



Subregional Long-Term Wastewater Project

PLANNING LEVEL LAND VALUE ESTIMATES

SANTA ROSA SUBREGIONAL LONG-TERM WASTEWATER PROJECT

Prepared for

**City of Santa Rosa
and
U.S. Army Corps of Engineers**

DECEMBER 1995, ADDENDUM JULY 1996

Prepared by

ECONOMIC & PLANNING SYSTEMS, INC.

For

HARLAND BARTHOLOMEW & ASSOCIATES, INC.

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INTRODUCTION

The purpose of this report is to provide planning level estimates of land acquisition costs for the reservoir and pump station sites required for the Santa Rosa Subregional Long-Term Wastewater Project. Land acquisition cost estimates are based on the methodology described below and do not represent appraisal level estimates.

SUMMARY OF FINDINGS

There are a variety of methods that can be used to obtain the use rights required for the reservoir sites and pump stations. The methods are discussed in the Land Acquisition Option section of the EIR/EIS. Methods include, but are not limited to, fee simple purchase, leasehold, or utility easement. Although easements may be purchased in some cases, this analysis assumes fee simple purchases for all land acquisitions. This methodology provides a conservative land cost estimate. Acquisition cost estimates for the reservoir sites, pump station sites and other land are shown in **Table 1**.

DESCRIPTION OF STUDY AREA

RESERVOIR SITES

Table 2 shows summary information on the land required for the reservoir sites. There are ten different reservoirs (counting Tolay A and Tolay C separately) which are included in the alternatives. Five of the reservoir sites are located in South Sonoma County: Adobe Road, Lakeville Hillside, Sears Point, Tolay A and Tolay C. The other five reservoirs are located in West Sonoma County: Bloomfield, Carroll, Huntley, Two Rock, and Valley Ford East.

The reservoirs located in South Sonoma County are all in unincorporated areas of the County. These reservoir sites, with the exception of the Adobe Road reservoir which is located to the northeast of the City of Petaluma, lie to the southeast of the City of Petaluma.

The reservoirs located in West Sonoma County are all in the unincorporated area of the County to the south of the City of Sebastopol and to the west of the City of Rohnert Park. Information on the reservoir sites, shown in **Table 2**, is summarized below:

- The areas proposed for the reservoirs are rural land, unsuitable for intensive residential development. The land planned for the reservoir sites is primarily zoned Land Extensive Agricultural. This zoning permits a variety of agricultural uses and allows for the construction of a detached dwelling unit at a maximum density of one unit per 60 acres. Other densities under this zoning classification include one unit per 100 acres, and one unit per 160 acres. This zoning also permits the construction of one dwelling unit for full-time agricultural employees. Portions of sites also have a Diverse Agriculture zoning with residential densities ranging from 20 to 30 acres.
- The current use of the parcels, according to data from the County Assessor, is primarily as pasture land, with and without residences. Other uses include some dairy farming in the West County and some cultivated crop land in the South County. A few parcels in the South County are used as vineyards.
- Most of the parcels are over 100 acres in size.
- Several of the parcels have building structures on them. There is a total of 46,090 square feet of building structures on all the parcels. Across the alternative sites, the amount of building space ranges between 0 square feet and 11,862 square feet.
- The reservoir alternatives range in size between 263 acres and 1,200 acres. The reservoirs each have a minimum size which corresponds to the footprint of the reservoir. Additional land around the footprint will be required to act as a buffer zone. It is assumed that the buffer zone will have an acreage equal to 50 percent of the acreage of the footprint.

Table 1
Summary of Land Value Estimates
Santa Rosa Subregional Long-Term Wastewater Project

Alternative Number	Project	Land Costs						Total Land Costs
		Reservoir Site (1)	Pump Station Site (2)	Geysers Tank Site & Pipeline Land Purchase (3)	Direct Discharge Site at Russian River & Land Purchase (3)	ASR Well Sites Purchase (3)	Pipeline Tunnel Land & Portal Sites Purchase (3)	
1	No Project	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2A	Tolay A	\$8,461,137	\$7,490	\$0	\$0	\$0	\$0	\$8,468,626
2B	Adobe Road and Lakeville Hillside	\$4,726,745	\$8,264	\$0	\$0	\$0	\$0	\$4,735,009
2C	Tolay C	\$4,215,381	\$8,678	\$0	\$0	\$0	\$19,198	\$4,243,256
2D	Sears Point and Lakeville Hillside	\$3,853,185	\$11,467	\$0	\$0	\$0	\$0	\$3,864,652
3A	Two Rock	\$1,945,138	\$9,452	\$0	\$0	\$0	\$19,198	\$1,973,788
3B	Bloomfield	\$1,854,932	\$3,781	\$0	\$0	\$0	\$0	\$1,858,713
3C	Carroll Road	\$1,902,669	\$4,091	\$0	\$0	\$0	\$0	\$1,906,760
3D	Valley Ford	\$2,052,910	\$4,091	\$0	\$0	\$0	\$0	\$2,057,001
3E	Huntley	\$2,350,795	\$3,616	\$0	\$0	\$0	\$0	\$2,354,411
4	Geysers Recharge	\$0	\$67,500	\$141,191	\$0	\$0	\$0	\$208,691
5A	Direct Discharge to Russian River	\$0	\$0	\$0	\$33,402	\$0	\$0	\$33,402
5B	Direct Discharge to the Laguna	\$0	\$0	\$0	\$0	\$0	\$0	\$0

(1) The cost of acquiring land for the reservoirs includes the cost of the land for the reservoir footprint, a contingency reservoir land cost and the cost of the building structures on this land. The contingency cost is assumed to be 50% of the estimated land cost, and includes the cost of any land required around the reservoir footprint, severance costs, relocation costs and other contingencies.

(2) The cost of acquiring utility easements on the land required for the pump stations is assumed to equal the cost of acquiring the land plus a 50% contingency cost, which includes the cost of any land required around the reservoir footprint, severance costs, relocation costs and other contingencies.

(3) Average land costs for these sites are estimated to be \$10,000 per acre based on their geographic location and size.

Sources: Metroscan Database of Sonoma County Assessor's Data; Interviews with Selected Appraisers; Selected Appraisals; Economic & Planning Systems, Inc.

Table 2
Reservoir Site Information
Santa Rosa Wastewater Long-Term Project

Alternative No.	Reservoir / Parcel No.	Zoning (1)	Land Use (2)	Parcel Acres	Parcel Bldg. Sq. Ft.	Required Reservoir Site Acres (3)	Reservoir Site as % of Parcels Acres	Bldg. Sq. Ft. on Reservoir Site (4)
2A	Tolay A							
	68 020 013 000	LEA60	Pasture	73.3	0			
	068 020 017 000	LEA60	Pasture, w/ R	226.6	1,236			
	068 060 031 000	DA20	Pasture	193.4	0			
	068 050 020 000	LEA100	Pasture	615.0	0			
	068 050 023 000	LEA100	Pasture, w/ R	295.2	1,381			
	068 060 055 000	LEA60	Field Crops	118.1	0			
	068 060 058 000	LEA60	Field Crops	100.0	0			
	068 060 044 000	LEA60	Pasture, w/ R	125.8	800			
	068 060 056 000	LEA60	Pasture	131.9	0			
	068 060 057 000	LIA60	Field Crops	217.6	0			
	068 080 002 000	LEA100	Pasture	324.7	0			
	068 070 005 000	LEA60	Field Crops	573.9	0			
	068 070 004 000	LEA60	Field Crops	355.8	0			
	068 080 001 000	LEA60	Pasture	490.0	0			
	068 080 003 000	LEA100	Pasture	606.8	0			
	Total			4448.1	3,417	800	18%	3,417
2B	Adobe Road & Lakeville Hillside							
	<u>Adobe Road</u>							
	136 130 008 000	DA30	Field Crops	74.4	0			
	136 130 006 000	DA30	Pasture	60.0	0			
	136 130 007 000	DA30	Pasture	17.0	0			
	136 060 056 000	DAFRZN	Pasture, w/ R	105.9	2,813			
	136 140 009 000	LEA60	Dairy, w/ R	400.0	1,856			
	136 140 003 000	LEA60	Pasture, w/ R	160.0	1,578			
	136 140 006 000	LEA60	Rural, Single Residence	15.1	1,914			
	136 130 010 000	DA30	Pasture, w/ R	159.4	0			
	<u>Subtotal</u>			<u>991.8</u>	<u>8,161</u>	<u>170</u>		
	<u>Lakeville Hillside</u>							
	068 110 029 000	LEA60	Unkown	199.6	0			
	068 110 033 000	LEA60	Irrigated Vineyard	90.7	0			
	068 110 034 000	LEA60	Irrigated Vineyard	122.3	0			
	068 080 001 000	LEA60	Pasture	490.0	0			
	068 110 017 000	LEA60	Pasture	180.9	0			
	068 110 016 000	LEA60	Pasture	23.0	0			
	068 110 018 000	DA25	Dairy w/ R	56.9	0			
	<u>Subtotal</u>			<u>1163.4</u>	<u>0</u>	<u>155</u>		
	Total			2155.2	8,161	325	15%	8,161
2C	Tolay C							
	068 080 002 000	LEA100	Pasture	324.7	0			
	068 070 005 000	LEA60	Field Crops	573.9	0			
	068 070 004 000	LEA60	Field Crops	355.8	0			
	068 080 001 000	LEA60	Pasture	490.0	0			
	068 080 003 000	LEA100	Pasture	606.8	0			
	068 060 057 000	LIA60	Field Crops	217.6	0			
	068 060 058 000	LEA60	Field Crops	100.0	0			
	Total			2668.8	0	390	15%	0
2D	Sears Point & Lakeville Hillside							
	<u>Sears Point</u>							
	068 080 003 000	LEA100	Pasture	606.8	0			
	068 090 001 000	LEA100	Pasture	594.0	0			
	068 090 004 000	LEA100	Pasture	550.7	0			
	068 090 010 000	LEA100	Pasture w/R	365.0	1,433			
	068 090 012 000	LEA100	Pasture	21.6	0			
	<u>Subtotal</u>			<u>2138.0</u>	<u>1,433</u>	<u>270</u>		
	<u>Lakeville Hillside</u>							
	068 110 029 000	LEA60	Unkown	199.6	0			
	068 110 033 000	LEA60	Irrigated Vineyard	90.7	0			
	068 110 034 000	LEA60	Irrigated Vineyard	122.3	0			
	068 080 001 000	LEA60	Pasture	490.0	0			
	068 110 017 000	LEA60	Pasture	180.9	0			
	068 110 016 000	LEA60	Pasture	23.0	0			
	068 110 018 000	DA25	Dairy w/ R	56.9	0			
	<u>Subtotal</u>			<u>1163.4</u>	<u>0</u>	<u>155</u>		
	Total			3301.4	1,433	425	13%	1,433
3A	Two Rock							
	022 010 004 000	LEA160	Dairy, w/ R	558.9	1,440			
	022 020 001 000	LEA160	Dairy, w/ R	381.8	0			
	024 080 003 000	LEA160	Dairy, w/ R	306.0	0			
	024 090 026 000	LEA160	Pasture	348.7	0			
	024 080 019 000	PFRRZN	County Prop., Misc.	389.1	0			
	024 080 001 000	LEA60	Pasture	111.0	0			
	024 090 016 000	LEA60	Pasture, w/ R	202.0	1,500			
	Total			2297.4	2,940	230	10%	2,940

Table 2
Reservoir Site Information
Santa Rosa Wastewater Long-Term Project

Alternative No.	Reservoir / Parcel No.	Zoning (1)	Land Use (2)	Parcel Acres	Parcel Bldg. Sq. Ft.	Required Reservoir Site Acres (3)	Reservoir Site as % of Parcels Acres	Bldg. Sq. Ft. on Reservoir Site (4)
3B	Bloomfield							
	027 010 012 000	LEA160	Chicken Ranch, w/ R	106.3	1,196			
	027 040 011 000	LEA160	Dairy, w/ R	326.2	0			
	027 030 002 000	LEA160	Pasture	277.8	0			
	027 030 003 000	LEA160	Pasture	162.4	0			
	027 020 002 000	LEA160	Pasture, w/ R	200.0	2,016			
	027 020 006 000	LEA160	Pasture, w/ R	319.7	0			
	073 020 004 000	LEA160	Pasture, w/ R	458.8	3,676			
	027 040 011 000	LEA160	Dairy w/ R	326.2	0			
	Total			2177.3	6,888	195	9%	6,888
3C	Carroll							
	073 020 007 000	LEA160	Dairy, w/ R	487.1	0			
	073 020 004 000	LEA160	Pasture, w/ R	458.8	3,676			
	Total			945.9	3,676	235	25%	3,676
3D	Valley Ford							
	026 070 008 000	LEA160	Dairy, w/ R	549.3	0			
	026 080 005 000	LEA160	Pasture, w/ R	600.0	1,356			
	026 070 012 000	CZ	Dairy, w/ R	186.1	0			
	Total			1335.5	1,356	260	19%	1,356
3E	Huntley							
	027 230 010 000	LEA100	Pasture	195.6	0			
	027 230 004 000	LEA100	Pasture, w/ R	145.7	1,530			
	027 230 006 000	LEA100	Pasture, w/ R	90.0	2,784			
	027 230 007 000	LEA100	Pasture, w/ R	101.2	1,980			
	027 230 008 000	LEA100	Pasture, w/ R	93.3	1,384			
	027 260 011 000	LEA100	Pasture, w/ R	126.3	0			
	027 240 002 000	LEA100	Vacant, RR 1-20 Acres	13.0	0			
	022 310 009 000	LEA100	Pasture, w/ R	237.1	2,800			
	027 230 008 000	LEA100	Pasture, w/ R	93.3	1,384			
	100 060 007 000		Marin County (12)	32.0	0			
	100 060 008 000		Marin County (12)	137.6	0			
	100 060 009 000		Marin County (12)	26.0	0			
	Total			1290.9	11,862	175	14%	11,862
GRAND TOTAL				20,621	39,733	3,035	15%	39,733

(1) Zoning abbreviations:

DA20 Diverse Agriculture, 20 Acre Density
DA25 Diverse Agriculture, 25 Acre Density
DA30 Diverse Agriculture, 30 Acre Density
DAFRZN Diverse Agriculture, Frozen Lot Size
LEA60 Land Extensive Agriculture, 60 Acre Density
LEA100 Land Extensive Agriculture, 100 Acre Density
LEA160 Land Extensive Agriculture, 160 Acre Density
LIA60 Land Intensive Agriculture, 60 Acre Density
PFFRZN Public Facilities, Frozen Lot Size
CZ Coastal Zone

(2) Land Use abbreviations:

w/ R with Residence

(3) Required land is reservoir footprint. The reservoir footprint was provided by Parsons Engineering Science, Inc.

(4) It is assumed that all the building square feet on the parcels fall on the reservoir sites; this leads to a conservative estimate of land costs, as some structures will not fall on the reservoir site.

(5) Based on an average building value of \$85 per sq. ft.

(6) Cost of buying reservoir footprint is assumed to be a proportion of the costs of buying all the parcel acreage; the proportion is assumed to be equal to the ratio between the the reservoir site acreage and the total parcel acreage.

(7) An additional 50% contingency cost is added to the reservoir land acquisition cost. This contingency cost includes costs of acquiring any additional land required to form a buffer zone around the reservoir site, severance costs, relocation costs and and other contingency costs.

(8) The estimated land value per acre for land with this zoning and land use is estimated to be \$12,000, based on the land uses permitted by the zoning, the current land use, and the land values attributed to other parcels with different agricultural zonings.

(9) When zoning density gives frozen lot size, the land value was, on average, assumed to be lower than parcels with the same zoning and a defined density.

(10) When land use was unknown, the mid-point of the land value range for the relevant zoning was used.

(11) This zoning and land use combination are assumed to have a value of \$12,000 per acre.

(12) These parcels are located in Marin County; zonings, land uses and costs per acre are assumed to be similar to the other parcels in the reservoir area.

Sources: Metrosan Database of Sonoma County Assessor's Data; Interviews with Selected Appraisers; Selected Appraisals; Economic & Planning Systems, Inc.

- The reservoir sites only take up a portion of the parcels they are located on. This portion varies between 13 percent and 29 percent of the total parcel acreage.

PUMP STATION SITES

Table 3 shows summary information on the pump station sites. Acquisition of as many as eighteen pump stations are required and they are located in several areas of the County.

The characteristics of the pump stations and the land where the pump stations are located are summarized below:

- The lots required by the pump stations vary in size from 800 square feet to 1 acre.
- The land required to accommodate each pump station is the lot area.
- The building size of the pump stations varies from 100 square feet to 1,800 square feet
- The majority of the parcels are zoned either Diverse Agriculture, with 10, 20 and 30 acre densities and with a frozen lot size, or Land Extensive Agriculture, with 60, 100, 160 and 240 acre densities. Other zoning classifications include Resources, Rural Residential, and Coastal Zone.

Table 3
Pump Station Sites
Santa Rosa Wastewater

Alternative Number (1)	Reservoir	Pumpstations				
		Number of Pump Stations	Typical Zoning (2)	Sum of Bldg Sizes (Sq. Ft.) (3)	Sum of Lot Sizes (Sq. Ft.) (3)	Total Land Required (Sq. Ft.) (3)
1	No Project	0	n/a	0	0	0
2A	Tolay A	9	Diverse Agriculture, 20 Acre Density	4,600	14,500	14,500
2B	Adobe Road and Lakeville Hillside	10	Diverse Agriculture, 20 Acre Density	5,000	16,000	16,000
2C	Tolay C	11	Diverse Agriculture, 20 Acre Density	5,100	16,800	16,800
2D	Sears Point and Lakeville Hillside	13	Diverse Agriculture, 20 Acre Density	7,500	22,200	22,200
3A	Two Rock	12	Diverse Agriculture, 20 Acre Density	5,500	18,300	18,300
3B	Bloomfield	12	Land Extensive Agriculture, 100 Acre Density	5,500	18,300	18,300
3C	Carroll Road	13	Land Extensive Agriculture, 100 Acre Density	5,900	19,800	19,800
3D	Valley Ford	13	Land Extensive Agriculture, 100 Acre Density	5,900	19,800	19,800
3E	Huntley	11	Land Extensive Agriculture, 100 Acre Density	5,400	17,500	17,500

Table 3
Pump Station Sites
Santa Rosa Wastewater

Alternative Number (1)	Reservoir	Number of Pump Stations	Pumpstations			
			Typical Zoning (2)	Sum of Bldg Sizes (Sq. Ft.) (3)	Sum of Lot Sizes (Sq. Ft.) (3)	Total Land Required (Sq. Ft.) (3)
4	Geysers Recharge	3	Diverse Agriculture, 20 Acre Density	5,400	130,680	130,680
5A	Direct Discharge to Russian River	0	Diverse Agriculture, 20 Acre Density	0	0	0
5B	Direct Discharge to the Laguna	0	Diverse Agriculture, 20 Acre Density	0	0	0

(1) Several alternatives require some of the same pump stations.

(2) Typical zoning refers to the most common zoning of the land where the pump stations are located.

(3) A pump station building will be constructed on each pump station lot. The size of the land that will require a utility easement equals the size of the lot.

(4) Estimated land costs are based on per acre value ranges by zoning given in Table 6. A land value of \$15,000 per acre was applied to land primarily zoned Diverse Agriculture, 20 Acre Density, and a land value of \$6,000 per acre was applied to land primarily zoned Land Extensive Agriculture, 100 Acre Density.

(5) An additional 50% contingency cost is added to the pumpstation land acquisition cost. This contingency cost includes costs of acquiring any additional land required to form a buffer zone around the pumpstation site, severance costs, relocation costs and other contingency costs.

(6) Total cost is the sum of the estimated land cost and the contingency cost.

Sources: Parsons Engineering Science, Inc.; Harland Bartholomew & Associates, Inc.; Economic & Planning Systems, Inc.

DATA SOURCES AND ANALYSIS

Land values were estimated based on the zoning of the parcel, the existing land use of the parcel, and the size of the parcel. Parcel zoning was obtained from the Sonoma County Assessor's Office and was assumed to give a good general representation of the possible, legally permitted future use of the land. Most parcels were located far from any city limits and so a change in zoning through annexation was considered unlikely. The current land use was also obtained from the Sonoma County Assessor's office and was taken as a good indication of the most profitable use of the land given the zoning and the nature of the land. The size of the parcel was factored into land value estimates, as larger parcels of land, all things being equal, generally sell for a lower price per acre than smaller parcels.

EPS has prepared planning level estimates of per acre land values for the parcels in the reservoir site and pump station site areas with the primary zoning classifications. The acquisition of land for the reservoirs will also require the purchasing of the building structures that fall on the land. The value of building structures has been estimated using Sonoma County Assessor's Office data on the assessed value of structures on land throughout the county with the same zoning as parcels in the site areas. The following sections describe the methods used to estimate land values and structure values.

To the extent possible, the appraisal information on comparables that were closest in nature to the parcels in the Study Area, in terms of size and location, have been given the most weight in estimating values.

LAND VALUES

The data sources and the methodology used to estimate the land values are described below.

Interviews with Appraisers and Brokers in Sonoma County

Appraisers and brokers knowledgeable about Sonoma County land market conditions and the reservoir site and pump station site areas were interviewed.

Considerable weight was given to this information as it is the most up-to-date market information available. The information provided by the appraisers and brokers, active in Sonoma County, in interviews during September and October, 1995 is the most reliable information on land values. Although the information is only in the form of ranges and is often general in nature, it is the most up-to-date information available.

The information provided by the appraisers and brokers included the following:

- Land prices for rural residential / agricultural land with lot sizes over 40 acres in Sonoma County with a low development potential will, in general, be in the range of \$4,000 to \$15,000 per acre. The nature of the land in the areas where the reservoirs are planned to be located allows agricultural uses of low to medium value and provides little opportunity for annexation to a City and intensive development. Land

in this area is, therefore, unlikely to sell above the upper level of this range. The actual purchase price will ultimately be determined by the factors listed above.

- It is unusual for land in Sonoma County to sell for less than \$4,000 per acre except under certain circumstances. Such cases include land that falls in the 100 Year Flood Plain, or land that is too rough to be used for grazing.
- In general, land that is zoned agricultural / rural residential and has a lot size of over 40 acres will not sell for more than \$15,000 per acre. Exceptions will include cases where land can be used for viticulture or where residential development potential exists and has a high probability of being realized. In the geographic areas of the County where the reservoirs are proposed to be located, a large number of these cases is unlikely.
- The market for land in Sonoma County is, at present, a "buyer's market." There currently exists a considerable supply of land in the County. These market conditions tend to deflate the prices owners can expect to get for land when they want to sell. However, in cases, where the owner of the land is reluctant to sell and it is the buyer who is actively pursuing the transaction this price dynamic may be reversed and prices tend to be inflated.
- Purchasers of land in the reservoir areas are usually for agricultural uses or with smaller parcels, for the construction of a home, combined with some agricultural uses. Speculative purchases, based on the expectation of future increases in the value of land, are rare. There have, however, been some speculative purchases of large parcels of land in the area southeast of Petaluma by overseas investors.
- Agricultural land that can be used as vineyards will generate the most income, followed by use as fruit orchards, and then followed by other field crops. Use of land for hay production will generate a lower income, and uses as dairy or grazing (pasture) will generate the lowest income, with the exception of land that is unusable.

Sonoma County Land Appraisals

Several appraisals of land in Sonoma County were reviewed, and selected information on parcel sales were used as an indicator of value in the Study Area. Appraisal data for selected parcels are shown in **Table 4**. The list includes a variety of parcels, though all parcels selected are over 15 acres in size and have the same zoning classifications as the parcels in the reservoir site and pump station site areas.

Considerable weight was given to the appraisals and the sales comparables used to determine appraised value. A controlled sample of sales comparables was selected, where land was similar in nature to the parcels in the Study Area, in terms of zoning, size and location. These comparables were used as an estimate of land value.

Table 4
Sales Comparables from Sonoma County Appraisals
Santa Rosa Wastewater

Property Name / Parcel	Location	Transfer Date / Appraisal Date	Sales Price / Appraisal Value	Size (Acres)	Price/ Value per Acre	Zoning (1)	Comments
Land Extensive Agriculture Zoning, 60 Acre Density							
60 Acre Density Sales Comparables for Cotati Highlands Property - 1; comparable with development potential	West Sierra Avenue, Cotati	January, 1989	\$2,445,000	183.0	\$15,000	Land Extensive Agriculture, 60 Acres	Buyers expectations were that property would annexed to City of Cotati within two years from sale date. The 1990 General Plan Update put project on hold.
		July, 1989	\$1,848,000	154.0	\$12,000		
Sales Comparables for Mafia Property - 1	Southwest of Cotati; close to Petaluma	April, 1993	\$450,000	60.0	\$7,500	Land Extensive Agriculture, 60 Acre Density	Purchased as a large agricultural homestead with horses. The property has three approved permits for a total of sixteen bedrooms and a 20 gallon a minute well. The property also has excellent views towards the north toward the City of Petaluma.
Sales Comparables for Mafia Property - 2	Southwest of Cotati; close to Petaluma	June, 1994	\$425,000	60.0	\$7,083	Land Extensive Agriculture, 60 Acre Density	Zoning allows for one site.
Sales Comparables for Cotati Highlands Property - 2; comparables of land used as large acreage home sites	Stage Gulch Road, Petaluma	April, 1990	\$965,000	235.8	\$4,092	Land Extensive Agriculture; 60 Acre Density	Two irregular shaped parcels utilized for field and pasture. The parcels are in an agricultural preserve.
Sales Comparables for Cotati Highlands Property - 3; comparables of land used as large acreage home sites	Chileno Valley Road, Petaluma	June, 1991	\$875,000	240.0	\$3,646	Land Extensive Agriculture; 60 Acre Density	A rectangular shaped parcel split by Chileno Valley Road. In an agricultural preserve and purchased as a single home site.
Sales Comparables for NWC Wilfred/ Whistler Avenue - 1	Hall Road, Guerneville	December, 1989	\$108,140	35.4	\$3,000	Land Extensive Agriculture, 60 Acre Density	Level, low lying site with vernal pools in flood
160 Acre Density Comparable for Mafia Property - 3	Southwest of Cotati; close to Petaluma	July, 1992	190,000	80	2,375	Land Extensive Agriculture, 160 Acre Density	Zoning allows for one site. Property poor in terms of location, access, and agricultural potential.
Comparables for NWC Wilfred/ Whistler Avenue - 2	Gravenstein Highway, SS of Hwy 12 Sebastopol	June, 1992	120,000	18	6,787	Land Extensive Agriculture; 160 Acres	Adjacent to Sebastopol City limits; consists of wetlands and vernal pools.
Diverse Agriculture Zoning							
20 Acre Density Sales Comparables for Cotati Highlands Property - 4; comparable with development potential	Petaluma Hill Road, Santa Rosa	June, 1991	\$400,000	16.4	\$24,346	Diverse Agriculture, 20 Acre Density	Purchased as 5-6 year investment with the anticipation of future annexation by Rohnert P
Sales Comparables for Cotati Highlands Property - 5; comparable with development potential	Petaluma Hill Road, Santa Rosa	June, 1993	\$420,000	30.1	\$13,953	Diverse Agriculture, 20 Acre Density	Purchased as a long term investment with the anticipation of future annexation by Rohnert P

Table 4**Sales Comparables from Sonoma County Appraisals
Santa Rosa Wastewater**

Property Name / Parcel	Location	Transfer Date / Appraisal Date	Sales Price / Appraisal Value	Size (Acres)	Price/ Value per Acre	Zoning (1)	Comments
Sales Comparables for Haroutunian Property - 1 (Two Parcels - one 16.19 acres in size, and other 33.93 acres).	End of Butler Avenue, Santa Rosa	April, 1993	\$500,000	50.1	\$9,978	Diverse Agriculture, 20 Acre Density; 20 Acre Minimum.	Unimproved, electrical and telephone service available.

(1) Some sales comparables listed only the zoning and others only the General Plan designation; if only one was listed, this information was taken as an indication of value.

(2) This appraisal values thirteen certificates of compliance on approximately 162 acres and an adjoining 154.4 acre parcel in the Cotati Highlands area.

Sources: Selected Appraisals in Sonoma County; Economic & Planning Systems, Inc.

Values Based on Recent Land Transactions

Data from the Sonoma County Assessor's Office on assessed land value of recently sold parcels in the County, with the same zoning classifications as parcels in the reservoir site and pump station site areas, were used to generate additional information on land value. The Transamerica Information Management Services Corporation compiles Assessor Data into database format. Assessor information for Sonoma County was accessed using the Metroscan Software.

Less reliance was placed on the land value estimates generated using sales prices/ assessed values of parcels as this sample of parcels was less controlled, and sample sizes for some zoning classifications were small. Estimates derived using this method give an indication of value for each zoning category in the County as a whole. Agricultural land in the County as a whole have a wider potential set of agricultural uses than land in the site areas, and, on average, allow for higher income generating uses. A valuation technique using data from throughout the County may, therefore, overestimate the value of the land in the site areas. This was judged to be the case for the Diverse Agriculture, 20 acre density zoning classification.

Assessed valuations of a parcel, the land, the structure and other factors are based on current market value when a parcel is sold.

Land value information was derived from the Assessor's data by selecting parcels with the following characteristics:

- the same zoning classifications as parcels in the reservoir site and pump station site areas.
- over 9 acres in size.
- sold in the last five years.

An average land value per acre (excluding any improved value) was then calculated for each zoning classification by dividing the total assessed land value by the total acreage of the parcels in each zoning classification. The average assessed land value per acre by zoning classification, the average acreage of the parcels in the data set by zoning classification, and the number of parcels in the data set by zoning classification (the sample size) are shown in **Table 5**.

STRUCTURE VALUES

Building structure values were estimated using Sonoma County Assessor's data. Assessor's data on the assessed value of structures on recently sold parcels in the County, with the same zoning classification as parcels in the reservoir site and pump station site areas, were used to estimate the total building structure value. This structure value was divided by the total square footage of the structures on these parcels to estimate an average structure value per square foot of building space. The estimated structure value was \$85 per square foot.

Table 5
Summary of Recent Countywide Sales Data by Zoning Category
Santa Rosa Wastewater

Zoning	Sonoma County Assessors Data (1)		
	Sample Size	Average Acreage	Average Assessed Land Value per Acre
Diverse Agriculture District, 20 Acre	4	19	\$17,000
Land Extensive Agriculture, 60 Acre Density, 60 Acre Min.	30	32	\$7,000
Agriculture, Land Extensive, 160 Acre Density, 160 Acre Min.	3	46	\$4,200

(1) To estimate land values per acre a sample of all the parcels in Sonoma County with the same zonings as parcels in the reservoir and pumpstation areas were analyzed; only parcels that were transferred/ sold in the last five years were included (in these cases, the assessed parcel value is similar to the recent sales price); all parcels were over 9 acres in size. All obvious outliers were removed from the sample. The sample size gives the number of parcels that fit the criteria in each zoning category; the average acreage gives the average acreage of the parcels in each zoning category; and, the average assessed land value per acre gives the average assessed value of land per acre for the parcels in each zoning category.

Sources: Transamerica Information Management Services - Metroscan Software: Assessor Parcel Information for Sonoma County;
Economic & Planning Systems, Inc.

SYNTHESIS OF LAND VALUATION ESTIMATE

The initial per acre land value estimates for parcels in the Study Area were derived from a combination of three sets of information: the review of appraisals conducted in the area, an analysis of recent sales data, and interviews with brokers and appraisers in Sonoma County. All three sources were considered in estimating the value range and adjusted midpoint value for each zoning category.

The results generated by the three methods were similar. Both the information from the appraisals and the land values estimated using Assessor information were approximately consistent with the range indicated by the brokers and appraisers. The land value estimates shown in **Table 6** represent the range of values, by zoning classification, based on the analysis discussed above. These value estimates have been refined further in developing land cost estimates for the reservoir sites. The refinement is based on zoning and current land use. These estimates are shown in **Table 7**. The following section describes the application of these results to the reservoir and pump station sites to generate estimated land costs by alternative.

Table 6
Estimated Per Acre Land Value Ranges (1)
Santa Rosa Wastewater

Zoning	Per Acre Land Values	
	Low	High
Diverse Agriculture District, 20 Acre	\$10,000	\$20,000
Land Extensive Agriculture, 60 Acre Density, 60 Acre Min.	\$3,000	\$12,000
Agriculture, Land Extensive, 160 Acre Density, 160 Acre Min.	\$2,500	\$7,000

(1) Estimates are based on interviews with appraisers and brokers, land value information from appraisals (see Table 5), and land value information from Assessor Data (see Table 6). The ranges have been adjusted to correspond with the type of land in the reservoir and pump station areas. Land values exclude any improvements on the property.

Sources: Metroscan Database of Sonoma County Assessor's Data; Interviews with Selected Appraisers; Selected Appraisals; Economic & Planning Systems, Inc.

Table 7
Schema for Parcel Level Land Valuation Estimates
Santa Rosa Wastewater

Zoning / Land Use (1)	Lot Acreage (2)	Per Acre Land Value (3)
<u>Land Extensive Agriculture, 60 Acre Density</u>		
Agriculture Pasture	over 90 acres	5,500
Agriculture, Dairy	over 90 acres	6,500
Agriculture, Field Crops	over 90 acres	9,500
Agriculture, Irrigated Vineyard, Premium	over 90 acres	15,000
<u>Land Extensive Agriculture, 100 Acre Density</u>		
Agriculture Pasture	over 90 acres	5,000
Agriculture, Dairy	over 90 acres	6,000
Agriculture, Field Crops	over 90 acres	9,000
Agriculture, Irrigated Vineyard, Premium (4)	over 90 acres	15,000
<u>Land Extensive Agriculture, 160 Acre Density</u>		
Agriculture Pasture	over 90 acres	4,000
Agriculture, Dairy	over 90 acres	5,000
Agriculture, Field Crops	over 90 acres	7,000
Agriculture, Irrigated Vineyard, Premium (4)	over 90 acres	15,000
<u>Diverse Agriculture, 20 - 30 Acre Densities</u>		
Agriculture Pasture	over 15 acres	12,000
Agriculture, Field Crops	over 15 acres	15,000
<u>Coastal Zone (5)</u>		
Agriculture, Dairy with Residence	over 150 acres	8,000
<u>Public Facilities (5)</u>		
Gov, County Property, Misc.	over 350 acres	5,000

(1) The zoning of a parcel helps estimate land value as it defines the permitted uses of a parcel; the current land use of a parcel also gives a good indication of value as it indicates the potential use of the parcel.

(2) Lot acreage is an important determinant of land value; larger parcels will in general, have a lower price per acre than smaller parcels.

(3) Per acre land values represent estimates of value based on the estimated value ranges by zoning, shown in Table 4, and interviews with brokers and appraisers on the relative value of different land use potentials. Additional adjustments to values were made based on permitted density and parcel acreage.

(4) Per acre land values for land used for vineyards is outside the general range estimated in Table 6. Vineyards generate a higher income stream than other agricultural uses, and the land value of parcels in the reservoir/ pump station areas with these uses is assumed to be approximately \$15,000 per acre.

(5) Values for these zoning and land use based on appraiser interviews and other market information.

Sources: Metroscan Database of Sonoma County Assessor's Data; Interviews with Selected Brokers and Appraisers; Selected Appraisals; Economic & Planning Systems, Inc.

LAND COST ESTIMATE FOR THE PROJECT

Table 8 and **Table 9** show the application of the estimated per acre land values and the estimated per square foot building structure value to the reservoir and pump station sites. They also show the addition of a 50% contingency cost to the land cost, which is an approximation of additional land costs required as a construction and/or buffer zone around the sites, relocation costs, severance costs and other contingency costs. **Table 10** shows the land value estimates for the other land required.

Table 8 shows estimates of the land and associated building structure costs required for the reservoir site area. The following steps were taken in estimating the total cost of land acquisition for the reservoir sites by alternative:

- Per acre land values were applied to each parcel based on its zoning classification and land use to generate a total land cost.
- An additional 50% contingency factor was added to the land cost, which is an approximation of the cost of land required as a construction and/or buffer zone around the reservoirs, relocation costs, severance costs and other contingency costs.
- It is assumed that all the building structures on the parcels which comprise the reservoir site fall in the reservoir area, and that all these buildings will have to be acquired. This assumption is conservative as some building structures will not be in the reservoir area.
- The estimated average building structure value of \$85 per square foot was applied to the building structures on each parcel to estimate the building structure costs associated with each alternative.
- The total cost of acquiring the land and associated building structures for each alternative was estimated by summing the estimated land cost, the contingency cost and estimated building cost.

Table 9 shows cost estimates of purchasing the land required for the pump stations by alternative. Due to the small size of the land to be acquired, a general land value assumption of \$15,000 per acre was made. This is a conservative estimate based on the zoning, land uses and sizes of the parcels in the pump station areas. An additional 50% contingency factor was added to the land cost, which is an approximation of the cost of land required as a buffer zone around the pump station sites, relocation costs, severance costs and other contingency costs. It is also assumed that the pump station sites will not have existing building structures as the pump stations will each require the construction of a new building structure.

Table 10 shows acquisition cost estimates for the other land required, which excludes the reservoir and pump station sites. Cost estimates are based on an assumed \$10,000 per acre for land. This represents a conservative estimate given the nature of the land.

Table 8
Reservoir Site Information
Santa Rosa Wastewater Long-Term Project

Alternative No.	Reservoir / Parcel No.	Zoning (1)	Land Use (2)	Parcel Acres	Parcel Bldg. Sq. Ft.	Required Reservoir Site Acres (3)	Reservoir Site as % of Parcel Acres	Bldg. Sq. Ft. on Reservoir Site (4)	Land Price per Acre	Cost of Buying All Parcel Acreage		
										Land Cost	Building Cost (5)	Total Cost
2A	Toley A											
	08 020 013 000	LEA60	Pasture	73.3	0				5,500	\$403,260	\$0	\$403,260
	068 020 017 000	LEA60	Pasture, w/ R	226.6	1,236				5,500	\$1,246,410	\$104,568	\$1,350,978
	068 060 031 000	DA20	Pasture	193.4	0				12,000	\$2,320,560	\$0	\$2,320,560
	068 050 020 000	LEA100	Pasture	615.0	0				5,000	\$3,075,000	\$0	\$3,075,000
	068 050 023 000	LEA100	Pasture, w/ R	295.2	1,381				5,000	\$1,475,650	\$116,836	\$1,592,486
	068 060 055 000	LEA60	Field Crops	118.1	0				9,500	\$1,122,330	\$0	\$1,122,330
	068 060 058 000	LEA60	Field Crops	100.0	0				9,000	\$900,000	\$0	\$900,000
	068 060 044 000	LEA60	Pasture, w/ R	125.8	800				5,500	\$691,735	\$67,682	\$759,417
	068 060 056 000	LEA60	Pasture	131.9	0				5,500	\$725,230	\$0	\$725,230
	068 060 057 000	LIA60	Field Crops	217.6	0				12,000 (8)	\$2,611,440	\$0	\$2,611,440
	068 060 002 000	LEA100	Pasture	324.7	0				5,000	\$1,623,650	\$0	\$1,623,650
	068 070 005 000	LEA60	Field Crops	573.9	0				9,000	\$5,165,280	\$0	\$5,165,280
	068 070 004 000	LEA60	Field Crops	355.8	0				9,000	\$3,202,470	\$0	\$3,202,470
	068 080 001 000	LEA60	Pasture	490.0	0				5,500	\$2,694,780	\$0	\$2,694,780
	068 080 003 000	LEA100	Pasture	606.8	0				5,000	\$3,033,850	\$0	\$3,033,850
		Total			4448.1	3,417	800	15%	3,417	n/a	\$30,292,000	\$288,000
2B	Adobe Road & Lakeville Hillside											
	Adobe Road											
	136 130 006 000	DA30	Field Crops	74.4	0				15,000	\$1,116,000	\$0	\$1,116,000
	136 130 006 000	DA30	Pasture	60.0	0				12,000	\$720,000	\$0	\$720,000
	136 130 007 000	DA30	Pasture	17.0	0				12,000	\$204,000	\$0	\$204,000
	136 080 056 000	DAFRZN	Pasture, w/ R	105.9	2,813				10,000 (9)	\$1,056,800	\$237,966	\$1,294,766
	136 140 009 000	LEA60	Dairy, w/ R	400.0	1,856				6,500	\$2,600,000	\$157,022	\$2,757,022
	136 140 003 000	LEA60	Pasture, w/ R	160.0	1,578				5,500	\$880,000	\$133,603	\$1,013,603
	136 140 006 000	LEA60	Rural, Single Residence	15.1	1,914				6,500	\$98,410	\$161,929	\$260,339
	136 130 010 000	DA30	Pasture, w/ R	159.4	0				12,000	\$1,912,800	\$0	\$1,912,800
		Subtotal			901.8	8,161	170		n/a	\$8,580,000	\$690,000	\$9,270,000
	Lakeville Hillside											
	068 110 029 000	LEA60	Unknown	199.6	0				7,000 (10)	\$1,397,410	\$0	\$1,397,410
	068 110 033 000	LEA60	Irrigated Vineyard	90.7	0				15,000	\$1,359,900	\$0	\$1,359,900
	068 110 034 000	LEA60	Irrigated Vineyard	122.3	0				15,000	\$1,834,350	\$0	\$1,834,350
	068 080 001 000	LEA60	Pasture	490.0	0				5,500	\$2,694,780	\$0	\$2,694,780
	068 110 017 000	LEA60	Pasture	180.9	0				5,500	\$985,170	\$0	\$985,170
	068 110 016 000	LEA60	Pasture	23.0	0				5,500	\$126,500	\$0	\$126,500
	068 110 018 000	DA25	Dairy w/ R	56.9	0				13,000	\$739,960	\$0	\$739,960
		Subtotal			1163.4	0	155		n/a	\$9,148,000	\$0	\$9,148,000
		Total			2155.2	8,161	325	15%	8,161	n/a	\$17,728,000	\$690,000
2C	Toley C											
	068 080 002 000	LEA100	Pasture	324.7	0				5,000	\$1,623,650	\$0	\$1,623,650
	068 070 005 000	LEA60	Field Crops	573.9	0				9,000	\$5,165,280	\$0	\$5,165,280
	068 070 004 000	LEA60	Field Crops	355.8	0				9,000	\$3,202,470	\$0	\$3,202,470
	068 080 001 000	LEA60	Pasture	490.0	0				5,500	\$2,694,780	\$0	\$2,694,780
	068 080 003 000	LEA100	Pasture	606.8	0				5,000	\$3,033,850	\$0	\$3,033,850
	068 060 057 000	LIA60	Field Crops	217.6	0				12,000 (8)	\$2,611,440	\$0	\$2,611,440
	068 060 058 000	LEA60	Field Crops	100.0	0				9,000	\$900,000	\$0	\$900,000
		Total			2668.8	0	390	15%	0	n/a	\$18,231,000	\$0
2D	Sears Point & Lakeville Hillside											
	Sears Point											
	068 080 003 000	LEA100	Pasture	606.8	0				5,000	\$3,033,850	\$0	\$3,033,850
	068 080 001 000	LEA100	Pasture	594.0	0				5,000	\$2,970,000	\$0	\$2,970,000
	068 080 004 000	LEA100	Pasture	550.7	0				5,000	\$2,753,450	\$0	\$2,753,450
	068 080 010 000	LEA100	Pasture w/R	365.0	1,433				5,000	\$1,824,800	\$121,235	\$1,946,035
	068 080 012 000	LEA100	Pasture	21.6	0				5,000	\$107,900	\$0	\$107,900
		Subtotal			2138.0	1,433	270		n/a	\$10,680,000	\$0	\$10,811,000
	Lakeville Hillside											
	068 110 029 000	LEA60	Unknown	199.6	0				7,000 (10)	\$1,397,410	\$0	\$1,397,410
	068 110 033 000	LEA60	Irrigated Vineyard	90.7	0				15,000	\$1,359,900	\$0	\$1,359,900
	068 110 034 000	LEA60	Irrigated Vineyard	122.3	0				15,000	\$1,834,350	\$0	\$1,834,350

Table 8
Reservoir Site Information
Santa Rosa Wastewater Long-Term Project

Alternative No.	Reservoir / Parcel No.	Zoning (1)	Land Use (2)	Parcel Acres	Parcel Bldg. Sq. Ft.	Required Reservoir Site Acres (3)	Reservoir Site as % of Parcels Acres	Bldg. Sq. Ft. on Reservoir Site (4)	Land Price per Acre	Cost of Buying All Parcel Acreage		
										Land Cost	Building Cost (5)	Total Cost
	068 080 001 000	LEA60	Pasture	490.0	0				5,500	\$2,694,780	\$0	\$2,694,780
	068 110 017 000	LEA60	Pasture	180.9	0				5,500	\$985,170	\$0	\$985,170
	068 110 018 000	LEA60	Pasture	23.0	0				5,500	\$126,500	\$0	\$126,500
	068 110 018 000	DA25	Dairy w/ R	58.9	0				13,000	\$739,960	\$0	\$739,960
	Subtotal			1163.4	0	156			n/a	\$9,148,000	\$0	\$9,148,000
	Total			3301.4	1,433	425	13%	1,433	n/a	\$19,835,900	\$0	\$19,859,000
3A	Two Rock											
	022 010 004 000	LEA160	Dairy, w/ R	558.9	1,440				5,000	\$2,794,700	\$121,827	\$2,916,527
	022 020 001 000	LEA160	Dairy, w/ R	381.8	0				5,000	\$1,909,000	\$0	\$1,909,000
	024 080 003 000	LEA160	Dairy, w/ R	306.0	0				5,000	\$1,530,000	\$0	\$1,530,000
	024 090 026 000	LEA160	Pasture	348.7	0				4,000	\$1,394,680	\$0	\$1,394,680
	024 090 019 000	PFFRZN	County Prop., Misc.	389.1	0				5,000	\$1,945,250	\$0	\$1,945,250
	024 090 001 000	LEA60	Pasture	111.0	0				5,500	\$610,390	\$0	\$610,390
	024 090 016 000	LEA60	Pasture, w/ R	202.0	1,500				5,500	\$1,111,000	\$126,904	\$1,237,904
	Total			2297.4	2,940	230	10%	2,940	n/a	\$11,295,000	\$248,000	\$11,544,000
3B	Bloomfield											
	027 010 012 000	LEA160	Chicken Ranch, w/ R	106.3	1,198				5,000	\$531,600	\$101,184	\$632,784
	027 040 011 000	LEA160	Dairy, w/ R	326.2	0				5,000	\$1,630,750	\$0	\$1,630,750
	027 030 002 000	LEA160	Pasture	277.8	0				4,000	\$1,111,200	\$0	\$1,111,200
	027 030 003 000	LEA160	Pasture	162.4	0				4,000	\$649,680	\$0	\$649,680
	027 020 002 000	LEA160	Pasture, w/ R	200.0	2,016				4,000	\$800,000	\$170,558	\$970,558
	027 020 006 000	LEA160	Pasture, w/ R	319.7	0				4,000	\$1,278,840	\$0	\$1,278,840
	073 020 004 000	LEA160	Pasture, w/ R	458.8	3,676				4,000	\$1,835,040	\$310,998	\$2,146,038
	027 040 011 000	LEA160	Dairy w/ R	326.2	0				5,000	\$1,630,750	\$0	\$1,630,750
	Total			2177.3	6,888	195	9%	6,888	n/a	\$9,468,000	\$583,000	\$10,051,000
3C	Carroll											
	073 020 007 000	LEA160	Dairy, w/ R	487.1	0				5,000	\$2,435,800	\$0	\$2,435,800
	073 020 004 000	LEA160	Pasture, w/ R	458.8	3,676				4,000	\$1,835,040	\$310,998	\$2,146,038
	Total			945.9	3,676	235	25%	3,676	n/a	\$4,271,000	\$311,000	\$4,582,000
3D	Valley Ford											
	026 070 006 000	LEA160	Dairy, w/ R	549.3	0				5,000	\$2,746,700	\$0	\$2,746,700
	026 080 006 000	LEA160	Pasture, w/ R	600.0	1,356				4,000	\$2,400,000	\$114,721	\$2,514,721
	026 070 012 000	CZ	Dairy, w/ R	186.1	0				8,000	\$1,489,120	\$0	\$1,489,120
	Total			1335.5	1,356	260	19%	1,356	n/a	\$6,636,000	\$115,000	\$6,751,000
3E	Huntley											
	027 230 010 000	LEA100	Pasture	195.6	0				5,000	\$977,800	\$0	\$977,800
	027 230 004 000	LEA100	Pasture, w/ R	145.7	1,530				5,000	\$728,300	\$129,442	\$857,742
	027 230 006 000	LEA100	Pasture, w/ R	90.0	2,784				5,000	\$450,000	\$235,533	\$685,533
	027 230 007 000	LEA100	Pasture, w/ R	101.2	1,980				5,000	\$505,950	\$167,513	\$673,463
	027 230 008 000	LEA100	Pasture, w/ R	93.3	1,384				5,000	\$466,350	\$117,090	\$583,440
	027 280 011 000	LEA100	Pasture, w/ R	126.3	0				5,000	\$631,400	\$0	\$631,400
	027 240 002 000	LEA100	Vacant, RR 1-20 Acres	13.0	0				12,000 (11)	\$156,000	\$0	\$156,000
	022 310 009 000	LEA100	Pasture, w/ R	237.1	2,800				5,000	\$1,185,400	\$236,887	\$1,422,287
	027 230 008 000	LEA100	Pasture, w/ R	93.3	1,384				5,000	\$466,350	\$117,090	\$583,440
	100 060 007 000		Marin County (12)	32.0	0				5,000	\$160,000	\$0	\$160,000
	100 060 008 000		Marin County (12)	137.6	0				5,000	\$687,800	\$0	\$687,800
	100 060 008 000		Marin County (12)	26.0	0				8,000	\$208,000	\$0	\$208,000
	Total			1290.9	11,862	175	14%	11,862	n/a	\$6,623,000	\$1,004,000	\$7,627,000
GRAND TOTAL				20,621	39,733	3,035	15%	39,733	n/a	\$125,392,000	\$3,241,000	\$128,754,000

(1) Zoning abbreviations:

DA20 Diverse Agriculture, 20 Acre Density
DA25 Diverse Agriculture, 25 Acre Density
DA30 Diverse Agriculture, 30 Acre Density
DAFRZN Diverse Agriculture, Frozen Lot Size

Table 8
Reservoir Site Information
Santa Rosa Wastewater Long-Term Project

Alternative No.	Reservoir / Parcel No.	Zoning (1)	Land Use (2)	Parcel Acres	Parcel Bldg. Sq. Ft.	Required Reservoir Site Acres (3)	Reservoir Site as % of Parcel Acres	Bldg. Sq. Ft. on Reservoir Site (4)	Land Price per Acre	Cost of Buying All Parcel Acreage		
										Land Cost	Building Cost (5)	Total Cost
LEA60			Land Extensive Agriculture, 60 Acre Density									
LEA100			Land Extensive Agriculture, 100 Acre Density									
LEA160			Land Extensive Agriculture, 160 Acre Density									
LIA60			Land Intensive Agriculture, 60 Acre Density									
FFFR2H			Public Facilities, Frozen Lot Size									
CZ			Coastal Zone									
(2)												

Land Use abbreviations:

w/ R with Residence

(3) Required land is reservoir footprint. The reservoir footprint was provided by Parsons Engineering Science, Inc.

(4) It is assumed that all the building square feet on the parcels fall on the reservoir sites; this leads to a conservative estimate of land costs, as some structures will not fall on the reservoir sites.

(5) Based on an average building value of \$85 per sq. ft.

(6) Cost of buying reservoir footprint is assumed to be a proportion of the costs of buying all the parcel acreage; the proportion is assumed to be equal to the ratio between the the reservoir site acreage and the total parcel acreage.

(7) An additional 50% contingency cost is added to the reservoir land acquisition cost. This contingency cost includes costs of acquiring any additional land required to form a buffer zone around the reservoir site, severance costs, relocation costs and other contingency costs.

(8) The estimated land value per acre for land with this zoning and land use is estimated to be \$12,000, based on the land uses permitted by the zoning, the current land use, and the land values attributed to other parcels with different agricultural zonings.

(9) When zoning density gives frozen lot size, the land value was, on average, assumed to be lower than parcels with the same zoning and a defined density.

(10) When land use was unknown, the mid-point of the land value range for the relevant zoning was used.

(11) This zoning and land use combination are assumed to have a value of \$12,000 per acre.

(12) These parcels are located in Marin County; zonings, land uses and costs per acre are assumed to be similar to the other parcels in the reservoir area.

Sources: Metrosan Database of Sonoma County Assessor's Data; Interviews with Selected Appraisers; Selected Appraisals; Economic & Planning Systems, Inc.

Table 9
Pump Station Sites
Santa Rosa Wastewater

Alternative Number (1)	Reservoir	Pumpstations							
		Number of Pump Stations	Typical Zoning (2)	Sum of Bldg Sizes (Sq. Ft.) (3)	Sum of Lot Sizes (Sq. Ft.) (3)	Total Land Required (Sq. Ft.) (3)	Estimated Land Cost (Dollars) (4)	Contingency (Dollars) (5)	Total Cost (Dollars) (6)
1	No Project	0	n/a	0	0	0	\$0	\$0	\$0
2A	Tolay A	9	Diverse Agriculture, 20 Acre Density	4,600	14,500	14,500	\$4,993	\$2,497	\$7,490
2B	Adobe Road and Lakeville Hillside	10	Diverse Agriculture, 20 Acre Density	5,000	16,000	16,000	\$5,510	\$2,755	\$8,264
2C	Tolay C	11	Diverse Agriculture, 20 Acre Density	5,100	16,800	16,800	\$5,785	\$2,893	\$8,678
2D	Sears Point and Lakeville Hillside	13	Diverse Agriculture, 20 Acre Density	7,500	22,200	22,200	\$7,645	\$3,822	\$11,467
3A	Two Rock	12	Diverse Agriculture, 20 Acre Density	5,500	18,300	18,300	\$6,302	\$3,151	\$9,452
3B	Bloomfield	12	Land Extensive Agriculture, 100 Acre Density	5,500	18,300	18,300	\$2,521	\$1,260	\$3,781
3C	Carroll Road	13	Land Extensive Agriculture, 100 Acre Density	5,900	19,800	19,800	\$2,727	\$1,364	\$4,091
3D	Valley Ford	13	Land Extensive Agriculture, 100 Acre Density	5,900	19,800	19,800	\$2,727	\$1,364	\$4,091
3E	Huntley	11	Land Extensive Agriculture, 100 Acre Density	5,400	17,500	17,500	\$2,410	\$1,205	\$3,616
4	Geysers Recharge	3	Diverse Agriculture, 20 Acre Density	5,400	130,680	130,680	\$45,000	\$22,500	\$67,500
5A	Direct Discharge to Russian River	0	Diverse Agriculture, 20 Acre Density	0	0	0	\$0	\$0	\$0
5B	Direct Discharge to the Laguna	0	Diverse Agriculture, 20 Acre Density	0	0	0	\$0	\$0	\$0

Table 9
Pump Station Sites
Santa Rosa Wastewater

Alternative Number (1)	Reservoir	Pumpstations			Sum of Lot Sizes (Sq. Ft.) (3)	Total Land Required (Sq. Ft.) (3)	Estimated Land Cost (Dollars) (4)	Contingency (Dollars) (5)	Total Cost (Dollars) (6)
		Number of Pump Stations	Typical Zoning (2)	Sum of Bldg Sizes (Sq. Ft.) (3)					

(1) Several alternatives require some of the same pump stations.

(2) Typical zoning refers to the most common zoning of the land where the pump stations are located.

(3) A pump station building will be constructed on each pump station lot. The size of the land that will require a utility easement equals the size of the lot.

(4) Estimated land costs are based on per acre value ranges by zoning given in Table 6. A land value of \$15,000 per acre was applied to land primarily zoned Diverse Agriculture, 20 Acre Density, and a land value of \$6,000 per acre was applied to land primarily zoned Land Extensive Agriculture, 100 Acre Density.

(5) An additional 50% contingency cost is added to the pumpstation land acquisition cost. This contingency cost includes costs of acquiring any additional land required to form a buffer zone around the pumpstation site, severance costs, relocation costs and other contingency costs.

(6) Total cost is the sum of the estimated land cost and the contingency cost.

Sources: Parsons Engineering Science, Inc.; Harland Bartholomew & Associates, Inc.; Economic & Planning Systems, Inc.

Table 10
Other Land Value Estimates
Santa Rosa Subregional Long-Term Wastewater Project

Alternative Number	Project	Geysers Tank Site & Pipeline Land Purchase		Direct Discharge Site at Russian River & Land Purchase		ASR Well Sites Purchase		Pipeline Tunnel Land & Portal Sites Purchase	
		Land Required	Estimated Cost	Land Required	Estimated Cost	Land Required	Estimated Cost	Land Required	Estimated Cost
		(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
1	No Project	0	\$0	0	\$0	0	\$0	0	\$0
2A	Tolay A	0	\$0	0	\$0	0	\$0	0	\$0
2B	Adobe Road and Lakeville Hillside	0	\$0	0	\$0	0	\$0	0	\$0
2C	Tolay C	0	\$0	0	\$0	0	\$0	1.28	\$19,198
2D	Sears Point and Lakeville Hillside	0	\$0	0	\$0	0	\$0	0	\$0
3A	Two Rock	0	\$0	0	\$0	0	\$0	1.28	\$19,198
3B	Bloomfield	0	\$0	0	\$0	0	\$0	0	\$0
3C	Carroll Road	0	\$0	0	\$0	0	\$0	0	\$0
3D	Valley Ford	0	\$0	0	\$0	0	\$0	0	\$0
3E	Huntley	0	\$0	0	\$0	0	\$0	0	\$0
4	Geysers Recharge	9.41	\$141,191	0	\$0	0	\$0	0	\$0
5A	Direct Discharge to Russian River	0	\$0	2.23	\$33,402	0	\$0	0	\$0
5B	Direct Discharge to the Laguna	0	\$0	0	\$0	0	\$0	0	\$0

(1) Land required includes a 50% contingency. All figures are in acres.

(2) Cost estimates are based on assumed land value of \$10,000 per acre.

Sources: Parsons Engineering Science, Inc.; Economic & Planning Systems, Inc.

ADDENDUM TO TECHNICAL REPORT PLANNING LEVEL LAND VALUE ESTIMATES

During the course of preparing the Technical Report and since its original publication several changes and events have occurred that would have the potential to change analytical conclusions. The changes and events include a revision to the overall Project Description. While the majority of these changes were incorporated into the land value analysis, some of the later adjustments were not incorporated. The adjustments that were not incorporated would not significantly alter the results of the analysis. The other events include land transactions that would have been considered as a part of the analysis, especially the sale of the "Button Ranch" by the University of California, which has been identified as a potential reservoir site. This transaction, among others, was not included in the land value analysis because it occurred following completion of the analysis in November 1995.

The differences between the final project description and the description used in the land value analysis include some changes of the parcels on which the proposed reservoir sites fall, and some minor differences in the estimated total building square footage that occupy these parcels. A review of these changes indicates that they would not significantly effect the estimated cost of acquiring land because the total land area to be acquired has remained unchanged and the zoning and size of the parcels (the primary determinants of per acre land value estimates) added and subtracted from the Project Description are similar. Differences in the buildings presently existing on the proposed reservoir sites may make a small difference to the total cost of acquiring these buildings but these differences will not significantly effect the total cost of building acquisition.

Regarding the transactions that have occurred since completion of the Technical Report, it is concluded that these transactions, and more general recent real estate trends, would not substantially change the original planning level value estimates. For example, the Button Ranch transaction apparently occurred at a bid price of \$3.2 million. An earlier appraisal prepared by the University of California estimated a value of \$4.25 million. The value of the property using the average values suggested in the Technical Report would produce a value estimate of \$4.2 million. Although the transaction occurred below the appraisal and the value implied by the Technical Report, it is within the general range of value for property of this type. While there is no assurance that the property required for one of the other Project Alternatives would show a similar pattern (a price below the Technical Report estimates) the estimates in the Technical Report are conservative on the high side. This is intentional and necessary for this level of analysis. It is also important to point out that land acquisition is a small portion of the wastewater project costs, reflecting two or three percent of total construction costs, thus any deviance would not significantly effect overall Project costs.

At the time a Project Alternative is selected, more detailed land value estimates will be conducted using standard public agency appraisal standards and practices. These appraisals will contribute to the cost estimate for the Preferred Alternative.