

## **Appendix B: California Agricultural LESA Worksheets**

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**Appendix B: California Agricultural LESA Worksheets**

**NOTES**

**Calculation of the Land Evaluation (LE) Score**

**Part 1. Land Capability Classification (LCC) Score:**

- (1) Determine the total acreage of the project.
- (2) Determine the soil types within the project area and enter them in **Column A** of the **Land Evaluation Worksheet** provided on page 2-A.
- (3) Calculate the total acres of each soil type and enter the amounts in **Column B**.
- (4) Divide the acres of each soil type (**Column B**) by the total acreage to determine the proportion of each soil type present. Enter the proportion of each soil type in **Column C**.
- (5) Determine the LCC for each soil type from the applicable Soil Survey and enter it in **Column D**.
- (6) From the LCC Scoring Table below, determine the point rating corresponding to the LCC for each soil type and enter it in **Column E**.

LCC Scoring Table

LCC Class	I	Ile	Ils,w	IIle	IIls,w	IVe	IVs,w	V	VI	VII	VIII
Points	100	90	80	70	60	50	40	30	20	10	0

- (7) Multiply the proportion of each soil type (**Column C**) by the point score (**Column E**) and enter the resulting scores in **Column F**.
- (8) Sum the LCC scores in **Column F**.
- (9) Enter the LCC score in box <1> of the **Final LESA Score Sheet** on page 10-A.

**Part 2. Storie Index Score:**

- (1) Determine the Storie Index rating for each soil type and enter it in **Column G**.
- (2) Multiply the proportion of each soil type (**Column C**) by the Storie Index rating (**Column G**) and enter the scores in **Column H**.
- (3) Sum the Storie Index scores in **Column H** to gain the Storie Index Score.
- (4) Enter the Storie Index Score in box <2> of the **Final LESA Score Sheet** on page 10-A.

**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
BcA	3.05	1.0	4	40	40	1	81
<b>Totals</b>	3.05	(Must Sum to 1.0)		<b>LCC Total Score</b>	40	<b>Storie Index Total Score</b>	81

**Site Assessment Worksheet 1.**

**Project Size Score**

	I	J	K
	LCC Class I - II	LCC Class III	LCC Class IV - VIII
			3.05
<b>Total Acres</b>			3.05
<b>Project Size Scores</b>			3.05

**Highest Project Size Score** 3.05

**NOTES**

**Calculation of the Site Assessment (SA) Score**

**Part 1. Project Size Score:**

- (1) Using **Site Assessment Worksheet 1** provided on page 2-A, enter the acreage of each soil type from **Column B** in the **Column - I, J or K** - that corresponds to the LCC for that soil. (Note: While the Project Size Score is a component of the Site Assessment calculations, the score sheet is an extension of data collected in the Land Evaluation Worksheet, and is therefore displayed beside it).
- (2) Sum **Column I** to determine the total amount of class I and II soils on the project site.
- (3) Sum **Column J** to determine the total amount of class III soils on the project site.
- (4) Sum **Column K** to determine the total amount of class IV and lower soils on the project site.
- (5) Compare the total score for each LCC group in the Project Size Scoring Table below and determine which group receives the highest score.

**Project Size Scoring Table**

<b>Class I or II</b>		<b>Class III</b>		<b>Class IV or Lower</b>	
Acreage	Points	Acreage	Points	Acreage	Points
>80	100	>160	100	>320	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
10<	0	20-39	30	40<	0
		10-19	10		
		10<	0		

- (6) Enter the **Project Size Score** (the highest score from the three LCC categories) in box <3> of the **Final LESA Score Sheet** on page 10-A.

**NOTES**

**Part 2. Water Resource Availability Score:**

(1) Determine the type(s) of irrigation present on the project site, including a determination of whether there is dryland agricultural activity as well.

(2) Divide the site into portions according to the type or types of irrigation or dryland cropping that is available in each portion. Enter this information in **Column B** of **Site Assessment Worksheet 2. - Water Resources Availability**.

(3) Determine the proportion of the total site represented for each portion identified, and enter this information in **Column C**.

(4) Using the Water Resources Availability Scoring Table, identify the option that is most applicable for each portion, based upon the feasibility of irrigation in drought and non-drought years, and whether physical or economic restrictions are likely to exist. Enter the applicable Water Resource Availability Score into **Column D**.

(5) Multiply the Water Resource Availability Score for each portion by the proportion of the project area it represents to determine the weighted score for each portion in **Column E**.

(6) Sum the scores for all portions to determine the project's total Water Resources Availability Score

(7) Enter the Water Resource Availability Score in box <4> of the **Final LESA Score Sheet** on page 10-A.

**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	Irrigation, ground water	1.0	90	90
2				
3				
4				
5				
6				
		(Must Sum to 1.0)	<b>Total Water Resource Score</b>	90

**Water Resource Availability Scoring Table**

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

**NOTES**

**Part 3. Surrounding Agricultural Land Use Score:**

- (1) Calculate the project's Zone of Influence (ZOI) as follows:
  - (a) a rectangle is drawn around the project such that the rectangle is the smallest that can completely encompass the project area.
  - (b) a second rectangle is then drawn which extends one quarter mile on all sides beyond the first rectangle.
  - (c) The ZOI includes all parcels that are contained within or are intersected by the second rectangle, less the area of the project itself.
- (2) Sum the area of all parcels to determine the total acreage of the ZOI.
- (3) Determine which parcels are in agricultural use and sum the areas of these parcels
- (4) Divide the area in agriculture found in step (3) by the total area of the ZOI found in step (2) to determine the percent of the ZOI that is in agricultural use.
- (5) Determine the Surrounding Agricultural Land Score utilizing the Surrounding Agricultural Land Scoring Table below.

**Surrounding Agricultural Land Scoring Table**

Percent of ZOI in Agriculture	Surrounding Agricultural Land Score
90-100	100
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

(5) Enter the Surrounding Agricultural Land Score in box <5> of the **Final LESA Score Sheet** on page 10-A.

**Site Assessment Worksheet 3.**

**Surrounding Agricultural Land and Surrounding Protected Resource Land**

A	B	C	D	E	F	G
<b>Zone of Influence</b>						
Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture (A/B)	Percent Protected Resource Land (A/C)	Surrounding Agricultural Land Score (From Table)	Surrounding Protected Resource Land Score (From Table)
					37	0

**NOTES**

**Part 4. Protected Resource Lands Score:**

The Protected Resource Lands scoring relies upon the same Zone of Influence information gathered in Part 3, and figures are entered in Site Assessment Worksheet 3, which combines the surrounding agricultural and protected lands calculations.

- (1) Use the total area of the ZOI calculated in Part 3. for the Surrounding Agricultural Land Use score.
- (2) Sum the area of those parcels within the ZOI that are protected resource lands, as defined in the California Agricultural LESA Guidelines.
- (3) Divide the area that is determined to be protected in Step (2) by the total acreage of the ZOI to determine the percentage of the surrounding area that is under resource protection.
- (4) Determine the Surrounding Protected Resource Land Score utilizing the Surrounding Protected Resource Land Scoring Table below.

**Surrounding Protected Resource Land Scoring Table**

Percent of ZOI Protected	Protected Resource Land Score
90-100	100
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

- (5) Enter the Protected Resource Land score in box <6> of the **Final LESA Score Sheet** on page 10-A.

The loss of agricultural land with a LESA score of between 60 and 79 is considered significant if either the Land Evaluation or the Site Assessment subcategories have scores of 20 or better.

The loss of agricultural land with a LESA score of between 40 and 59 is considered significant if both the Land Evaluation and the Site Assessment subcategories have scores of 20 or greater.

**NOTES**

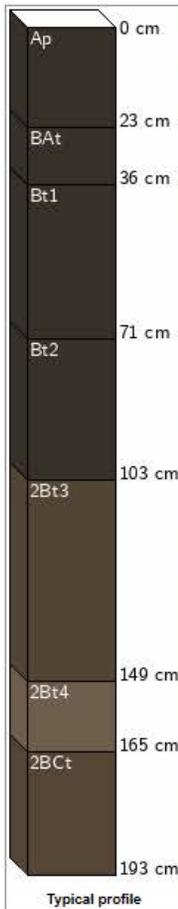
**Final LESA Score Sheet**

**Calculation of the Final LESA Score:**

- (1) Multiply each factor score by the factor weight to determine the weighted score and enter in Weighted Factor Scores column.
- (2) Sum the weighted factor scores for the LE factors to determine the total LE score for the project.
- (3) Sum the weighted factor scores for the SA factors to determine the total SA score for the project.
- (4) Sum the total LE and SA scores to determine the Final LESA Score for the project.

	<b>Factor Scores</b>	<b>Factor Weight</b>	<b>Weighted Factor Scores</b>
<b>LE Factors</b>			
Land Capability Classification	<1> 4	0.25	1
Storie Index	<2> 81	0.25	20
<i>LE Subtotal</i>		<b>0.50</b>	21
<b>SA Factors</b>			
Project Size	<3> 0	0.15	0
Water Resource Availability	<4> 90	0.15	13.5
Surrounding Agricultural Land	<5> 0	0.15	0
Protected Resource Land	<6> 10	0.05	0.5
<i>SA Subtotal</i>		<b>0.50</b>	14
<b>Final LESA Score</b>			35

For further information on the scoring thresholds under the California Agricultural LESA Model, consult Section 4 of the Instruction Manual.



### Soil Taxonomy

Order:	Mollisols
Suborder:	Xerolls <a href="#">[Map of Suborders]</a>
Greatgroup:	Argixerolls
Subgroup:	Pachic Argixerolls
Family:	Fine-loamy, mixed, superactive, thermic Pachic Argixerolls
Soil Series:	Botella <a href="#">(Link to OSD)</a> <a href="#">(Soil Series Explorer)</a>
Data:	<a href="#">[Lab Data]</a>
Raw Data	<a href="#">Component</a> <a href="#">All Horizons</a>

### Land Classification

<a href="#">Storie Index</a>	Grade 1 - Excellent (81)
<a href="#">Land Capability Class [non-irrigated]</a>	4-c
<a href="#">Land Capability Class [irrigated]</a>	1-
<a href="#">Ecological Site Description</a>	n/a
<a href="#">Forage Suitability Group</a>	n/a

### Soil Suitability Ratings

<a href="#">Waste Related</a>	<a href="#">Engineering</a>
<a href="#">Urban/Recreational</a>	<a href="#">Irrigation</a>
<a href="#">Wildlife</a>	<a href="#">Runoff</a>

### Hydraulic and Erosion Ratings

<a href="#">Wind Erodibility Group</a>	6
<a href="#">Wind Erodibility Index</a>	48
<a href="#">T Erosion Factor</a>	5
Runoff	Low
Drainage	Moderately well drained
Hydric Rating / <a href="#">Hydrologic Group</a>	No <a href="#">[Group C]</a>
Parent Material:	alluvium derived from sedimentary rock
Total Plant Available Water (cm):	29.78

### Geomorphology

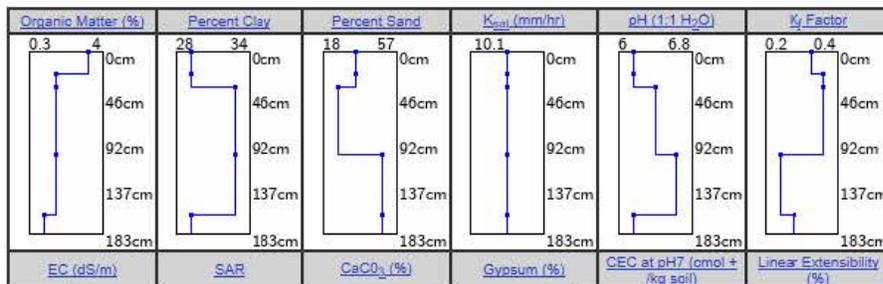
Landform	flood plains <a href="#">[Toeslope]</a>
Landform	alluvial fans <a href="#">[Toeslope]</a>
Landscape	alluvial plains

### Plants

Symbol	Scientific Name	Common Name	Range Prod.
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### Forest Productivity

Symbol	Common Name	Site Index	Site Index Curve Number	Productivity (cu.ft. / ac. / yr.)
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**Botella clay loam, nearly level, cool (BcA)**

**▲ Map Unit Composition**

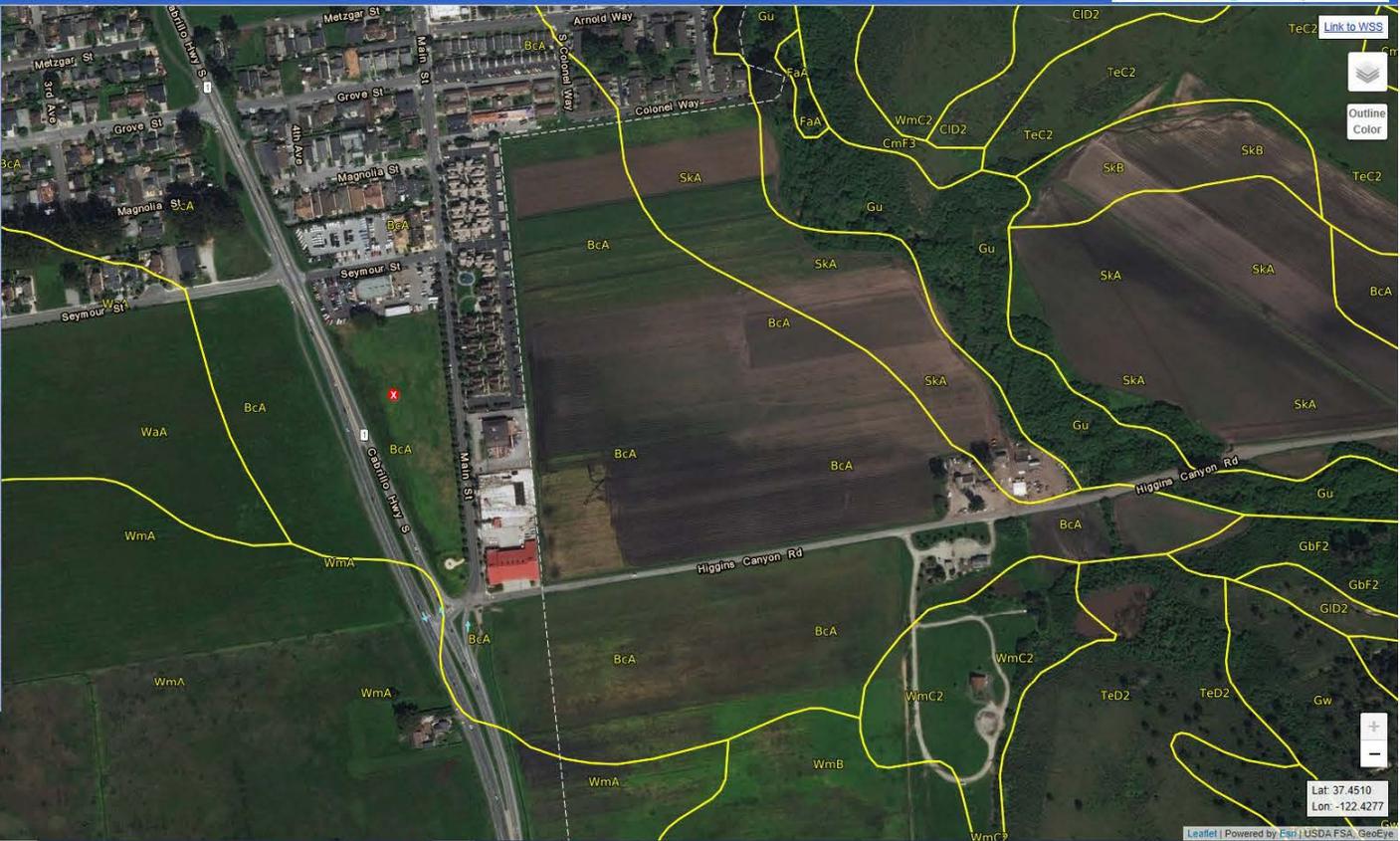
- 85% - **Botella**  
Geomorphic Position: terraces / Toeslope
- 5% - **Typic Haplusterts**  
Geomorphic Position: alluvial fans / Backslope
- 5% - **Sequel**  
Geomorphic Position: flood plains / Toeslope
- 5% - **Unnamed**  
Geomorphic Position: alluvial fans / Backslope  
Horizon data n/a

**▲ Map Unit Data**

Map Unit Key: 456322  
 National Map Unit Symbol: 2yfrn  
 Map Unit Type: Consociation  
 Farmland Class: Prime farmland if irrigated  
 Available Water Storage (0-100cm): 16.34 cm  
 Flood Frequency (Dominant Condition): None  
 Flood Frequency (Maximum): None  
 Ponding Frequency: 0  
 Drainage Class (Dominant Condition): Well drained  
 Drainage Class (Wettest Component): Well drained  
 Proportion of Hydric Soils: 0%  
 Min. Water Table Depth (Annual): n/a  
 Min. Water Table Depth (April-June): n/a  
 Min. Bedrock Depth: n/a

**▲ Survey Metadata**

Soil Survey Area: CA637  
 Scale: 1:15,000  
 Published: 1958  
 Last Export: Sep 16 2019



Lat: 37.4510  
Lon: -122.4277

**Open All** **Close All**

**AOI Properties**

**Clear AOI**

**AOI Information**

Name:

Map Unit Symbols:  Use Soil Survey Area Map Unit Symbols  Use National Map Unit Symbols

Area (acres): 252.2

**Soil Data Available from Web Soil Survey**

**San Mateo Area, California (CA637)**

Data Availability: Tabular and Spatial, complete

Tabular Data: Version 13, May 29, 2020

Spatial Data: Version 5, Sep 16, 2019

**Clear AOI**

**Import AOI**

**Export AOI**

Export AOI as Zipped Shapefile

**Quick Navigation**

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- Soil Survey Area
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- PLSS (Section, Township, Range)
- Bureau of Land Management
- Department of Defense
- Forest Service
- National Park Service
- Hydrologic Unit

