

LESA Model Calculations for Agricultural Resources in the PVL Corridor

For the purposes of the calculations contained in this document, agricultural resources within the project area include the following:

Prime Farmland:

- Southern portion of the Citrus Connection parcel (between Springbrook Wash and Citrus Street)
- Palmyrita Station

Farmland of Local Importance:

- Northern portion of the Citrus Connection parcel (between Springbrook Wash and Villa Street)
- Moreno Valley/March Field Station
- Future Ramona Station
- South Perris Station and Layover Facility

Since these calculations were made, the Citrus Connection has been redesigned to avoid Springbrook Wash. The new alignment for the Citrus Connection will not require the use of the southern portion of the parcel containing Prime Farmland. During a recent field visit, Kleinfelder biologists observed extensive ground disturbance and a concrete building under construction at the southern portion of the Citrus Connection parcel.

A new component to the project has been added since the LESA Model was implemented for the PVL corridor. The new component is limited to the addition of a fourth track and bridge along the BNSF corridor. Ground-disturbing activities associated with the addition of a fourth track and bridge along the BNSF would be limited to the existing right-of-way, which does not contain agricultural resources. Therefore, the BNSF line is excluded from this analysis.

Land Evaluation

The Land Evaluation component of the LESA Model includes two factors to assess soil suitability: the Land Capability Classification (LCC) and the Storie Index. The LCC indicates the suitability of soils for most kinds of crops, while the Storie Index rates the relative degree of suitability for intensive agriculture (LESA 1997). Typically, Certified Professional Soil Scientists are used to derive Storie Index information. Due to time and resource limitations, however, the calculations contained herein rely solely upon the LCC rating system, which is allowed under the LESA Model. To rate soil suitability without the Storie Index, the LCC rating is weighted more heavily and accounts for 50 percent of the total LESA calculation.

To derive the LCC for the project, the soil mapping units of each parcel containing Prime Farmland or Farmland of Local Importance was identified using the USDA's

Natural Resources Conservation Service Web Soil Survey. Table 1 presents the acreages of each soil unit, each unit's land capability classification, and the proportion of each unit that comprises the project area.

**Table 1
Soil Mapping Units**

Location	Unit	LCC	LESA Points	Acreage	Project Proportion*	LCC Score
Citrus Connection	HcC - Hanford coarse sandy loam	2e	90	13.78	0.045	4.05
Palmyrita Station	HcC – Hanford coarse sandy loam	2e	90	5.27	0.017	1.53
	GyC2 – Greenfield sandy loam	2e	90	19.47	0.063	5.67
Moreno Valley / March Field Station	MmB – Monserate sandy loam, 0 – 5% slope	3e	70	2.54	0.008	0.56
	MmC2 – Monserate sandy loam, 5 – 8% slope	3e	70	2.25	0.007	0.49
Ramona Station (future)	AoC – Arlington fine sandy loam	2e	90	0.17	0.0005	0.045
	EpC2 – Exeter sandy loam	2e	90	7.38	0.024	2.16
	GyA – Greenfield sandy loam	1	100	0.27	0.0008	0.08
	HcC – Hanford coarse sandy loam	2e	90	3.80	0.012	1.08
	RaA – Ramona sandy loam	1	100	3.38	0.011	1.1
South Perris Station / Layover Facility	MaA – Madera fine sandy loam	3s	60	8.34	0.027	1.62
	Wn – Willows Silty Clay, deep, strongly saline-alkali	4w	40	13.46	0.043	1.72
	Wg – Willows Silty Clay, saline-alkali	3w	60	6.84	0.022	1.32
	Dw – Domino silt loam	4w	40	4.74	0.015	0.6
Total LCC score = 22.025						

* Acreage of soil mapping unit divided by acreage of entire project area (approximately 306.02 acres, which encompasses the SJBL line, the Citrus Connection parcel, and the proposed station locations).

Each LCC is assigned a point rating, which is multiplied by the proportion of each soil mapping unit to obtain the LCC Score for each unit. The total LCC score for the parcels is 22.025.

Site Assessment

The second part of the LESA Model involves Site Assessment, which is evaluated using four separate factors. These include: (1) Project Size; (2) Water Resources Availability; (3) Surrounding Agricultural Land; and (4) Surrounding Protected Resource Land. Each factor is described briefly and analyzed below.

Project Size

According to the LESA Model, the size of a project is included to account for the role of high quality soils in crop flexibility and economic return per unit acre. The project size rating is derived from the soil information presented in Table 1. The acreage of each soil mapping unit and the corresponding LCC rating are divided by class and summed to derive an overall acreage for each class. These acreages are then assigned a project size score established by the LESA Model. The highest score derived for the LCC classes becomes the project size score. Table 2 summarizes the calculation.

Table 2
Project Size Rating

	LCC Class 1 – 2	LCC Class 3	LCC Class 4 – 8
	13.78	2.54	13.46
	5.27	2.25	4.74
	19.47	8.34	---
	0.17	6.84	---
	7.38	---	---
	0.27	---	---
	3.80	---	---
	3.38	---	---
Total Acres	53.52	19.97	18.20
Project Size Scores	80	30	0

Water Resources Availability

The Water Resources Availability rating considers a number of factors, including water reliability, physical and economic restrictions related to cost, and the drought cycle in California.

Without readily available water resources information, a conservative approach was taken for evaluating the various sources of water that may supply each of the parcels. It was assumed that some water would be available through irrigation facilities while other sources of water could include riparian areas such as the Springbrook Wash or the San Jacinto River. Both sources were assumed to be feasible and without economic or

physical restrictions. These assumptions yield a factor rating of 50 (out of a possible 100 points).

Surrounding Agricultural Land

The Surrounding Agricultural Land rating is based on a “Zone of Influence” (ZOI) developed for each parcel. The LESA Model defines the ZOI as “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.” Depending on the shape of a given parcel, the ZOI represents approximately a one-quarter mile to one-half mile buffer around each parcel. GoogleEarth (2008) aerials were used to estimate whether surrounding areas appear to be in use as agricultural lands. Table 3 presents the results of the calculations.

Table 3
Surrounding Agricultural Land

Location	Surrounding Agricultural Land	% in ZOI	LESA Score
Citrus Connection	Some surrounding lands that could be in-use or recently used as agricultural lands.	12.36	0
Palmyrita Station	Some surrounding lands appear to be agricultural.	9.31	0
Moreno Valley / March Field Station	None	0	0
Ramona Station (future)	Yes	41.7	10
South Perris Station / Layover Facility	Yes	56.44	40

Surrounding Protected Resource Land

Surrounding Protected Resource Land includes land with long-term use restrictions that are compatible with agricultural uses. These include: (1) Williamson Act; (2) publicly owned lands maintained as park, forest, or watershed; or (3) lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses. The Surrounding Protected Resource Land rating is derived using the same ZOI strategy as the Surrounding Agricultural Land rating and is scored in the same way. Table 4 presents the results.

**Table 4
Surrounding Protected Resource Land**

Location	Surrounding Protected Resource Land	% in ZOI	Score
Citrus Connection	Springbrook Wash	7.37	0
Palmyrita Station	None	0	0
Moreno Valley / March Field Station	None	0	0
Ramona Station (future)	None	0	0
South Perris Station / Layover Facility	None	0	0

Table 5 presents the evaluation factors, individual factor weights, and the final LESA scoring for the project.

**Table 5
Final LESA Scoresheet**

Factor Name	Factor Rating (0 – 100 Points)	X	Factor Weighting (Total = 1.00)	=	Weighted Factor Rating
<i>Land Evaluation</i>					
LCC	22.025	X	0.50	=	11.01
<i>Site Assessment</i>					
Project Size	80	X	0.15	=	12
Water Resource Availability	50	X	0.15	=	7.5
Surrounding Agricultural Lands	50	X	0.15	=	7.5
Protected Resource Lands	0	X	0.05	=	0
Total LESA Score (sum of weighted factor ratings) = 38.01					