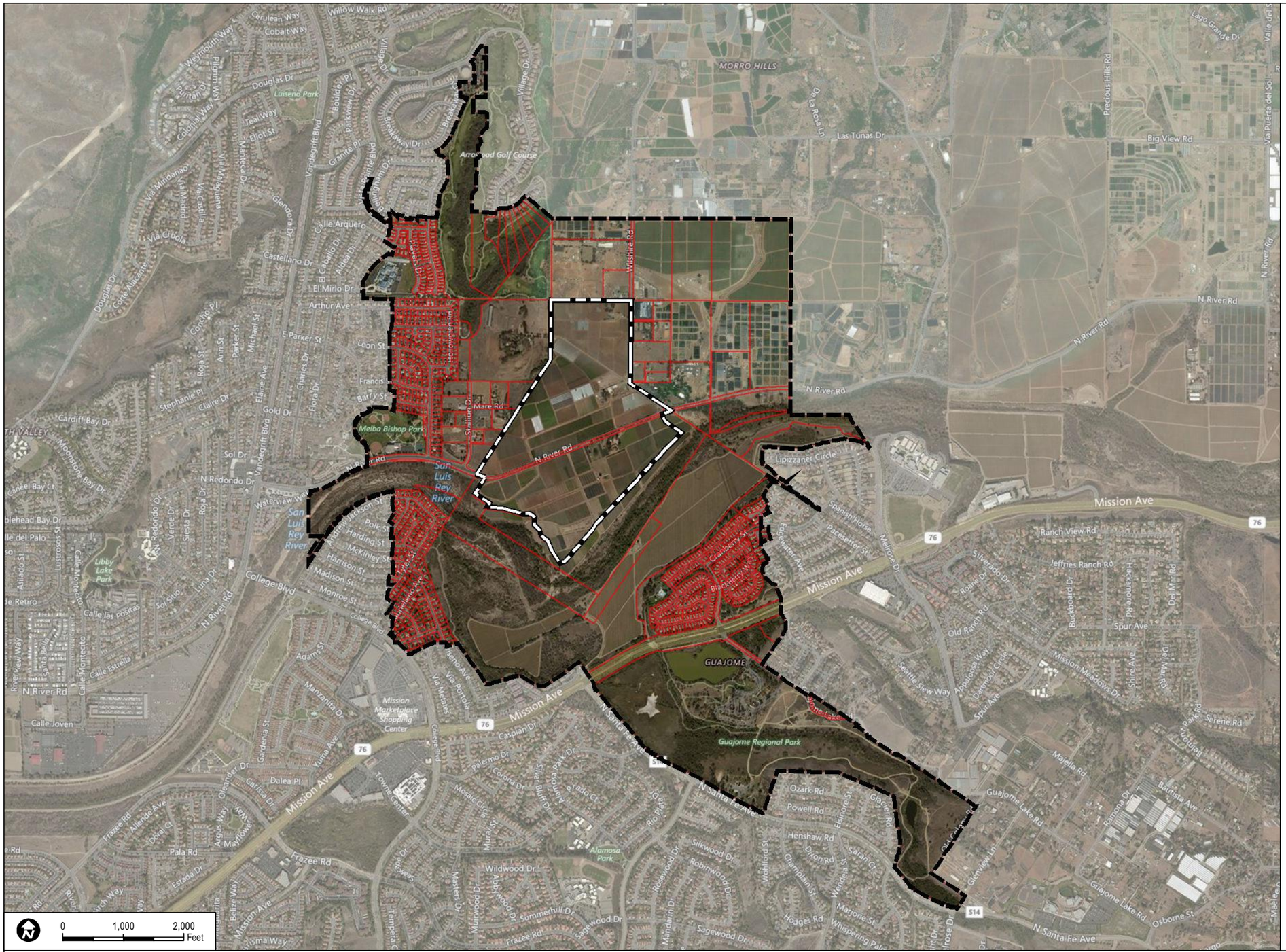
Natural Resources Conservation Service (NRCS). 2017. Farmland Protection Policy Act. Accessed February 23, 2018. https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/fppa/?cid=nrcs143_008275

City of Oceanside. 2002. City of Oceanside, General Plan - Environmental Resource Management Element . June 2002. http://www.ci.oceanside.ca.us/civicax/filebank/blobdload.aspx?BlobID=24756



SOURCE: AERIAL-BING MAPPING SERVICE; SOILS-USDA

DUDEK

FIGURE 5

Zone of Influence

Agricultural Resources Technical Report for the North River Farms Project

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APPENDIX A

California AgriculturalLand Evaluation and Site Assessment ModelInstruction Manual 1997

CALIFORNIA AGRICULTURAL

LAND EVALUATION AND SITE ASSESSMENT MODEL

Instruction Manual

For further information, please contact:

California Department of Conservation
Office of Land Conservation
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CALIFORNIA AGRICULTURAL

LAND EVALUATION AND SITE ASSESSMENT MODEL

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Department of Conservation
Office of Land Conservation

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EXECUTIVE SUMMARY

Land Evaluation and Site Assessment (LESA) is a term used to define an approach for rating the relative quality of land resources based upon specific measurable features. The formulation of a California Agricultural LESA Model is the result of Senate Bill 850 (Chapter 812 /1993), which charges the Resources Agency, in consultation with the Governor's Office of Planning and Research, with developing an amendment to Appendix G of the California Environmental Quality Act (CEQA) Guidelines concerning agricultural lands. Such an amendment is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code Section 21095).

The California Agricultural LESA Model is composed of six different factors. Two Land Evaluation factors are based upon measures of soil resource quality. Four Site Assessment factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, each of these factors is separately rated on a 100 point scale. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. It is this project score that becomes the basis for making a determination of a project's potential significance, based upon a range of established scoring thresholds. This Manual provides detailed instructions on how to utilize the California LESA Model, and includes worksheets for applying the Model to specific projects.

INTRODUCTION

Defining the LESA System

The Land Evaluation and Site Assessment (LESA) system is a point-based approach that is generally used for rating the relative value of agricultural land resources. In basic terms, a given LESA model is created by defining and measuring two separate sets of factors. The first set, Land Evaluation, includes factors that measure the inherent soil-based qualities of land as they relate to agricultural suitability. The second set, Site Assessment, includes factors that are intended to measure social, economic, and geographic attributes that also contribute to the overall value of agricultural land. While this dual rating approach is common to all LESA models, the individual land evaluation and site assessment factors that are ultimately utilized and measured can vary considerably, and can be selected to meet the local or regional needs and conditions for which a LESA model is being designed to address. In short, the LESA methodology lends itself well to adaptation and customization in individual states and localities. Considerable additional information on LESA may be found in *A Decade with LESA - the Evolution of Land Evaluation and Site Assessment* (8).

Background on LESA Nationwide

In 1981, the federal Natural Resources Conservation Service (NRCS), known then as the Soil Conservation Service, released a new system that was designed to provide objective ratings of the agricultural suitability of land compared to demands for nonagricultural uses of lands. The system became known as Land Evaluation and Site Assessment, or LESA. Soon after it was designed, LESA was adopted as a procedural tool at the federal level for identifying and addressing the potential adverse effects of federal programs (e.g., funding of highway construction) on farmland protection. The Farmland Protection Policy Act of 1981 (5) spells out requirements to ensure that federal programs, to the extent practical, are compatible with state, local, and private programs and policies to protect farmland, and calls for the use of LESA to aid in this analysis. Typically, staff of the NRCS is involved in performing LESA scoring analyses of individual projects that involve other agencies of the federal government.

Since its inception, the LESA approach has received substantial attention from state and local governments as well. Nationwide, over two hundred jurisdictions have developed local LESA methodologies (7). One of the attractive features of the LESA approach is that it is well suited to being modified to reflect regional and local conditions. Typical local applications of LESA include assisting in decision making concerning the sitting of projects, changes in zoning, and spheres of influence determinations. LESA is

also increasingly being utilized for farmland protection programs, such as the identification of priority areas to concentrate conservation easement acquisition efforts.

Because of the inherent flexibility in LESA model design, there is a broad array of factors that a given LESA model can utilize. Some LESA models require the measurement of as many as twenty different factors. Over the past 15 years, the body of knowledge concerning LESA model development and application has begun to indicate that LESA models utilizing only several basic factors can capture much of the variability associated with the determination of the relative value of agricultural lands. In fact, LESA models with many factors are increasingly viewed as having redundancies, with different factors essentially measuring the same features, or being highly correlated with one another. Additional information on the evolution and development of the LESA approach is provided in, A *Decade with LESA -The Evolution of Land Evaluation and Site Assessment* (8).

Development of the California Agricultural LESA Model

In 1990 the Department of Conservation commissioned a study to investigate land use decisions that affect the conversion of agricultural lands in California. The study, conducted by Jones and Stokes Associates, Inc., was prepared in response to concerns about agricultural land conversion identified in the *California Soil Conservation Plan* (1) (developed by the ad hoc Soil Conservation Advisory Committee serving the Department of Conservation in 1987). Among these concerns was the belief that there was inadequate information available concerning the socioeconomic and environmental implications of farmland conversions, and that the adequacy of current farmland conversion impact analysis under the California Environmental Quality Act (CEQA) was not fully known. The findings of this study are included in the publication, *The Impacts of Farmland Conversion in California* (2).

Currently, neither CEQA nor the State CEQA Guidelines contains procedures or specific guidance concerning how agencies should address farmland conversion impacts of projects. The only specific mention of agricultural issues is contained in Appendix G of the State CEQA Guidelines, which states that a project will normally have a significant effect on the environment if it will “convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land”.

Among the conclusions contained in *The Impacts of Farmland Conversion in California* study was that the lack of guidance in how lead agencies should address the significance of farmland conversion impacts resulted in many instances of no impact analysis at all. A survey of environmental documents sent to the Governor's Office of Planning and Research (OPR) between 1986 and 1988 was performed. The survey

showed that among projects that affected at least 100 acres of land and for which agriculture was a project issue, nearly 30 percent received Negative Declarations, and therefore did not did not receive the environmental impact analysis that would be provided by an Environmental Impact Report (EIR).

Of those projects involving the conversion of agricultural lands and being the subject of an EIR, the study found a broad range of approaches and levels of detail in describing the environmental setting, performing an impact analysis, and providing alternative mitigation measures. The only agricultural impacts found to be significant in the EIRs were those involving the direct removal of prime agricultural lands from production by the project itself. The focus on prime farmland conversion in the projects surveyed was deemed to be related to the narrow direction provided in Appendix G of the State CEQA Guidelines.

The formulation of a California LESA Model is the result of Senate Bill 850 (Chapter 812 /1993), which charges the Resources Agency, in consultation with the Governor's Office of Planning and Research, to develop an amendment to Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Such an amendment is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code Section 21095). This legislation authorizes the Department of Conservation to develop a California LESA Model, which can in turn be adopted as the required amendment to Appendix G of the CEQA Guidelines.

Presentation of the California LESA Model

The California LESA Model is presented in this Manual in the following sections:

Section I. provides a listing of the information and tools that will typically be needed to develop LESA scores for individual projects.

Section II. provides step-by-step instructions for scoring each of the six Land Evaluation and Site Assessment factors that are utilized in the Model, with an explanation of the rationale for the use of each factor.

Section III. defines the assignment of weights to each of the factors relative to one another, and the creation of a final LESA score for a given project.

Section IV. assigns scoring thresholds to final LESA scores for the purpose of determining the significance of a given project under CEQA where the conversion of agricultural lands is a project issue.

Additionally:

Appendix A. provides an abridged set of step-by-step LESA scoring instructions that can be used and reproduced for scoring individual projects.

Appendix B. demonstrates the application of the California LESA Model to the scoring of a hypothetical project.

The California Agricultural LESA Model

Section I. Required Resources and Information

The California Land Evaluation and Site Assessment (LESA) Model requires the use and interpretation of basic land resource information concerning a given project. A series of measurements and calculations is also necessary to obtain a LESA score. Listed below are the materials and tools that will generally be needed to make these determinations.

Land Evaluation and Site Assessment calculations will require:

1. A calculator or other means of tabulating numbers

2. An accurately scaled map of the project area, such as a parcel map

3. A means for making acreage determinations of irregularly shaped map units. Options include, from least to most technical:

    - A transparent grid-square or dot-planimeter method of aerial measurement

    - A hand operated electronic planimeter

    - The automatic planimetry capabilities of a Geographic Information System (GIS)

4. A modern soil survey, generally produced by the USDA Natural Resources Conservation Service, which delineates the soil-mapping units for a given project. [Note: If modern soil survey information is not available for a given area of study, it may be necessary to draw upon the services of a professional soil scientist to perform a specific project survey].

5. Maps that depict land uses for parcels including and surrounding the project site, such as the Department of Conservation's Important Farmland Map series, the Department of Water Resources Land Use map series, or other appropriate information.

6. Maps or information that indicate the location of parcels including and surrounding the project site that are within agricultural preserves, are under public ownership, have conservation easements, or have other forms of long term commitments that are considered compatible with the agricultural use of a given project site.

Section II. Defining and Scoring the California Land Evaluation and Site Assessment Model Factors

This section provides detailed step-by-step instructions for the measurement and scoring of each of the Land Evaluation and Site Assessment factors that are utilized in the California Agricultural LESA Model, and is intended to serve as an introduction to the process of utilizing the Model. Once users are familiar with the Model, a more streamlined set of instructions and scoring sheets is available in Appendix A. In addition, the scoring of a hypothetical project is presented using these scoring sheets in Appendix B.

Scoring of Land Evaluation Factors

The California LESA Model includes two Land Evaluation factors that are separately rated:

1. The Land Capability Classification Rating
2. The Storie Index Rating

The information needed to make these ratings is typically available from soil surveys that have been conducted by the federal Natural Resources Conservation Service (formerly known as the Soil Conservation Service). Consultation should be made with NRCS staff (field offices exist in most counties) to assure that valid and current soil resource information is available for the project site. Copies of soil surveys are available at local field offices of the NRCS, and may also be available through libraries, city and county planning departments, the Cooperative Extension, and other sources. In addition, a Certified Professional Soil Scientist (CPSS) may also be consulted to obtain appropriate soil resource information for the project site. A directory of CPSS registered soil consultants is available through the Professional Soil Scientists Association of California, P.O. Box 3213, Yuba City, CA 95992-3213; phone: (916) 671-4276.

1) The USDA Land Capability Classification (LCC) - The LCC indicates the suitability of soils for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops, and the risk of damage to soils when they are used in agriculture. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receive the highest rating (Class I). Specific subclasses are also utilized to further characterize soils. An expanded explanation of the LCC is included in most soil surveys.

2) The Storie Index - The Storie Index provides a numeric rating (based upon a 100 point scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based upon soil characteristics only. Four factors that represent the inherent characteristics and qualities of the soil are

considered in the index rating. The factors are: profile characteristics, texture of the surface layer, slope, and other factors (e.g., drainage, salinity).

In some situations, only the USDA Land Capability Classification information may be currently available from a given published soil survey. However, Storie Index ratings can readily be calculated from information contained in soil surveys by qualified soil scientists. Users are encouraged to seek assistance from NRCS staff or Certified Professional Soil Scientists to derive Storie Index information for the soils as well. If, however, limitations of time or resources restrict the derivation of Storie Index ratings for the soils within a region, it may be possible to adapt the Land Evaluation by relying solely upon the LCC rating. Under this scenario the LCC rating would account for 50 percent of the overall LESA factor weighting.

Identifying a Project's Soils

In order to rate the Land Capability Classification and Storie Index factors, the evaluator must identify the soils that exist on a given project site and determine their relative proportions. A **Land Evaluation Worksheet** (Table 1A.) is used to tabulate these figures, based upon the following:

Step 1.
Locate the project on the appropriate map sheet in the Soil Survey.

Step 2.
Photocopy the map sheet and clearly delineate the project boundaries on the map, paying close attention to the map scale.

Step 3.
Identify all of the soil mapping units existing in the project site (each mapping unit will have a different map unit symbol) and enter the each mapping unit symbol in **Column A** of the **Land Evaluation Worksheet** (Table 1A).

Step 4.
Calculate the acreage of each soil mapping unit present within the project site using any of the means identified in **Section 1**, **Required Resources and Information**, and enter this information in **Column B**.

Step 5.

Divide the acres of each soil mapping unit by the total project acreage to determine the proportion of each unit that comprises the project, and enter this information in Column C.

1. Land Evaluation - The Land Capability Classification Rating

Step 1.
In the Guide to Mapping Units typically found within soil surveys, identify the Land Capability Classification (LCC) designation (e.g., IV-e) for each mapping unit that has been identified in the project and enter these designations in **Column D** of the **Land Evaluation Worksheet** (Table 1A.).

Step 2.
From Table 2., **The Numeric Conversion of Land Capability Classification Units**, obtain a numeric score for each mapping unit, and enter these scores in **Column E**.

Step 3.
Multiply the proportion of each soil mapping unit (**Column C**) by the LCC points for each mapping unit (**Column E**) and enter the resulting scores in **Column F**.

Step 4.
Sum the LCC scores in **Column F** to obtain a single LCC Score for the project. Enter this LCC Score in **Line 1** of the **Final LESA Worksheet** (Table 8)

Table 2. Numeric Conversion of Land Capability Classification Units

Land Capability Classification	LCC Point Rating
I	100
IIe	90
IIs,w	80
IIIe	70
IIIs,w	60
IVe	50
IVs,w	40
V	30
VI	20
VII	10
VIII	0

Table 1A.
Land Evaluation Worksheet

Land Capability Classification (LCC) and Storie Index Scores

A	B	C	D	E	F	G	H
Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
Totals		(Must Sum to 1.0)		***LCC Total***		***Storie Index Total***	

Table 1B.
Site Assessment Worksheet 1.

Project Size Score

	I	J	K
	LCC Class I - II	LCC Class III	LCC Class IV - VIII
Total Acres			
Project Size Scores			

Highest Project Size Score |

2. Land Evaluation - The Storie Index Rating Score

Step 1.
From the appropriate soil survey or other sources of information identified in Appendix C, determine the Storie Index Rating (the Storie Index Rating is already based upon a 100 point scale) for each mapping unit and enter these values in **Column G** of the **Land Evaluation Worksheet** (Table 1A.).

Step 2.
Multiply the proportion of each soil mapping unit found within the project (**Column C**) by the Storie Index Rating (**Column G**), and enter these scores in **Column H**.

Step 3.
Sum the Storie Index Rating scores in **Column H** to obtain a single Storie Index Rating score for the project. Enter this Storie Index Rating Score in **Line 2** of the **Final LESA Worksheet** (Table 8)

Scoring of Site Assessment Factors

The California LESA Model includes four Site Assessment factors that are separately rated:

1. **The Project Size Rating**
2. **The Water Resources Availability Rating**
3. **The Surrounding Agricultural Land Rating**
4. **The Surrounding Protected Resource Land Rating**

1. Site Assessment - The Project Size Rating

The Project Size Rating relies upon acreage figures that were tabulated under the Land Capability Classification Rating in Table 1A. The Project Size rating is based upon identifying acreage figures for three separate groupings of soil classes within the project site, and then determining which grouping generates the highest Project Size Score.

Step 1.
Using information tabulated in **Columns B** and **D** of the **Land Evaluation Worksheet** (Table 1A), enter acreage figures in **Site Assessment Worksheet 1. - Project Size** (Table 1B) using either **Column I, J,** or **K** for each of the soil mapping units in a given project.

Step 2.
Sum the entries in **Column I** to determine the total acreage of Class I and II soils on the project site.

Sum the entries in **Column J** to determine the total acreage of Class III soils on the project site.

Sum the entries in **Column K** to determine the total acreage of Class IV and lower rated soils on the project site.

Step 3.
For each of the three columns, apply the appropriate scoring plan provided in Table 3, **Project Size Scoring**, and enter the **Project Size Score** for each grouping in the **Site Assessment Worksheet 1. - Project Size** (Table 1B). Determine which column generates the highest score. The highest score becomes the overall **Project Size Score**. Enter this number in **Line 3** of the **Final LESA Scoresheet** (Table 8).

Table 3. Project Size Scoring

LCC Class I or II soils		LCC Class III soils		LCC Class IV or lower	
Acres	***Score***	***Acres***	***Score***	***Acres***	***Score***
80 or above	100	160 or above	100	320 or above	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19	30	40-59	60	40-99	20
fewer than 10	0	20-39	30	fewer than 40	0
		10-19	10		
		fewer than 10	0		

Explanation of the Project Size Factor

The Project Size factor in the California Agricultural LESA Model was developed in cooperation with Nichols-Berman, a consulting firm under contract with the Department of Conservation. A thorough discussion of the development of this rating is presented by Nichols-Berman in a report to the Department entitled, *Statewide LESA Methodologies Report - Project Size and Water Resource Availability Factors* (3).

The inclusion of the measure of a project's size in the California Agricultural LESA Models is a recognition of the role that farm size plays in the viability of commercial agricultural operations. In general, larger farming operations can provide greater flexibility in farm management and marketing decisions. Certain economies of scale for equipment and infrastructure can also be more favorable for larger operations. In addition, larger operations tend to have greater impacts upon the local economy through direct employment, as well as impacts upon support industries (e.g., fertilizers, farm equipment, and shipping) and food processing industries.

While the size of a given farming operation may in many cases serve as a direct indicator of the overall economic viability of the operation, The California Agricultural LESA Model does not specifically consider the issue of economic viability. The variables of economic viability for a specific farm include such factors as the financial management and farming skills of the operator, as well as the debt load and interest rates being paid by an individual operator, which are issues that cannot readily be included in a statewide LESA model.

In terms of agricultural productivity, the size of a farming operation can be considered not just from its total acreage, but the acreage of different quality lands that comprise the operation. Lands with higher quality soils lend themselves to greater management and cropping flexibility and have the potential to provide a greater economic return per unit acre. For a given project, instead of relying upon a single acreage figure in the Project Size rating, the project is divided into three acreage groupings based upon the Land Capability Classification ratings that were previously determined in the Land Evaluation analysis. Under the Project Size rating, relatively fewer acres of high quality soils are required to achieve a maximum Project Size score. Alternatively, a maximum score on lesser quality soils could also be derived, provided there is a sufficiently large acreage present. Acreage figures utilized in scoring are the synthesis of interviews that were conducted statewide for growers of a broad range of crops. In the interviews growers were queried as to what acreage they felt would be necessary in order for a given parcel to be considered attractive for them to farm.

The USDA LCC continues to be the most widely available source of information on land quality. Project Size under this definition is readily measurable, and utilizes much of the same information needed to score a given project under the Land Evaluation component of the methodology. This approach also complements the LE determination, which, while addressing soil quality, does not account for the total acreage of soils of given qualities within a project.

This approach allows for an accounting of the significance of high quality agricultural land as well as lesser quality agricultural lands, which by virtue of their large area can be considered significant agricultural resources. In this way, no single acreage figure for a specific class of soils (e.g., soils defined as “prime”) is necessary.

2. Site Assessment - The Water Resources Availability Rating

The Water Resources Availability Rating is based upon identifying the various water sources that may supply a given property, and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought. **Site Assessment Worksheet 2. - Water Resources Availability Worksheet** (Table 4) is used to tabulate the score.

Step 1.
Identify the different water resource types that are used to supply the proposed project site (for example, irrigation district water, ground water, and riparian water are considered to be three different types of water resources). Where there is only one water source identified for the proposed project, skip to Step 4.

Step 2.
Divide the proposed project site into portions, with the boundaries of each portion being defined by the irrigation water source(s) supplying it. A site that is fully served by a single source of water will have a single portion, encompassing the entire site. A site that is fully served by two or more sources that are consistently merged together to serve a crop's needs would also have a single portion. (e.g., a portion of the proposed project may receive both irrigation district and groundwater). If the project site includes land that has no irrigation supply, consider this acreage as a separate portion as well. Enter the water resource portions of the project in **Column B** of Table 4, **Site Assessment Worksheet 2. - Water Resources Availability**.

[As an example, a hypothetical project site is determined to have four separate water supply portions:

Portion 1 is served by irrigation district water only;
Portion 2 is served by ground water only;
Portion 3 is served by *both* irrigation district water and ground water;
Portion 4 is not irrigated at all.**]**

Step 3.
Calculate the proportion of the total project area that is represented by each water resource portion, and enter these figures in **Column C** of **Site Assessment Worksheet 2. - Water Resources Availability**, verifying that the sum of the proportions equals 1.0.

Table 4. Site Assessment Worksheet 2. - Water Resources Availability

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score (C x D)
1				
2				
3				
4				
5				
6				
		(Must Sum to 1.0)	***Total Water Resource Score***	

Step 4.

For each water resource supply portion of the project site, determine whether irrigated and dryland agriculture is *feasible*, and if any *physical* or *economic restrictions* exist, during both *drought* and *non-drought* years. These italicized terms are defined below:

- A *physical restriction* is an occasional or regular interruption or reduction in a water supply, or a shortened irrigation season, that forces a change in agricultural practices -- such as planting a crop that uses less water, or leaving land fallow. (This could be from cutbacks in supply by irrigation and water districts, or by ground or surface water becoming depleted or unusable. Poor water quality can also result in a physical restriction -- for example by requiring the planting of salt-tolerant plants, or by effectively reducing the amount of available water.)

- An *economic restriction* is a rise in the cost of water to a level that forces a reduction in consumption. (This could be from surcharge increases from water suppliers as they pass along the cost of finding new water supplies, the extra cost of pumping more ground water to make up for losses in surface water supplies, or the extra energy costs of pumping the same amount of ground water from deeper within an aquifer.)

- Irrigated agricultural production is *feasible* when:

  1) There is an existing irrigation system on the project site that can serve the portion of the project identified in Step 2;

  2) *Physical* and/or *economic restrictions* are not severe enough to halt production; and

  3) It is possible to achieve a viable economic return on crops though irrigated production.

(A major question that should be considered is, if there is an irrigated crop that can be grown within the region, can it actually be grown on the project site? Depending upon the jurisdiction, some typical crops that have a large water demand may not be feasible to grow on the project site, while others that require less water are feasible. Information to aid in making this determination can be obtained from county agricultural commissioners, the UC Cooperative Extension, irrigation districts, and other sources.)

- *Dryland production* is *feasible* when rainfall is adequate to allow an economically viable return on a nonirrigated crop.

- A *drought year* is a year that lies within a defined drought period, as defined by the Department of Water Resources or by a local water agency. Many regions of the state are by their arid nature dependent upon imports of water to support irrigated agriculture. These regions shall not be considered under periods of drought unless a condition of drought is declared for the regions that typically would be providing water exports.

Step 5.
Each of the project's water resource supply portions identified in **Step 2** is scored separately. Water Resources Availability scoring is performed by identifying the appropriate condition that applies to each portion of the project, as identified in Table 5., **Water Resource Availability Scoring**. Using Table 5, identify the option that best describes the water resource availability for that portion and its corresponding water resource score. Option 1 defines the condition of no restrictions on water resource availability and is followed progressively with increasing restrictions to Option 14, the most severe condition, where neither irrigated nor dryland production is considered feasible. Enter each score into **Column D** of Table 4.

Step 6.
For each portion of the project site, determine the section's weighted score by multiplying the portion's score (**Column D**), by its proportion of the project area (**Column C**), and enter these scores in **Column E**, the weighted Water Availability Score. Sum the **Column E** scores to obtain the total Water Resource Availability Score, and enter this figure in **Line 4** of the **Final LESA Score Sheet** (Table 8).

Table 5. Water Resource Availability Scoring

Option	Non-Drought Years			Drought Years			WATER RESOURCE SCORE
	RESTRICTIONS			RESTRICTIONS			
	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	
1	YES	NO	NO	YES	NO	NO	100
2	YES	NO	NO	YES	NO	YES	95
3	YES	NO	YES	YES	NO	YES	90
4	YES	NO	NO	YES	YES	NO	85
5	YES	NO	NO	YES	YES	YES	80
6	YES	YES	NO	YES	YES	NO	75
7	YES	YES	YES	YES	YES	YES	65
8	YES	NO	NO	NO	-- --	-- --	50
9	YES	NO	YES	NO	-- --	-- --	45
10	YES	YES	NO	NO	-- --	-- --	35
11	YES	YES	YES	NO	-- --	-- --	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

Explanation of the Water Resource Availability Rating

The Water Resource Availability factor in the California Agricultural LESA Model was developed in cooperation with Nichols-Berman, a consulting firm under contract with the Department of Conservation. A thorough discussion of the development of this rating is presented by Nichols-Berman in a report to the Department entitled, *Statewide LESA Methodologies Report - Project Size and Water Resource Availability Factors* (3). During the development of this factor it became apparent that certain conditions unique to California would need to be represented in this system.

First, it was decided to classify water reliability based upon the *effects* on agricultural production (such as being forced to change to lower-value crops, putting in groundwater pumps, or cutting back on the acreage farmed) rather than the actual *type* of limitation (such as a limitation on the quantity, frequency, or duration of water delivery). LESA systems have traditionally focused on the latter. However, it was found that the many types of limitations are too varied in California to adequately represent in the LESA system. In the Statewide LESA system, these effects are referred to as *restrictions*.

Second, the factor had to include an interrelation with cost. The historical shortages and unreliability of California water use has led to the establishment of various interconnected and dual systems. Probably more than any other state, reliability is related with cost -- a more reliable water supply can sometimes be obtained, but at a greater cost. Therefore, *restrictions* were classified into two major categories -- *physical* and *economic*. These are separated because, generally, a physical restriction is more severe than an economic restriction and this should be reflected in the LESA system.

Third, the factor had to include the effects of the drought cycle in California. During the drought of 1987 to 1992, many agricultural areas of the state experienced water shortages. The impact of these shortages resulted in a number of different actions. Some areas were able to avoid the worst effects of the drought simply by implementing water conservation measures. Other areas were able to obtain additional water supplies, such as by securing water transfers or simply pumping more groundwater, but at an increase in the overall price of water. Other options included shifting crops, replanting to higher value crops to offset the increase in water prices, or leaving land fallow. A project site that experiences restrictions during a drought year should not be scored as high as a similar project site that does not.

The easiest way to make determinations of irrigation feasibility and the potential restrictions of water sources is to investigate the cropping history of the project site. For instance, was the water supply to the project site reduced by the local irrigation district during the last drought? If the site has a ground water supply, do area ground water levels sometimes drop to levels that force markedly higher energy costs to pump the water?

If the history of the project site is unavailable (including when the site has recently installed an irrigation system), look at the history of the general area. However, remember that the project site may have different conditions than the rest of the region. For instance, the project site could have an older water right than others in the region. Although certain areas of the state had severe restrictions on water deliveries during the last drought, some parcels within these areas had very secure deliveries due to more senior water rights. If this was the case in the region of the project site, check the date of water right and compare it with parcels that received their total allotment during the last drought. The local irrigation district should have information on water deliveries.

The scoring of water resource availability for a project site should not just reflect the adequacies of water supply in the past -- it should be a *prediction* of how the water system will perform in the future. For instance, a local jurisdiction might find that the allocation of flows to stream and river systems has been recently increased for environmental reasons, which will decrease the future available surface water supply. In this case, the past history of the site is not an adequate representation of future water supply and water system performance.

3. Site Assessment - The Surrounding Agricultural Land Rating

Determination of the surrounding agricultural land use rating is based upon the identification of a project's "Zone of Influence" (ZOI), which is defined as that land near a given project, both directly adjoining and within a defined distance away, that is likely to influence, and be influenced by, the agricultural land use of the subject project site. The determination of the ZOI is described below, and is illustrated with an example in Figure 1.

Defining a Project's "Zone of Influence"

Step 1.
Locate the proposed project on an appropriate map and outline the area and dimensions of the proposed project site.

Step 2.
Determine the smallest rectangle that will completely contain the project site (Rectangle A).

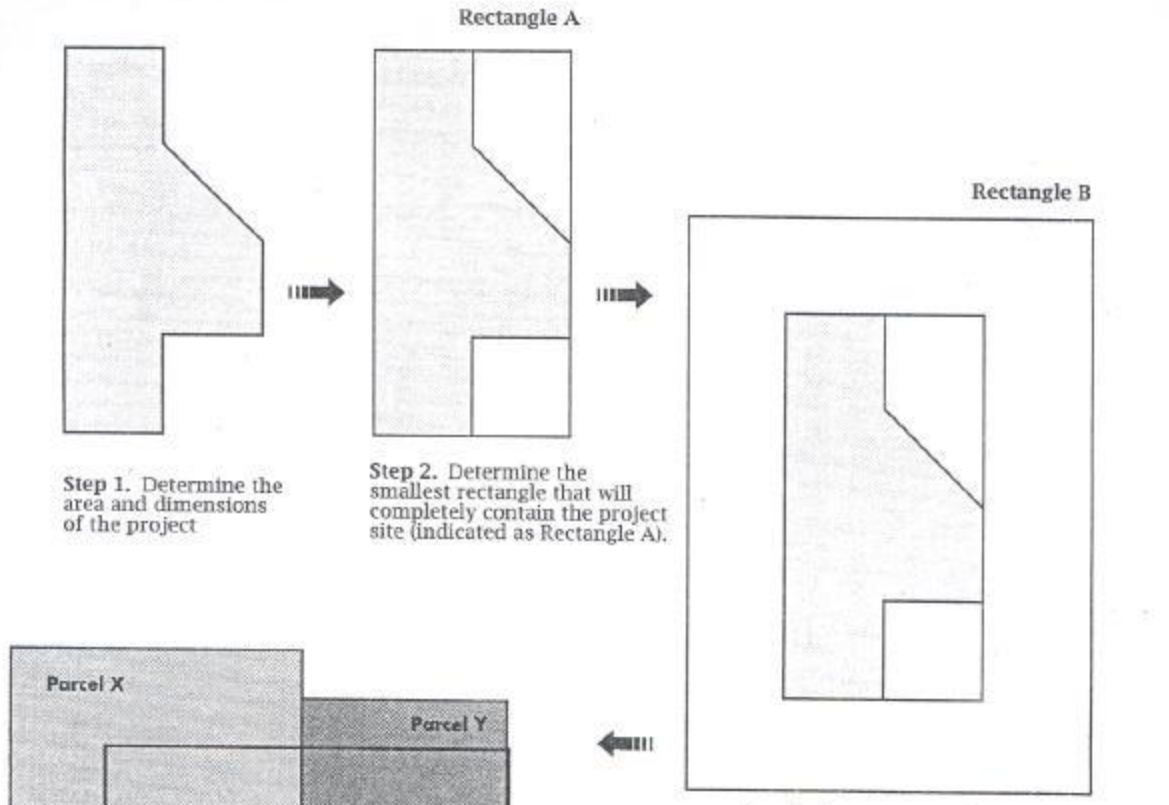
Step 3.
Create a second rectangle (Rectangle B) that extends 0.25 mile (1320 feet) beyond Rectangle A on all sides.

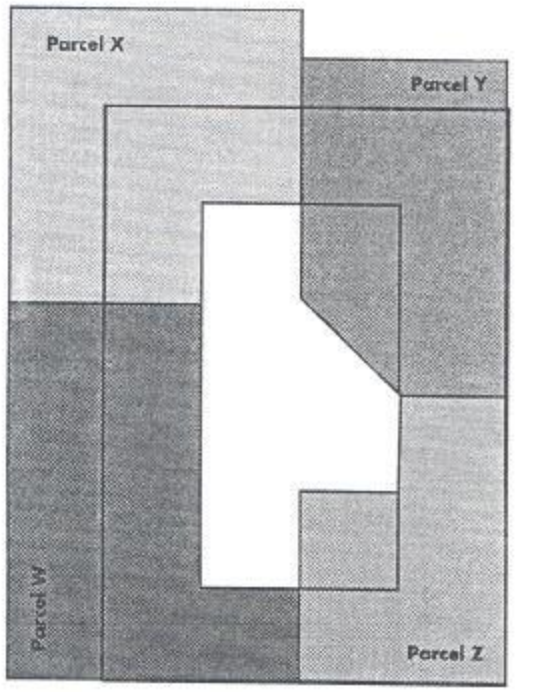
Step 4.
Identify all parcels that are within or are intersected by Rectangle B.

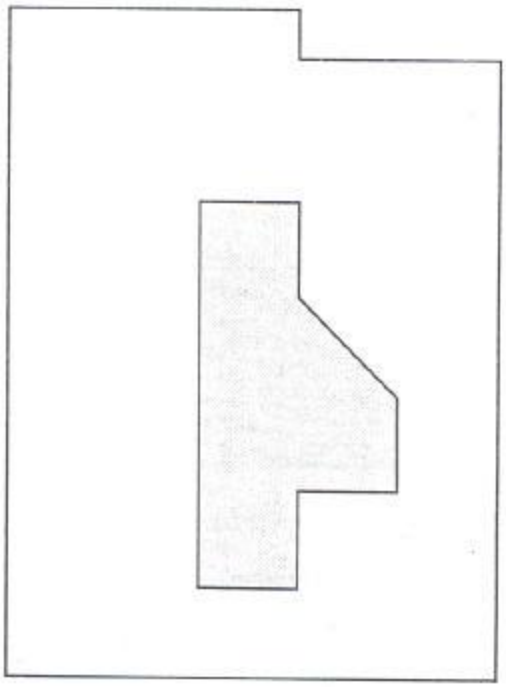
Step 5.
Define the project site's "zone of influence" as the entire area of all parcels identified in Step 4, less the area of the proposed project from Step 1.

[In the illustration provided in Figure 1, Parcels W, X, and Y extend beyond Rectangle B and are therefore included in their entirety in defining the project site's Zone of Influence.**]**

Figure 1: Defining a Project's Zone of Influence







Measuring Surrounding Agricultural Land

Step 1.
Calculate the percentage of the project's Zone of Influence that is currently producing agricultural crops. **[**This figure can be determined using information from the Department of Conservation's Important Farmland Map Series, the Department of Water Resources' Land Use Map Series, locally derived maps, or direct site inspection. For agricultural land that is currently fallowed, a determination must be made concerning whether the land has been fallowed as part of a rotational sequence during normal agricultural operations, or because the land has become formally "committed" to a nonagricultural use. Land that has become formally committed, whether fallow or not, should not generally be included in determining the proportion of the Zone of Influence that is agricultural land. For further information on the definition of Committed Land, refer to the following Explanation of the Surrounding Agricultural Land Rating.**]**

Step 2.
Based on the percentage of agricultural land in the ZOI determined in Step 1, assign a Surrounding Agricultural Land score to the project according to Table 6, and enter this score in **Line 5** of the **Final LESA Scoresheet** (Table 8) .

Table 6. Surrounding Agricultural Land Rating

Percent of Project's Zone of Influence in Agricultural Use	Surrounding Agricultural Land Score
90 - 100%	100 Points
80 - 89	90
75 - 79	80
70 - 74	70
65 - 69	60
60 - 64	50
55 - 59	40
50 - 54	30
45 - 49	20
40 - 44	10
40 <	0

Explanation of the Surrounding Agricultural Land Rating

The Surrounding Agricultural Land Rating is designed to provide a measurement of the level of agricultural land use for lands in close proximity to a subject project. The California Agricultural LESA Model rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production more highly than one that has a relatively small percentage of surrounding land in agricultural production. The definition of a "Zone of Influence" that accounts for surrounding lands up to a minimum of one quarter mile from the project boundary is the result of several iterations during model development for assessing an area that will generally be a representative sample of surrounding land use. In a simple example, a single one quarter mile square project (160 acres) would have a Zone of Influence that is a minimum of eight times greater (1280 acres) that the parcel itself.

Land within a Zone of Influence that is observed to be fallow will require a case by case determination of whether this land should be considered agricultural land. The Department of Conservation's Important Farmland Maps may be of assistance in making this determination. In addition, land currently in agricultural production may be designated as being "committed" to future nonagricultural development. The Department of Conservation's Farmland Mapping and Monitoring Program has a land use designation of Land Committed to Nonagricultural Use, and is defined as "land that is permanently committed by local elected officials to nonagricultural development by virtue of decisions which cannot be reversed simply by a majority vote of a city council or county board of supervisors. The "committed" land must be so designated in an adopted local general plan, and must also meet the requirements of either (a) or (b) below:

(a). It must have received one of the following final discretionary approvals:

1. Tentative subdivision map (approved per the Subdivision Map Act);
2. Tentative or final parcel map (approved per the Subdivision Map Act);
3. Recorded development agreement (per Government Code §65864);
4. Other decisions by a local government which are analogous to items #1-3 above and which exhibit an element of permanence. Zoning by itself does <u>not</u> qualify as a permanent commitment.

<u>Or</u>

(b) It must be the subject of one of the final fiscal commitments to finance the capital improvements specifically required for future development of the land in question as shown below:

1. Recorded Resolution of Intent to form a district and levy an assessment;
2. Payment of assessment;
3. Sale of bonds;
4. Binding contract, secured by bonds, guaranteeing installation of infrastructure;
5. Other fiscal commitments which are analogous to items #1-4 above and exhibit an element of permanence."

Lead agencies are encouraged to identify Land Committed to Nonagricultural Use within a project's ZOI and make the determination whether this land, while still in agricultural production, be considered nonagricultural land for the purposes of the calculation performed here.

4. Site Assessment - The Surrounding Protected Resource Land Rating

The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating, and is scored in a similar manner. Protected resource lands are those lands with long term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following:

- Williamson Act contracted lands
- Publicly owned lands maintained as park, forest, or watershed resources
- Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.

Instructions for the Surrounding Protected Resource Land Rating

Step 1.
Utilizing the same "Zone of Influence" (ZOI) area calculated for a project under the Surrounding Agricultural Land Rating, calculate the percentage of the ZOI that is Protected Resource Land, as defined above.

Step 2.
Assign a Surrounding Protected Resource Land score to the project according to Table 7, and enter this score on **Line 6** of the **Final LESA Scoresheet** (Table 8).

Table 7. Surrounding Protected Resource Land Rating

Percent of Project's Zone of Influence Defined as Protected	Surrounding Protected Resource Land Score
90 - 100%	100 Points
80 - 89	90
75 - 79	80
70 - 74	70
65 - 69	60
60 - 64	50
55 - 59	40
50 - 54	30
45 - 49	20
40 - 44	10
40 <	0

Section III. Weighting of Factors and Final LESA Scoring

The California LESA Model is weighted so that 50 percent of the total LESA score of a given project is derived from the Land Evaluation factors, and 50 percent from the Site Assessment factors. Individual factor weights are listed below, with the sum of the factor weights required to equal 100 percent.

Land Evaluation Factors

Land Capability Classification	25%
Storie Index Rating	25%
Land Evaluation Subtotal	**50%**

Site Assessment Factors

Project Size	15%
Water Resource Availability	15%
Surrounding Agricultural Lands	15%
Surrounding Protected Resource Lands	5%
Site Assessment Subtotal	**50%**
Total LESA Factor Weighting	**100%**

Each factor is measured separately (each on 100 point scale) and entered in the appropriate line in **Column B** of the **Final LESA Scoresheet** (Table 8). Each factor's score is then multiplied by its respective factor weight, resulting in a weighted factor score in **Column D** as indicated in Table 8. The weighted factor scores are summed, yielding a Total LESA Score (100 points maximum) for a given project, which is entered in **Line 7** of **Column D**.

Table 8. Final LESA Scoresheet

A	B		C		D
Factor Name	Factor Rating (0-100 points)	X	Factor Weighting (Total = 1.00)	=	Weighted Factor Rating
<u>Land Evaluation</u>					
1. Land Capability Classification	<Line 1>_____	X	0.25	=	_____
2. Storie Index Rating	<Line 2>_____	X	0.25	=	_____
<u>Site Assessment</u>					
1. Project Size	<Line 3>_____	X	0.15	=	_____
2. Water Resource Availability	<Line 4>_____	X	0.15	=	_____
3. Surrounding Agricultural Lands	<Line 5>_____	X	0.15	=	_____
4. Protected Resource Lands	<Line 6>_____	X	0.05	=	_____
			Total LESA Score (sum of weighted factor ratings)		<Line 7>_____

Section IV. California Agricultural LESA Scoring Thresholds - Making Determinations of Significance Under CEQA

A single LESA score is generated for a given project after all of the individual Land Evaluation and Site Assessment factors have been scored and weighted as detailed in Sections 2 and 3. Just as with the scoring of individual factors that comprise the California Agricultural LESA Model, final project scoring is based on a scale of 100 points, with a given project being capable of deriving a maximum of 50 points from the Land Evaluation factors and 50 points from the Site Assessment factors.

The California Agricultural LESA Model is designed to make determinations of the potential significance of a project's conversion of agricultural lands during the Initial Study phase of the CEQA review process. Scoring thresholds are based upon both the total LESA score as well as the component LE and SA subscores. In this manner the scoring thresholds are dependent upon the attainment of a minimum score for the LE and SA subscores so that a single threshold is not the result of heavily skewed subscores (i.e., a site with a very high LE score, but a very low SA score, or vice versa). Table 9 presents the California Agricultural LESA scoring thresholds.

Table 9. California LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0 to 39 Points	Not Considered Significant
40 to 59 Points	Considered Significant only if LE and SA subscores are each greater than or equal to 20 points
60 to 79 Points	Considered Significant unless either LE or SA subscore is less than 20 points
80 to 100 Points	Considered Significant

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