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PROJECT MEMORANDUM

DATE: March 21, 2012
TO: Jeff Bradshaw, City of Moreno Valley
FROM: Kent Norton, LSA Riverside Office
PROJECT: ProLogis Eucalyptus Industrial Park
SUBJECT: Agricultural Use of the ProLogis Industrial Property

Summary

LSA is currently preparing a comprehensive Environmental Impact Report (EIR) for the Eucalyptus Industrial Park project being proposed by ProLogis in the east portion of the City. During preparation of the EIR, questions have arisen about whether use of the site for agriculture would be financially feasible compared to the proposed industrial development.

Our analysis indicates that agricultural use of the 122-acre ProLogis property would not be financially feasible based on current local conditions and reasonable cost/revenue assumptions. Our analysis is based on data from the Riverside County Agricultural Commissioner's 2010 Annual Report (most recent published edition), and discussions with Mr. Steven Pastor, the Executive Director of the Riverside County Farm Bureau.

Background and History

The ProLogis site occupies 122.8 acres in the eastern portion of the City of Moreno Valley (City), south of the SR-60 Freeway and west of Redlands Boulevard. The site contains 57 acres of citrus (grapefruit) trees with the rest of the site vacant. The surrounding area has been dry-farmed in the past, and the eastern end of the City historically supported a variety of crops, including citrus, melon, potatoes, etc.

ProLogis, an industrial warehouse developer, has proposed to construct 1.8 million square feet of warehouse space in 6 buildings on this site. The City is requiring an Environmental Impact Report (EIR) to evaluate the potential environmental effects of the project (e.g., traffic, noise, air pollution, etc.). One issue that was raised during the scoping process for the EIR is whether the site can continue to be farmed in an economical fashion.

The following will compare the approximate costs versus expected revenues for conducting agricultural activities on the project site. Wherever possible, multiple recent years of data were used to preclude unusual data from any one given year skewing the results of this analysis.

Current Conditions

Maintenance Cost. ProLogis currently pays a service approximately \$18,000 per year for maintenance of the 57 acres of citrus (grapefruit). ProLogis does not require any proceeds from the collected fruit, but allows the service to keep any revenue as part of the maintenance fee. If the entire site were planted in citrus, minimal maintenance costs under this arrangement would be approximately \$38,800 (122.8 acres/57 acres x \$18,000) per year. It should be noted that planting the rest of the site in citrus would not yield revenue from fruit sales for approximately 3 years while the trees grew to sufficient size to bear marketable fruit.

Cost of Irrigation Water. ProLogis indicated that they do not currently pay to pump water from the two wells onsite because they only draw agricultural water and not potable or domestic (drinking) water, nor do they purchase water from the Eastern Municipal Water District (EMWD) for either agriculture or domestic purposes.

Cost for Electricity. Based on two years of electrical bills, ProLogis currently pays \$8,740 for electricity to pump groundwater to irrigate the 57 acres of citrus on the site. This is based on an average of \$790 per 33 day period. If the entire site were to be irrigated for citrus, the cost for electricity would be \$18,800 ($122.8/57 \times 8740$).

Taxes. In 2010 ProLogis paid \$310,628 for taxes on the entire 122.8-acre property.

Revenues. As previously stated, ProLogis does not currently receive any revenue from fruit raised on the site.

Summary. As shown below, the site currently costs approximately \$337,368 to maintain while generating no revenue from fruit grown onsite. This represents a negative revenue/cost ratio of \$5,920/acre. This ratio would likely be positive if the fruit were sold on the open market, given that ProLogis currently pumps water from its own wells to irrigate the citrus trees.

<u>Current Annual Costs</u>	<u>57 acres</u>
Maintenance	\$ 18,000
Water	\$ 0
Electricity	\$ 8,740
Taxes	<u>\$310,628</u>
Sub-Total Costs	\$337,368
 <u>Current Annual Revenues</u>	
Fruit Sales	\$0
 Current Revenue/Cost	 -\$337,368 -\$5,920/acre

This scenario for the entire site does not include any cost to buy or plant citrus trees, so the current costs for maintaining the 57 acres of existing citrus are the most applicable for current conditions. It should also be noted that this scenario does not take into account the cost for weed abatement for fire safety, which would have to be provided even if the site were not used for any agriculture.

Future Conditions

The site currently supports 57 acres of citrus, and the remaining 65.8 acres could be planted with more citrus trees, but citrus trees require at least 3 years to begin bearing marketable fruit. Therefore, for this analysis, we will assume the 57 acres of citrus continues to be maintained and harvested, and approximately 60 acres is planted with some type of row crop. The remaining 5.8 acres are in a narrow strip between the two northern citrus orchards and would be too narrow to be planted with row crops.

Site Preparation Costs. Mr. Pastor with the Farm Bureau estimated it would cost \$500-\$1,000 per acre to prepare a vacant site for planting row crops, and would depend on how much rock, trash or weeds had to be removed prior to cultivation. For the purposes of this study, we will use an average value of \$1,000 per acre or \$60,000 to prepare the 60 acres to plant a row crop. This figure assumes relatively good soil and no widespread application of fertilizer or nutrients of some kind, or aerial application of herbicides or pesticides. Mr. Pastor warned that the costs could increase well above \$1,500/acre if the site had poor soil, a lot of debris to remove, or required a lot of agricultural chemicals to prepare it for planting. However, \$1,000 per acre is reasonable given the expected condition of the site, and assumes the work could be done by one contract person with one tractor. It also assumes a crew of 4-5 workers to lay irrigation pipe prior to cultivation. This estimate assumes

no cost for water, which would come from the two onsite wells, to help prepare the soil. If site conditions were generally good, this level of cost (\$300/acre) would apply to the site year after year for as long as it was planted.

Planting and Harvesting Costs. Although these costs are very approximate, Mr. Pastor said planting and harvesting a variety of row crops (e.g, potatoes) that are not too labor intensive (e.g., compared to melons) would cost anywhere from \$1,500 to \$3,000 per acre, so an average of \$2,250 will be assumed for this study. By comparison, seeding and discing for dry farming only costs about \$200 per acre.

Water Use. At present, ProLogis is pumping water from its two onsite wells for no cost. However, local costs for agricultural water from EMWD can run \$800 to \$1,100 per acre-foot per year. Mr. Pastor indicated that it may take 3 to 4 acre-feet per acre per year to irrigate citrus, and 1 to 3 acre-feet per acre per year to irrigate row crops like potatoes. For this study, we will use 3.5 acre-feet and 2 acre-feet, respectively, for irrigation values relative to citrus and row crops. We will also use an average cost of \$950 per acre-foot of water from EMWD based on one acre-foot being equal to approximately 326,000 gallons.

Electricity. For this study, we will assume that irrigation of the entire site would be proportional to the current cost for 57 acres, or \$18,800 for 122.8 acres.

Crop Yields. The site supports 57 acres of grapefruit citrus trees but ProLogis is not selling any on the fruit at present. According to the Riverside County Agricultural Commissioner's Annual Report for 2010, grapefruit (3 most common types) had the following yields over the past two years. In 2010, approximately 4,982 acres in the County were planted with grapefruit with 4,901 acres harvested (98%) which yielded 3,150 tons per acre for a total value of \$36,276,500. The previous year, approximately 5,111 acres were planted with 5,028 acres harvested (also 98%) which yielded 2,762 tons per acre for a total value of \$26,638,300. This means during the last two years of recorded data, grapefruit yielded from \$5,212 to \$7,282 per acre with an average of \$6,247 per acre. By comparison, row crops were planted in 2010 on 38,570 acres and had a total value of \$292,002,200 or a yield of \$7,571 per acre. The previous year, row crop were planted on 30,902 acres and had a total value of \$221,286,700 or a yield of \$7,161 per acre. The average yield of these two years is \$7,366 per acre.

Summary. Table A summarizes the various costs and revenues that could be expected if the ProLogis site were to be farmed with a mix of citrus and row crops rather than developed with suburban land uses. The analysis shows that annual farming under current conditions, based on reasonable assumptions regarding potential costs and revenues, would be negative by \$47,913 in terms of revenues versus costs (i.e., it would not be profitable).

Important Notes

This assessment makes assumptions regarding the various potential costs and revenues from farming the project site, and the "bottom line" would vary based on these assumptions. We have strived to make reasonable assumptions (i.e., average and not inappropriately high or low). As indicated by Mr. Pastor with the Farm Bureau, the major reason why farming appears to be no longer profitable in the Moreno Valley area is due to the high cost of water, which represents over a third (38%) of the estimated cost for farming.

Mr. Steven Pastor, the Executive Director of the Riverside County Farm Bureau, said that agriculture used to be very prevalent in Moreno Valley, but is disappearing as property values and water costs increase due to suburbanization. He said if a farmer had to purchase water at domestic rates (\$800 - \$1,100 per acre-foot) for farming, no crop that can be grown in this area would yield enough revenue to make farming profitable. Dry farming continues to be economical in this area only because there are no costs for water or installing/maintaining irrigation equipment. He said most of the local farming has been and is continuing to move out to the Coachella Valley – it is their only way to continue making a profit.

Mr. Pastor also noted that residents that move into homes built near dry farmed land are usually not aware that active agriculture requires intensive work several times a year, such as during field preparation, planting, and harvesting. Dust is often generated during these times, and some crops require the aerial application of herbicides and pesticides which results in health concerns by local residents.

Table A: Costs and Revenues to Farm the ProLogis Property

Cost/Revenue Items	Acres	\$/Acre	Total
Costs			
Preparation-Citrus	57	\$0 (existing)	\$ 0
Preparation-Row Crops	60	\$1,000	\$ 60,000
Water-Irrigate Citrus (@ 3.5 acre-feet/acre/year)	57	\$950/acre-foot	\$189,525
Water-Irrigate Row Crops (@ 2 acre-feet/acre/year)	60	\$950/acre-foot	\$114,000
Electricity	122.8	\$153	\$ 18,800
Maintenance*-Citrus	57	\$316	\$ 18,000
Maintenance*-Row Crops	60	\$2,250	\$135,000
Taxes	122.8	--	<u>\$310,628</u>
		Sub-total Costs	\$845,953
Revenues			
Citrus	57	\$6,247/acre	\$356,080
Row Crops	60	\$7,366/acre	<u>\$441,960</u>
		Sub-total Revenues	\$798,040
		Total Revenue/Cost	-\$ 47,913

* Includes planting and harvesting

Conclusion

Based on our research and available data, it appears that agricultural use of the 122-acre ProLogis property would not be financially feasible based on current local conditions and reasonable cost and revenue assumptions.

References

This analysis is based on data from the 2011 Riverside County Agricultural Commissioner's 2010 Annual Report, and discussions with Mr. Steven Pastor, the Executive Director of the Riverside County Farm Bureau.

Acknowledgement

LSA would like to thank Mr. Pastor for his help in assembling this data based on his many years of experience with agriculture in Riverside County.