Appendix B

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WEBB
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Appendix B

LESA Model Technical Memorandum

In 1981, the federal Natural Resources Conservation Service (NRCS), developed the Land Evaluation and Site Assessment (LESA) model to provide a quantitative method of rating the agricultural suitability of land compared to demands for non-agricultural uses of lands. Section 15206 of CEQA recommends the use of LESA model to determine the significance of farmland conversion. The LESA model is useful to CEQA studies because it utilizes several basic factors which can capture much of the variability associated with the determination of the relative value of agricultural lands.

Inherent agricultural qualities of a project site can be measured and defined by on-site and off-site agricultural characteristics. The LESA model uses a point-based approach to rate various factors related to agricultural characteristics that ultimately result with an overall score for the project site. This final LESA model score is a tool used by lead agencies to determine whether the conversion of farmland on a project site could be considered a significant impact.

The LESA model breaks project site factors related to agricultural suitability into two categories: *land evaluation* factors and *site assessment* factors. Land evaluation factors measure inherent soil-based qualities of the project site as they relate to agricultural suitability. Site assessment factors measure the social, economic and geographical attributes as they relate or contribute to the overall agricultural value of the project site.

A component of the land evaluation includes calculations of the proportion of each soil unit mapped on the project site. A Natural Resources Conservation Service soils survey is used to identify the different types of soil found within the project site boundaries. Using a digitizer or planimeter, the area, in acres, is calculated for each mapped soil unit. A ratio is then calculated for each mapped soil unit verses the total project area.

The second component of the land evaluation uses a soil survey to identify the Land Capability Classification (LCC) and the Storie Index for each soil type found on the project site. The LCC relates to the suitability of soils for most kinds of crops. The Storie Index relates to the relative degree of suitability of a given soil for intensive agriculture. The LCC for each soil type is given a point value designated by a table in the LESA model. The proportion of each soil type is multiplied by the point score assigned to the LCC point value. The LCC scores for each soil type are summed to get one single number which represents the LCC value for the entire project site. The Storie Index for each soil type is multiplied by the proportion of each soil type found on the project site. The Storie Index scores are summed to get one single number which represents the Storie Index value for the entire project site. Final scores are generated for the LCC and Storie Index which will be later used for the final project LESA model score.

The next step of a LESA model analysis for a project is the site assessment evaluation. The site assessment includes factors such as project size, water availability and the surrounding agricultural land uses. To determine the impact of a project based on its size, a project size score is generated using the LCC classifications from the land evaluation section and the acreage associated with these LCC scores. Since LCC classes represent varying degrees of agricultural suitability, the LCC classes are grouped according to their suitability, acreage are added up, then total acreage for that LCC class is given a point score. The LCC class with the highest point score is used in the final project LESA model score.

Water availability is another factor included in the LESA model site assessment evaluation used to determine the agricultural viability of a project site. A determination is made as to what type or types of irrigation are available to the project site. Scores are recorded and a final water availability score is used in the final project LESA model score.

The third portion of the LESA model site assessment evaluation involves surrounding land uses. The initial stage of this evaluation involves compiling a tax assessor parcel map of the surrounding project site area. A Zone of Influence is calculated by identifying all parcels the are contained or intersected by a one-quarter mile rectangle around the project site. The total acreage for these parcels defines the project site's Zone of Influence.

Within the Zone of Influence, a determination is made as to which parcels are in agricultural use and which parcels are considered a protected resource (e.g. Williamson Act contracts). A percentage of the Zone of Influence in both agriculture and protected resource is calculated. Using these calculated percentages, a surrounding agricultural land score and a protected resource land score are generated from a table located in the LESA model. These final scores are then used in the final project LESA model score.

The six final scores generated from the land evaluation and site assessment evaluations are recorded on a final score sheet. The six final scores are then weighted, summed and used to generate a single LESA score for the entire project site. The final LESA score for a project site is given a threshold value, using the scoring thresholds table developed for the LESA model.

According to the California Department of Conservation, the LESA model is designed to make determinations of the potential significance of a project's conversion of agricultural lands to non-agriculture uses during the CEQA review process. The scoring thresholds are based upon both the total LESA score as well as the component land evaluation and site assessment subscores. The scoring thresholds are dependent upon the attainment of a minimum score for the land evaluation and site assessment subscores so that a single threshold is not the result of heavily skewed subscores (i.e. a site with at very high land evaluation score, but a very low site assessment score, or vise versa).

The LESA model worksheets with calculations and tables are attached. Additionally, the LESA model scoring thresholds are also included for reference.

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
Hr	126.3	69%	IIe	90	65.1	77	53.15
Db	57.7	31%	IIIe	70	21.7	62	19.22
Totals	184	(Must Sum to 1.0)		***LCC Total***	86.8	***Storie Index Total***	72.37

Table 1B.
Site Assessment Worksheet 1.

Project Size Score

	I	J	K
	LCC Class I - II	LCC Class III	LCC Class IV - VIII
	126.3	57.7	
Total Acres	126.3	57.7	
Project Size Scores	100	60	

Highest Project Size Score 100

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	[illegible]	1.0	100	100
2				
3				
4				
5				
6				
		(Must Sum to 1.0)	***Total Water Resource Score***	100

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	
Land Evaluation						
1. Land Capability Classification	<Line 1> 83.8	X	0.25	=	20.95	21
2. Storie Index Rating	<Line 2> 74.85	X	0.25	=	18.71	18
Site Assessment						
1. Project Size	<Line 3> 100	X	0.15	=	15	
2. Water Resource Availability	<Line 4> 100	X	0.15	=	15	
3. Surrounding Agricultural Lands	<Line 5> 70	X	0.15	=	10.5	
4. Protected Resource Lands	<Line 6> 20	X	0.05	=	1.0	
			Total LESA Score (sum of weighted factor ratings)		<Line 7> 81	

Considered Significant

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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
Land Evaluation					
1. Land Capability Classification	<Line 1> 83	X	0.25	=	20.75
2. Storie Index Rating	<Line 2> 71.75	X	0.25	=	17.94
Site Assessment					
1. Project Size	<Line 3> 100	X	0.15	=	15
2. Water Resource Availability	<Line 4> 100	X	0.15	=	15
3. Surrounding Agricultural Lands	<Line 5> 70	X	0.15	=	10.5
4. Protected Resource Lands	<Line 6> 0	X	0.05	=	0
			Total LESA Score (sum of weighted factor ratings)		<Line 7> 79.19

Signature

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
Hr	145.8	65%	IIe	90	58.5	77	50.05
Db	77.2	35%	IIIe	70	24.5	62	21.7
Totals	223	(Must Sum to 1.0)		*LCC Total*	83	*Storie Index Total*	71.75

Table 1B.
Site Assessment Worksheet 1.

Project Size Score

	I	J	K
	LCC Class I - II	LCC Class III	LCC Class IV - VIII
	145.8	77.2	
Total Acres	145.8	77.2	
Project Size Scores	100	70	

Highest Project Size Score 100

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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	Groundwater	1.0	100	100
2				
3				
4				
5				
6				
		(Must Sum to 1.0)	***Total Water Resource Score***	100

Ontario Legacy Project Site [redacted] ZOI APNs

ZOI

Acres of ZOI under contract - 330
Total acres in ZOI - 1114
Percentage of protected land 30%

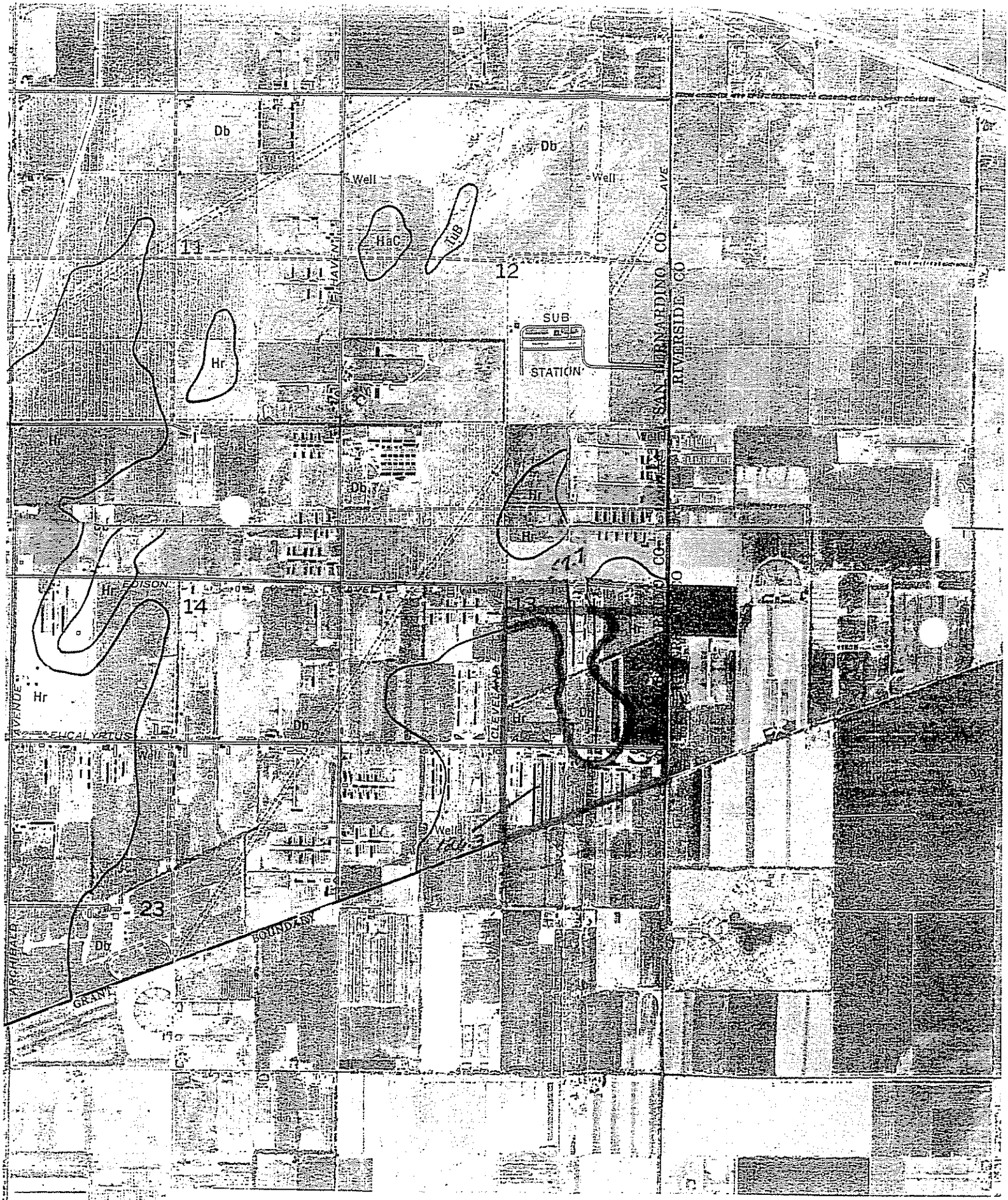
Riverside County

- 134070001 - 10.31 ac N
- 134070002 - 11.33 ac N
- 134070003 - [redacted] 14.95 ac N
- VLS 134070004 - 42.57 ac N
- VLS 134070005 - 6.26 ac N
- VLS 134070006 - 47.36 ac N
- 134080002 - 30 ac N
- 134080003 - 20 ac N
- 134080004 - 20 ac N
- 134080005 - 40 ac N
- VLS 134080007 - 11.27 ac N → 134090009 - 28.51 ac N
- [redacted] 134080010 - 40 ac N
- 160030005 - 123.2 ac N
- 160030004 - 1.0 ac N
- 160030003 - 37.74 ac N
- 160030002 - 16.9 ac N
- 160020007 - 4.74 ac Y
- 160020006 - 43.46 ac Y
- comm 160020005 - 38.37 ac N
- 160020008 - 22.49 ac N
- 160020004 - 12.94 ac Y
- comm 160020030 - 47.25 ac N

Total - 670.6 ac

San Bernardino County

- 0218331125 - 29 ac Y
- vac. w/ old site 0218331127 - 24.39 ac Y
- 0218331106 - .12 ac N
- 0218251105 - 38.91 ac N
- 0218251106 - 79.54 ac Y
- 0218251107 - 37.4 ac. Y
- vac. 0218211108 - 66.21 ac Not un confir.
- 0218211105 - 10 ac Not under contract
- vac. 0218311112 - 20 ac Not under contract
- 0218311115 - 2.96 ac Y
- 0218311121 - 16.28 ac Y
- 0218311125 - 59.13 ac Not u contr
- 0218211124 - 20 ac. Y
- 0218311117 - 20 ac. Y
- 0218211136 - 39.37 ac. Y


Db
Well
HaC
SUB
11
12
Hr
SUB
STATION
SAN BERNARDINO CO
RIVERSIDE CO
Db
Hr
EDISON
14
13
AVENUE
EUCALYPTUS
Well
23
BOUNDARY
GRANT
117°48'45"
47'30" (Joins inset, sheet 2)
34°00'