APPENDIX 1

Land Evaluation and Site Analysis (LESA)

CRYSTAL SPRINGS RESIDENTIAL SUBDIVISION
TENTATIVE TRACT #30915
COUNTY OF RIVERSIDE

AGRICULTURAL ANALYSIS

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I. EXECUTIVE SUMMARY / SUMMARY OF FINDINGS

Tom Dodson and Associates (TDA) was contracted to conduct a Land Evaluation and Site Analysis (LESA) for the Crystal Springs Residential Subdivision. 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 ratings 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.

A single LESA score is generated for a given project after all of the individual LESA factors have been scored and weighted. 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 sub-scores. In this manner the scoring thresholds are dependant upon the attainment of a minimum score for the LE and SA sub-scores so that a single threshold is not the result of heavily skewed sub-scores (i.e., a site with a very high LE score, but a very low SA score, or vice versa). The table below presents the California Agricultural LESA scoring thresholds.

Table 1
CALIFORNIA AGRICULTURAL LESA 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 sub-scores are each greater than or equal to 20 points
60 to 79 Points	Considered Significant unless either LE or SA sub-scores is less than 20 points
80 to 100 Points	Considered Significant

The result of the LESA analysis for the Crystal Springs Residential Subdivision is an overall LESA score of 40.119. According to the LESA Model scoring thresholds, agricultural resource impacts impact associated with a LESA score of 40.119 is that the conversion of the project site to residential use is not considered significant. The site assessment score was less than 20 points.

II. INTRODUCTION / ENVIRONMENTAL SETTING

The proposed project encompasses 242 acres of land located in the community of Nuevo, Riverside County. The property is assigned the following General Plan land use designations: Low Density Residential (1/2 acre minimum lot size) and Rural Mountainous (10-acre minimum lot size). The specific location of the project site is south of Nuevo Road easterly of Sky Drive and southerly of Central Avenue. Exhibits 1 and 2 show the regional and site location of the property.

Tentative Tract Map No. 30915 proposes the subdivision of the 242-acre site into 314 residential lots, one water tank, 2 pocket parks, 5 landscape lots, 5 acre park/detention basin, and 6 open space lots. The site presently consists of open space areas and abandoned, fallow agriculture land. Surrounding land uses consist of suburban residential uses to the northwest; open space to the east and south; rural residential uses to the west and northeast; and fallow agricultural fields to the north. Tentative Tract Map No. 31817 proposing single family lots with one-half acre lot sizes is to the west. The project is also located within one of the criteria cell areas of the Multiple Species Habitat Conservation Plan for Western Riverside (MSHCP) and has successfully completed HANS process (HANS No. 235, Case Number: TR30915). The project does not fall within Williamson Act Contract Lands.

Climate/Meteorology

Climate in the project area is characterized by warm, dry summers, low precipitation, and mild winters. Average daily winter temperature is 51°F and average daily summer temperature is 75°F. During the year, temperatures range from a low near 20°F during the winter to a high of over 100°F during the summer. More than two-thirds of annual rainfall occurs from December through March with approximately 90 percent occurring between November and April. Little rain falls between May and November, due to the semipermanent Pacific high pressure system that prevents storms from entering the area.

In the project area, mean annual precipitation ranges from 13 inches near Murrieta to 25 inches at the base of the San Jacinto Mountains. In these mountains, average annual rainfall has reached as high as 40 inches with extremes ranging between 40 and 200 percent of normal. In nearly all months out of the year, evaporation exceeds precipitation. Relative humidity averages 45 percent year-round; 40 to 70 percent in winter, and 10 to 20 percent in summer.

Topography is a major factor influencing wind direction over the project area. Prevailing winds are generally light, and westerly or southwesterly. Night and early morning winds are usually north-easterly. Some afternoon sea breezes blow into the Perris Valley from the Los Angeles area. Summer daytime wind speed averages 10 to 15 miles per hour (mph) whereas the winter daytime wind speed averages 5 to 8 mph. There is little seasonal variability in this pattern. Occasionally during autumn and winter, “Santa Ana” conditions develop from a high pressure zone to the east and bring dry, high velocity winds from the deserts to the east and north and east over San Jacinto Mountains. These winds, gusting to over 60 mph, can reduce relative humidity to below 10 percent.

The region experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid-afternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by mid-morning.

Soils

The following soils are identified in the Western Riverside County Soil Survey as occurring on the project site. Please refer to Exhibit 3 which is a reproduction of the page in the Soil Survey showing the soils on the property.

MnD2-Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded

The Monserate soil series consists of well-drained soils that developed in alluvium from predominately granitic materials. Slopes range from 5 to 15 percent for this soil. These soils are on terraces and on old alluvial fans. It is 10 to 20 inches deep to the silica-cemented pan, has reddish brown surface layer, and has sandy clay subsoil. Many areas of exposed subsoil and many gullies and rills occur. Included with this soil in mapping are a few small areas with gravelly sandy loam surface layer. The available water capacity of this soil is 2.0 to 4.0 inches. Runoff is very rapid, and the hazard of erosion is very high. Natural fertility is moderately low. This soil is used for range.

RaD2-Ramona sandy loam, 8 to 15 percent slopes, eroded

The Ramona series consists of well-drained soils on alluvial fans and terraces. Slopes range from 8 to 15 percent for this soil. These soils developed in alluvium consisting mainly of granitic materials. Included in this soil in mapping are few small areas that have a loamy sand surface layer. The natural fertility of this soil is moderate. Runoff is rapid, and the hazard of erosion is high. This soil is used for irrigated citrus, peaches, for dryland grain and pasture, and for homesites.

RaD3-Ramona sandy loam, 8 to 15 percent slopes, severely eroded

The Ramona series consists of well-drained soils on alluvial fans and terraces. Slopes range from 8 to 15 percent for this soil. These soils developed in alluvium consisting mainly of granitic materials. This soil has a surface layer that is 6 to 10 inches thick. Included with this soil in mapping are small areas that have fine sandy loam, gravelly fine sandy loam, or gravelly sandy loam surface layer. Runoff is rapid on this soil, and the hazard of erosion is high. Natural fertility is moderate. This soil is used for irrigated citrus, peaches, for dryland grain and pasture, and for homesites.

HcC-Hanford coarse sandy loam, 2 to 8 percent slopes

The Hanford series consists of well drained and somewhat excessively drained soils on alluvial fans. This soil has a 2 to 8 percent slopes.

GIC- Gorgonio loamy sand, deep, 2 to 8 percent slopes

The Gorgonio series are somewhat excessively drained to excessively drain soils on alluvial fans. These soils developed in the alluvium consisting of granitic materials. It has a loamy sand surface layer and is free of gravel. Sandy loam occurs at a depth of 36 to 60 inches. Included in this soil in mapping is a small area of Gorgonio loamy sand that is 60 inches deep. Also included are small areas of Gorgonio soils that are underlain by gravelly coarse sand at depths of 36 to 60 inches. Some small-included areas have slopes of 0 to 2 percent. The available water holding capacity of this soil is 5.0 to 6.0 inches. Runoff is slow, and the hazard of erosion in slight. This soil is used for irrigated pasture and for non-farm purposes.

CkF2-Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded

The Cieneba series consists of somewhat excessively drained soils on uplands. This soils slopes range from 15 to 50 percent. These soils formed in coarse-grained igneous rock. This is hilly to very steep soil. Rock outcrops occupy 2 to 10 percent of the surface.

HcD2-Hanford coarse sandy loam, 8 to 15 percent slopes, eroded

Rills, shallow gullies, and areas of deposition occur on this soil. Included in mapping are several areas with a gravelly sandy loam surface layer. Also included are a few small areas having slopes of 15 to 25 percent and small areas of stream channel erosion. This soil is somewhat excessively drained. Runoff is medium, and the hazard of erosion is moderate. This soil is used for irrigated citrus, truck crops, and grapes, for dryland grain and pasture, and for non-farm purposes.

VsF2-Vista coarse sandy loam, 15 to 35 percent slopes, eroded

In the Vista series are well-drained soils of the uplands. This soils slopes range from 15 to 50 percent. These soils developed on weathered granite and granodiorite. It has a grayish-brown surface layer. Included with this soil in mapping are areas that are 36 to 54 inches deep to weathered granite. Also included are areas of Vista soils that have a fine sandy loam surface layer and areas having slopes of 35 to 50 percent. Runoff is medium on this soil, and the hazard of erosion is moderate. This soil is used for dryland pasture and, where included in fields of more suitable soils, for irrigated citrus. It is also used for homesites.

III. LESA WORKSHEET (LAND EVALUATION PORTION)

The overall point score for this project is 40.119, well below the thresholds of significant impact. The project is 242 acres, consisting of eight different soil types. The following assumptions of specific soils acreages were made:

MnD2 (Monserate Sandy Loam) - 12.5%, 30.25 acres
RaD2 (Ramona Sandy Loam) - 10%, 24.20 acres
RaD3 (Ramona Sandy Loam) - 5%, 12.10 acres
HcC (Hanford coarse Sandy Loam) - 30%, 72.60 acres
GIC (Gorgonio Loamy Sand) - 12.5%, 30.25 acres
Ckf2 (Cieneba Rocky Sandy Loam) - 20%, 48.40 acres
HcD2 (Hanford Coarse Sandy Loam) - 5%, 12.10 acres
Vsf2 (Vista Coarse Sandy Loam) - 5%, 12.10 acres

The following Land Capability Classification (LCC) scores and Storie Index Scores were assumed for each specific soil type (see Table 2).

Table 2
LAND CAPABILITY CLASSIFICATION AND STORIE INDEX SCORES

Soil Type	Proportion of Project Area	LCC	LCC Rating[1]	LCC Score[2]	Storie Index[3]	Storie Index Score[4]
MnD2	0.125	VIe	20	2.5	17	2.125
RaD2	0.1	IVe	50	5	69	6.9
RaD2	0.5	IVe	50	2.5	55	27.5
HcC	0.3	IVe	50	15	86	25.8
GIC	0.125	IIs	80	10	68	8.5
Ckf2	0.2	VIIec	10	2	14	2.8
HcD2	0.05	IVec	50	2.5	65	3.25
VsF2	0.05	VIe	20	1	34	1.7
			TOTAL LCC Score	40.5	TOTAL Storie Index Score	78.575

[1] LCC Ratings listed on page A-1 of the LESA worksheet
[2] LCC scores are obtained by multiplying the LCC rating by the Proportion of Project Area
[3] As defined by the United States Department Of Agricultural Western Riverside Area Soil Survey
[4] Storie Index Scores are obtained by multiplying the Storie Index by the Proportion of Project Area

The Land Capability Score total, 40.5, is the number value used in box <1> of the Factor Scores on the Final LESA Score Sheet. The Storie Index Score Total, 78.575, is the number value used in box <2> of the Factor Scores on the Final LESA Score Sheet. The sum of these numbers, 119.075, is the Land Evaluation (LE) subtotal. Once multiplied by the Weight Factors, the total Weighted Factor Score can be obtained for the Land Evaluation (LE) portion of the LESA worksheet.

IV. LESA WORKSHEET (SITE ASSESSMENT PORTION)

The following project size scores were assumed for this project (Table 3).

Table 3
PROJECT SIZE SCORES

	LCC Class I-II	LCC Class III	LCC Class IV-VIII
	30.25		30.250 24.20 12.100 72.600 12.100 30.250 12.100 48.400
Total Acres	30.25		211.75
Project Size Scores	50		60

Highest Project Size Score = 60
(Project Size Scoring Table found on page A-3 of LESA Worksheet)

The highest Project Size Score, 60, is the number value used in box <3> of the Factor Scores on the Final LESA Score Sheet. The Project Size Score is determined by the acreage of each specific soil type being assigned a number value.

The Water Resource Availability Score is based on the types of irrigation present on the project site, including a determination of whether there is dryland agriculture activity as well. Based on the Water Resource Availability Scoring Table (LESA Worksheet pg A-6), the project site is a combination of Option 13(45%) and Option 14(55%). Option 13 is defined as land where irrigated production is not feasible, but rainfall is adequate for dryland production in non-drought years (but not in drought years). Option 14 is defined as land that is not irrigated, and dryland production is infeasible. The final Water Resource Score for the project site is 9. This was obtained by multiplying the Proportion of Project Area by the Water Availability Score. The total Water Availability Score of 9 is the value of box <4> on the LESA Final Score Sheet (Table 4).

Table 4
WATER RESOURCE SCORE

Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score
Option 13	0.45	20	9
Option 14	0.55	0	0
		Total Water Resource Score	9

The Surrounding Agricultural Land Use Score is determined by the amount of surrounding land that is either being used for agriculture, or is protected resource land. A quarter mille area around the perimeter of the project was surveyed to determine what percentage of the project is used for agriculture and or Protected Resource Land. Once the surrounding land has been documented, the total acres of the surrounding land or "Zone of Influence" must be calculated (Table 5). Then, from the total acres of the surrounding land, the amount of acres in agriculture, and the amount of acres in protected resource land must be calculated. Both the total scores (Resource Land Score, Protected Resource Score) for this project site were zero. On the Final LESA Score Sheet, box <5> and <6> will have a value of 0.

Table 5
ZONE OF INFLUENCE

Total Acres	748
Acres in Agriculture	112.2
Acres of Protected Resource Land	0
Percent of Agriculture	15
Percent Protected Resource Land	0
Surrounding Agricultural Land Score	0
Surrounding Protected Resource Land Score	0
TOTAL Zone of Influence Score	0

(Surrounding Land Scoring Tables on page A-7, 9, of the LESA worksheet)

The total Site Assesment (SA) score for this project site is 69. The weighted subtotal for the Site Assessment portion of the LESA worksheet is 10.350, the weighted subtotal of the Land Assessment is 29.769. The total weighted score is 40.119, which is not considered to be a significant impact.

Presented in Table 6 is the Final LESA Score Sheet, which provides the factor scores and the factor weights. When combined, the score for this project is 40.119. Under the LESA threshold guide lines, 40.119 is not considered to be a significant impact due to the loss of agricultural resources. In addition, the overall Site Analysis(SA) score did not exceed 20 points, which makes this finding also less than significant. See Attachment 1 for more detailed information regarding the LESA Model calculations for this project.

Table 6
FINAL LESA SCORE SHEET

	Factor Scores	Factor Weight	Weighted Factor Scores
LE Factors			
Land Capability Classification	<1> 40.5	0.25	10.125
Storie Index	<2> 78.575	0.25	19.644
LE Subtotal	119.075	0.5	29.769
SA Factors			
Project Size	<3> 60	0.15	9
Water Resource Availability	<4> 9	0.15	1.35
Surrounding Agricultural	<5> 0	0.15	0
Protected Resource Land	<6> 0	0.05	0
SA Subtotal			
FINAL LESA Score			**40.119**

Table 7
SCORING DECISION

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

V. CONCLUSION AND RECOMMENDATIONS

Implementation of the proposed project, Tentative Tract 30915, will not pose any significant impacts to agricultural land or resources as a result of being converted to residential use. Based on application of the California Agricultural LESA Model to the conversion of the project site, the project site's overall point total of 40.119 is below the thresholds of significance and will require no mitigation.

VI. REFERENCES

California Department of Agriculture. 1997. *California Agricultural Land Evaluation and Site Assessment Model Instruction Manual*.

County of Riverside. 2004. *Riverside County Integrated Plan*.

South Coast Air Quality District. 1993. *CEQA Air Quality Handbook*.

U.S. Geological Survey. 1975. Perris 7.5' Topographic Map

U.S. Soil Conservation Service. 1971. *Soil Survey, Western Riverside Area, California*.

ATTACHMENT 1