

## **APPENDIX: SUPPORTING TABLES FOR SOCIO-ECONOMIC ANALYSIS**

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This appendix includes supporting tables for the socio-economic impact analysis. Tables 1 through 6 provide background for issues related to the impact of service charges on households and demand fees on land values. Tables 7 through 10 provide background for the Input-Output analysis. Tables 11 through 17 provide background for the agricultural impact analysis. Tables 18 and 19 provide background for the tourism analysis. Table 20 provides the minimum income level which meets EPA Guidelines, for the year 2000 and buildout.

**Table 1**

**Statewide Comparison of Single Family Monthly Service Charges and Connection Fees**  
**Santa Rosa Subregional Long-term Wastewater Project**

Community	Number	Monthly Service Charge			Number	Connection Fees		
		Low	Average	High		Low	Average	High
<b>Santa Rosa</b>		--	\$31.23	--		--	\$3,000	--
<b>Similar Communities Statewide</b>								
Population over 100,000	66	\$1.33	\$11.61	\$31.23	67	\$0	\$2,055	\$6,998
Tertiary Treatment Level	116	\$6.50	\$18.94	\$48.83	121	\$0	\$2,603	\$12,000
<b>Statewide Average, FY 1993-94</b>	763	\$0.00	\$16.98	\$88.75	753	\$0	\$1,841	\$20,000

Source: California State Water Resources Control Board, Division of Clean Water Programs; Economic and Planning Systems, Inc.

**Table 2**  
**Comparison of Single Family Monthly Service Charges and Connection Fees**  
**Santa Rosa Subregional Long-term Wastewater Project**

County/ City	Monthly Service Charge	% of Santa Rosa	Connection Fee	% of Santa Rosa
<b>Sonoma County</b>				
Santa Rosa	\$31.23	na	\$3,000	na
Petaluma	\$15.00	48%	\$2,550	85%
<b>Solano County</b>				
Fairfield-Suisun Sewer District	\$15.95	51%	\$5,943	198%
Vallejo Sanitation/Flood Control District	\$19.85	64%	\$1,590	53%
<b>Napa County</b>				
Napa Sanitation District	\$20.33	65%	\$5,460	182%
<b>Marin County</b>				
Central Marin Sanitation District	\$7.82	25%	\$1,000	33%
Novato Sanitary District	\$9.83	31%	\$3,150	105%
San Rafael Sanitation District	\$16.58	53%	\$595	20%

Source: California State Water Resources Control Board, Division of Clean Water Programs; Economic and Planning Systems, Inc.

**Table 3****Distribution of Households by Income and Overall Expenditure Patterns for Total Service Area  
Santa Rosa Subregional Long-Term Wastewater Project**

Income Category			Households in Sonoma County		Expenditures as % of Income Per Household (1)
			Number	Distribution	
\$0	to	\$4,999	1,635	2%	Over 100%
\$5,000	to	\$9,999	4,969	8%	Over 100%
\$10,000	to	\$14,999	4,459	7%	Over 100%
\$15,000	to	\$19,999	5,215	8%	Over 100%
\$20,000	to	\$29,999	10,913	17%	Over 100%
\$30,000	to	\$39,999	10,528	16%	97%
\$40,000	to	\$49,999	8,466	13%	95%
\$50,000	to	\$69,999	10,895	17%	84%
\$70,000	and	Over	8,693	13%	64%
Total			65,773	100%	

(1) Expenditures exceed income for lower income households as a result of business losses, under-reporting of income, loans and other debt.

Sources: 1990 Census STF3; Consumer Expenditure Pattern Survey, Table 3113; Economic & Planning Systems, Inc.

**Table 4**  
**Phasing Assumptions**  
**Santa Rosa Subregional Long-term Wastewater Project**

Alternative	1998	1999	2000	2001	2002	2003	2004	2005	Total
<b>Phasing Schedule</b>									
1 No Project	0%	0%	0%	0%	0%	0%	0%	0%	0%
2A Tolay A	25%	25%	30%	0%	0%	0%	0%	20%	100%
2B Adobe Rd and Lakeville	30%	25%	30%	0%	0%	0%	0%	15%	100%
2C Tolay C	30%	30%	30%	0%	0%	0%	0%	10%	100%
2D Sears Pt and Lakeville	30%	25%	30%	0%	0%	0%	0%	15%	100%
3A Two Rock	30%	25%	30%	0%	0%	0%	0%	15%	100%
3B Bloomfield	30%	25%	30%	0%	0%	0%	0%	15%	100%
3C Carroll Road	30%	25%	30%	0%	0%	0%	0%	15%	100%
3D Valley Road	30%	25%	30%	0%	0%	0%	0%	15%	100%
3E Huntley	30%	25%	30%	0%	0%	0%	0%	15%	100%
4 Geysers Recharge	50%	25%	20%	0%	0%	0%	0%	5%	100%
5A Discharge to River	75%	25%	0%	0%	0%	0%	0%	0%	100%
5B Discharge to Creek	100%	0%	0%	0%	0%	0%	0%	0%	100%
<b>Disposal Construction Costs</b>									
1 No Project	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2A Tolay A	\$78,081,500	\$78,081,500	\$93,697,800	\$0	\$0	\$0	\$0	\$62,465,200	\$312,326,000
2B Adobe Rd and Lakeville	\$105,664,800	\$88,054,000	\$105,664,800	\$0	\$0	\$0	\$0	\$52,832,400	\$352,216,000
2C Tolay C	\$105,986,100	\$105,986,100	\$105,986,100	\$0	\$0	\$0	\$0	\$35,328,700	\$353,287,000
2D Sears Pt and Lakeville	\$113,016,000	\$94,180,000	\$113,016,000	\$0	\$0	\$0	\$0	\$56,508,000	\$376,720,000
3A Two Rock	\$73,923,000	\$61,602,500	\$73,923,000	\$0	\$0	\$0	\$0	\$36,961,500	\$246,410,000
3B Bloomfield	\$84,797,700	\$70,664,750	\$84,797,700	\$0	\$0	\$0	\$0	\$42,398,850	\$282,659,000
3C Carroll Road	\$73,036,800	\$60,864,000	\$73,036,800	\$0	\$0	\$0	\$0	\$36,518,400	\$243,456,000
3D Valley Road	\$75,443,400	\$62,869,500	\$75,443,400	\$0	\$0	\$0	\$0	\$37,721,700	\$251,478,000
3E Huntley	\$76,171,200	\$63,476,000	\$76,171,200	\$0	\$0	\$0	\$0	\$38,085,600	\$253,904,000
4 Geysers Recharge	\$104,126,000	\$52,063,000	\$41,650,400	\$0	\$0	\$0	\$0	\$10,412,600	\$208,252,000
5A Discharge to River	\$26,964,750	\$8,988,250	\$0	\$0	\$0	\$0	\$0	\$0	\$35,953,000
5B Discharge to Creek	\$18,352,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,352,000

Source: Engineering Science; Economic and Planning Systems, Inc.

**Table 5****Impact of \$1000 Demand Fee, Per Equivalent Dwelling Unit (EDU) per Square Foot of Land  
Santa Rosa Subregional Long-term Wastewater Project**

<b>Use</b>	<b>Project Size</b>	<b>Density or FAR</b>	<b>Site Acreage</b>	<b>EDU</b>	<b>Total Fee</b>	<b>Fee per Land Acre</b>	<b>Fee per Land Sq. Ft.</b>
<b><u>Residential</u></b>							
Single Family Residence	50	4	12.50	1	\$1,000	\$4,000	\$0.09
Single Family Residence	50	6	8.33	1	\$1,000	\$6,000	\$0.14
Single Family Residence	50	8	6.25	1	\$1,000	\$8,000	\$0.18
<b><u>Non-Residential</u></b>							
Office	50,000	0.30	3.83	15.04	\$15,036	\$3,930	\$0.09
Retail	50,000	0.25	4.59	15.57	\$15,570	\$3,391	\$0.08
Warehouse	50,000	0.40	2.87	5.48	\$5,477	\$1,909	\$0.04

Source: City of Santa Rosa Public Works Engineering Department; Economic and Planning Systems, Inc.

**Table 6**  
**Vacant Improved Land Prices per Square Foot in Sonoma County**  
**Santa Rosa Subregional Long-term Wastewater Project**

Potential Land Use	City			
	Santa Rosa	Cotati	Rohnert Park	Sebastopol
<b>Residential</b>	Approx. \$12.00 (1)	Approx. \$12.00 (1)	Approx. \$10.00 (1)	n/a (2)
<b>Retail</b>	\$6.00-\$9.50	n/a	\$5.75-\$9.25 (3)	n/a
<b>Office</b>	\$4.50-\$6.50	n/a	\$4.50-\$6.00	n/a
<b>Industrial</b>	\$2.50-\$4.25	n/a	\$2.25-\$4.00	n/a

(1) Average price of fully improved vacant lots zoned residential in Santa Rosa is approximately \$12 per sq. ft. Similar lots in Cotati commands a similar price, and lots in Rohnert Park sell at a lower price.

(2) There are currently no vacant lots with a residential zoning available in Sebastopol. Land in Sebastopol currently has a higher valuation than land in Santa Rosa.

(3) Based on assumption that price differential between Santa Rosa and Rohnert Park is the same for retail uses as for office and industrial uses.

Sources: Active Brokers, Developers and Builders in Sonoma County; Economic & Planning Systems, Inc.

### **Tables 7 - 10, Components of the Combined Economic Impact**

The components of the combined economic impact are shown on Tables 7 through 10 in the Appendix. Table 7 shows the projected economic impacts from the increase in agricultural production with irrigation. The next section of this chapter describes the derivation of the agricultural value estimates. As noted in the agriculture section, three cropping scenarios were evaluated. The figures used in the analysis are for the medium cropping scenario. The total increase in annual agricultural production is projected to range between \$12.3 and \$18.1 million for Alternatives 2 and 3. This increase in production is projected to generate an increase in total output (value of sales) in Sonoma County between \$27 million and \$51 million. The weighted average multipliers for sales, income and employment are shown on the bottom of the table. Table 8 in the appendix shows the Input-Output multipliers used for each agricultural crop. The weighted average multipliers are larger for the alternatives with Sebastopol since fruit production has a larger impact on the local economy than other goods.

Table 9 shows the projected economic impacts from the ongoing operation and maintenance expenditures for each project and the capital investment required for each project. The impacts from these two items can not be combined, since the investment impacts are a one-time event, whereas the operations are ongoing economic benefits. The investment benefits are shown here, but not carried forward in the analysis. These benefits assume that the construction jobs are held by Sonoma County residents and as many materials as possible are purchased in the County.

Table 10 shows the projected economic impact generated by the service charge expenditures. Since the service charge revenue changes overtime as a result of changing population and declining demand fee revenue, the annual average service charge revenue over the entire analysis period has been used to estimate the average impact. For example, in Alternative 2A, the increase in service charges is projected to result in a shift of \$27 million consumer expenditures. This shift is projected to result in a loss of over 293 direct jobs and 631 total jobs in Sonoma County.



**Table 7**  
**Economic Impacts of Increased Agricultural Production, Medium Intensity Cropping Scenario**  
**Santa Rosa Subregional Long-term Wastewater Project**

	West County	West County w/ Sebastopol	South County	South Cnty w/ Sebastopol
<b>Total Increase in Ag Value</b>	\$20,360,000	\$65,512,000	\$18,017,000	\$65,085,000
<b>Impact of Apple Production</b>				
Total Income	\$0	\$117,961,200	\$0	\$117,961,200
Total Employment	0	3,646	0	3,646
Direct Employment	0	1,882	0	1,882
<b>Impact of Grape Production</b>				
Total Income	\$0	\$0	\$1,163,229	\$2,909,242
Total Employment	0	0	36	90
Direct Employment	0	0	19	46
<b>Impact of Specialty Crop Production</b>				
Total Income	\$15,923,628	\$10,615,752	\$5,862,535	\$4,690,028
Total Employment	331	221	122	98
Direct Employment	115	76	42	34
<b>Impact of Truck Crop Production</b>				
Total Income	\$9,351,972	\$8,312,864	\$16,885,505	\$12,988,850
Total Employment	194	173	351	270
Direct Employment	67	60	122	94
<b>Impact of Forage Production</b>				
Total Income	\$2,069,720	\$1,431,264	\$1,157,640	\$747,204
Total Employment	28	19	16	10
Direct Employment	4	3	3	2
<b>Total Agricultural Production</b>				
Total Income	\$27,345,320	\$138,321,080	\$25,068,909	\$139,296,524
Total Employment	554	4,059	525	4,114
Direct Employment	186	2,021	185	2,057
<b>Weighted Average Output Multiplier (1)</b>	1.34	2.11	1.39	2.14
<b>Weighted Average Income Multiplier (1)</b>	1.34	2.11	1.39	2.14
<b>Weighted Average Employment Multiplier (2)</b>				
Total Employment	27.19	61.96	29.12	63.20
Direct Employment	9.16	30.85	10.26	31.60

(1) Based on IMPLAN model results for Sonoma County. Represents increase per million dollar change in final demand.

(2) Based on IMPLAN model results for Sonoma County. Represents increase per one dollar change in final demand.

Source: Minnesota IMPLAN Group; Engineering Science; Questa Engineering; Economic and Planning Systems, Inc.

**Table 8**  
**Input-Output Multipliers and Assumptions**  
**Santa Rosa Subregional Long-term Wastewater Project**

Multiplier/Assumptions	Total Output	Total Income	Total Employment	Direct Employment
Household Expenditure multiplier (1)	\$2,461,417	\$1,377,522	33	14
Wastewater Investment multiplier (1)	\$2,086,400	\$984,900	19	5
Wastewater Operations multiplier (1)	\$2,767,400	\$1,030,500	26	5
Fruit Crops multiplier (1)	\$3,543,600	\$2,340,500	72	37
Vegetable Crops multiplier (1)	\$2,241,200	\$1,404,200	29	10
Forage Crops multiplier (1)	\$1,736,700	\$877,000	12	2
Percent of Service Charge Paid out of Disposable Income (2)	90%			

(1) Based on IMPLAN model results for Sonoma County. Represents increase per million dollar change in final demand.

(2) Based on analysis of household expenditure patterns.

Source: Minnesota IMPLAN Group; Engineering Science; Questa Engineering; Economic and Planning Systems, Inc.

**Table 9**  
**Economic Impacts of Wastewater Investment and On-going Operations**  
**Santa Rosa Subregional Long-term Wastewater Project**

Alternative	Total Output	Total Income	Total Employment	Direct Employment
<b>Wastewater Operations multiplier (1)</b>	<b>\$2,767,400</b>	<b>\$1,030,500</b>	<b>26.1</b>	<b>4.5</b>
<b>Impact from Operating &amp; Maintenance Expenditures</b>				
1 No Project	\$0	\$0	0	0
2A Tolay A	\$6,954,476	\$2,589,647	66	11
2B Adobe Rd and Lakeville	\$6,672,201	\$2,484,536	63	11
2C Tolay C	\$7,269,960	\$2,707,124	69	12
2D Sears Pt and Lakeville	\$8,725,612	\$3,249,167	82	14
3A Two Rock	\$4,560,675	\$1,698,264	43	7
3B Bloomfield	\$4,829,113	\$1,798,223	46	8
3C Carroll Road	\$4,851,252	\$1,806,467	46	8
3D Valley Road	\$4,939,809	\$1,839,443	47	8
3E Huntley	\$4,740,556	\$1,765,247	45	8
4 Geysers Recharge	\$18,494,534	\$6,886,832	175	30
5A Discharge to River	\$268,438	\$99,959	3	0
5B Discharge to Creek	\$0	\$0	0	0
<b>Wastewater Investment Multiplier (1)</b>	<b>\$2,086,400</b>	<b>\$984,900</b>	<b>19.1</b>	<b>4.6</b>
<b>Impact from Construction of Facility Improvements</b>				
1 No Project	\$0	\$0	0	0
2A Tolay A	\$672,500,966	\$317,458,877	6,148	1,478
2B Adobe Rd and Lakeville	\$755,727,462	\$356,746,538	6,908	1,661
2C Tolay C	\$757,961,997	\$357,801,366	6,929	1,666
2D Sears Pt and Lakeville	\$806,852,608	\$380,880,528	7,376	1,774
3A Two Rock	\$534,973,824	\$252,538,209	4,890	1,176
3B Bloomfield	\$610,603,738	\$288,239,849	5,582	1,342
3C Carroll Road	\$528,810,598	\$249,628,814	4,834	1,163
3D Valley Road	\$545,547,699	\$257,529,682	4,987	1,199
3E Huntley	\$550,609,306	\$259,919,050	5,033	1,210
4 Geysers Recharge	\$455,360,973	\$214,956,395	4,163	1,001
5A Discharge to River	\$154,295,539	\$72,836,310	1,410	339
5B Discharge to Creek	\$117,572,813	\$55,501,085	1,075	258

(1) Based on IMPLAN model results for Sonoma County. Represents increase per million dollar change in final demand.

Source: Minnesota IMPLAN Group; Engineering Science; Economic and Planning Systems, Inc.

**Table 10**  
**Economic Impacts of Annual Service Charge Expenditures**  
**Santa Rosa Subregional Long-term Wastewater Project**

<b>Alternative</b>	<b>Annual Avg Expenditures Shift from Service Charges (1)</b>	<b>Total Income</b>	<b>Total Employment</b>	<b>Direct Employment</b>
1 No Project	\$0	\$0	\$0	\$0
2A Tolay A	\$26,948,980	\$21,790,945	\$631	\$293
2B Adobe Rd and Lakeville	\$28,158,164	\$22,768,691	\$659	\$306
2C Tolay C	\$30,205,843	\$24,424,445	\$707	\$328
2D Sears Pt and Lakeville	\$33,971,853	\$27,469,640	\$795	\$369
3A Two Rock	\$19,457,291	\$15,733,165	\$455	\$211
3B Bloomfield	\$21,333,456	\$17,250,233	\$499	\$232
3C Carroll Road	\$20,063,087	\$16,223,012	\$469	\$218
3D Valley Road	\$20,549,071	\$16,615,979	\$481	\$223
3E Huntley	\$20,147,191	\$16,291,019	\$471	\$219
4 Geysers Recharge	\$55,480,367	\$44,861,425	\$1,298	\$603
5A Discharge to River	\$2,042,675	\$1,651,707	\$48	\$22
5B Discharge to Creek	\$710,780	\$574,737	\$17	\$8

(1) Based on annual average service charge revenue, reduced to reflect share of expenditures from savings.

Source: Minnesota IMPLAN Group; Engineering Science; Economic and Planning Systems, Inc.

Table 11

**Total Agricultural Value for Sonoma County, 1988-1994 (1)**  
**Santa Rosa Subregional Long-Term Wastewater Project**

Year	Total Agricultural Value	Milk (Market) (2)	Percent of Total Value	Milk (Manufactured) (3)	Percent of Total Value	Wine Grapes	Percent of Total Value
1988	\$305,373,278	\$76,582,943	25.1%	\$286,445	0.09%	\$103,899,580	34.0%
1989	\$350,322,554	\$81,091,944	23.1%	\$337,367	0.10%	\$144,525,966	41.3%
1990	\$327,943,568	\$77,926,250	23.8%	\$536,423	0.16%	\$126,803,393	38.7%
1991	\$351,272,917	\$69,500,564	19.8%	\$342,273	0.10%	\$160,010,030	45.6%
1992	\$337,368,413	\$70,688,029	21.0%	\$256,433	0.08%	\$155,173,723	46.0%
1993	\$305,218,168	\$67,197,300	22.0%	\$236,100	0.08%	\$126,566,549	41.5%
1994	\$339,228,800	\$73,229,200	21.6%	\$402,700	0.12%	\$152,280,700	44.9%
<b>Total Real Growth, 1988-1994</b>							
Quantity	\$33,855,522	(\$3,353,743)		\$116,255		\$48,381,120	
Percent	11.09%	-4.38%		40.59%		46.57%	

(1) In constant 1994 dollars. The CPI index used is for All Urban Consumers - All Items Less Shelter for the San Francisco-Oakland-San Jose Area.

(2) Market milk is fluid milk.

(3) Manufactured milk refers to processed milk products such as cheese, yogurt and ice cream.

Sources: Sonoma County Agricultural Crop Reports, 1988-1994; CPI Detailed Report, 1988-1993; Economic and Planning Systems, Inc.

**Table 12**  
**Sonoma Dairy Industry Compared to State Average--1988,1993**  
**Santa Rosa Subregional Long-Term Wastewater Project**

Item	1988			1993			Change 1988-1993			
	State	Sonoma	Sonoma % of State	State	Sonoma	Sonoma % of State	State		Sonoma	
							Number	Percent	Number	Percent
<b>Total Dairy Farms</b>	2,433	127	5.2%	2,438	113	4.6%	5	0.2%	-14	-11.0%
<b>Total Dairy Cows</b>	1,062,000	33,000	3.1%	1,161,000	35,000	3.0%	99,000	9.3%	2,000	6.1%
<b>Average Size of Dairy Herd</b>	436	260	59.5%	476	310	65.0%	40	9.1%	50	19.2%
<b>Total Milk Production-Market (cwt)</b>	186,070,000	5,702,300	3.1%	229,210,000	5,895,257	2.6%	43,140,000	23.2%	192,957	3.4%

cwt = 100 lbs.

Source: Sonoma County Agriculture Crop Report, 1988, 1993; CDFA Dairy Statistics, 1993 Report; Economic and Planning Systems, Inc.

Table 13

## North Bay Dairy Industry Compared to State Average—1988,1993 (1)

## Santa Rosa Subregional Long-Term Wastewater Project

Item	1988			1993			Change 1988-1993			
	State	North Bay	North Bay % of State	State	North Bay	North Bay % of State	State		North Bay	
							Number	Percent	Number	Percent
Total Dairy Farms	2,433	181	7.4%	2,438	161	6.6%	5	0.2%	-20	-11.0%
Total Dairy Cows	1,062,000	45,500	4.3%	1,161,000	47,000	4.0%	99,000	9.3%	1,500	3.3%
Average Size of Dairy Herd	436	251	57.6%	476	292	61.3%	40	9.1%	41	16.1%
Total Milk Production-Market (cwt)	186,070,000	8,126,775	4.4%	229,210,000	8,423,740	3.7%	43,140,000	23.2%	296,965	3.7%

cwt = 100 lbs.

(1) The North Bay includes Marin and Sonoma Counties which are assumed to comprise the market area for locally grown forage crops in the Sonoma County reclamation areas.

Source: Marin and Sonoma County Agriculture Crop Reports, 1988, 1993; CDFA Dairy Statistics, 1993 Report; Economic and Planning Systems, Inc.

Table 14

**Treated Wastewater Agricultural Contracts - Acreage by Crop Type**  
**Santa Rosa Subregional Long-Term Wastewater Project**

Crop Type	City-Contracted		City-Owned		Total	
	Acres	%	Acres	%	Acres	%
Pasture	1,415	33.5%	100	8.9%	1,515	28.3%
Forage	295	7.0%	704	62.7%	999	18.7%
Grapes	236	5.6%	--	--	236	4.4%
Landscape	31	0.7%	--	--	31	0.6%
Sod	39	0.9%	--	--	39	0.7%
Pasture/Forage	1,319	31.2%	--	--	1,319	24.7%
Vegetables	10	0.2%	--	--	10	0.2%
Golf Course	250	5.9%	--	--	250	4.7%
Mixed (1)	624	14.8%	309	27.5%	933	17.4%
Other	7	0.2%	10	0.9%	17	0.3%
<b>Total</b>	<b>4,226</b>	<b>100%</b>	<b>1,123</b>	<b>100%</b>	<b>5,349</b>	<b>100%</b>

(1) Mixed uses include pasture, pumpkins, vegetables, grapes, corn and sod.

Source: City of Santa Rosa; Economic and Planning Systems, Inc.



**Table 15**  
**Total Value of New Dairy Feed Produced**  
**Santa Rosa Subregional Long-Term Wastewater Project**

Alternative/ Cropping Scenario	West County			West County w/Sebastopol			South County			South County w/Sebastopol		
	Low Tech	Medium Tech	High Tech	Low Tech	Medium Tech	High Tech	Low Tech	Medium Tech	High Tech	Low Tech	Medium Tech	High Tech
Gross Value of Dairy Pasture Produced	\$1,358,831	\$724,710	\$301,963	\$860,593	\$468,042	\$226,472	\$365,400	\$175,088	\$45,675	\$228,375	\$68,513	\$30,450
Tons of New Local Forage Produced (Actual weight)	10,496	32,071	26,823	11,079	23,324	15,161	10,976	17,836	10,976	8,232	15,092	5,488
Gross Value of Forage Produced (1)	\$433,375	\$1,324,202	\$1,107,515	\$457,452	\$963,056	\$625,986	\$453,203	\$736,455	\$453,203	\$339,902	\$623,154	\$226,601
Total Gross Value of Local Dairy Feed	\$1,792,207	\$2,048,912	\$1,409,477	\$1,318,045	\$1,431,098	\$852,458	\$818,603	\$911,542	\$498,878	\$568,277	\$691,666	\$257,051
Annual Value of Feed per Milk Cow (2)	\$48.97	\$55.98	\$38.51	\$36.01	\$39.10	\$23.29	\$56.07	\$62.43	\$34.17	\$38.92	\$47.37	\$17.61
Annual Value per Average Dairy Herd (3)	\$17,139	\$19,593	\$13,479	\$12,604	\$13,685	\$8,152	\$19,624	\$21,852	\$11,959	\$13,623	\$16,581	\$6,162
Gross Value of Non-Dairy Pasture Prod.	\$582,356	\$310,590	\$129,413	\$368,826	\$200,589	\$97,059	\$852,600	\$408,538	\$106,575	\$532,875	\$159,863	\$71,050
Total Gross Value of Local Animal Feed (Potential Substitute for Alfalfa Hay Imports)	\$2,374,563	\$2,359,502	\$1,538,890	\$1,686,870	\$1,631,687	\$949,518	\$1,671,203	\$1,320,080	\$605,453	\$1,101,152	\$851,529	\$328,101

(1) Assumes a weighted average gross value of

\$41.29 per ton

(2) Assumes that there are

36,600 milk cows in the West County forage market area.

Assumes that there are

14,600 milk cows in the South County forage market area.

(3) Average size of a Sonoma Dairy herd is

350 cows.

Table 16

**Gross Values of Various Crops in Sonoma County - Applied to South County Acreage  
Santa Rosa Subregional Long-Term Wastewater Project**

Crop	Average Bearing Acres (1)	Average Yield Tons/Pounds per Acre	Unit Notes	Average Gross Value per Acre	Average Gross Value per Ton/Pound (1)	Unit
Wine Grapes	31,001	5.00 Tons		\$4,970.91	\$994.18	Ton
Apples	5,077	35.00 Tons (2)		\$31,500.00	\$900.00	Ton
Berry Crops (3)	na	na Tons		\$16,700.00	na	Ton
Vegetable Crops (4)	na	na Tons		\$18,500.00	na	Ton
<b>Forage/Hay/Silage Crops</b>						
Oat Hay	15,955	5.00 Tons (5)		\$297.49	\$59.50	Ton
Green Chop	1,206	12.98 Tons (1)		\$215.88	\$16.63	Ton
Oats Grain	1,244	0.90 Tons (1)		\$198.71	\$220.79	Ton
Corn/Sudan Grass Ensilage	378	19.77 Tons (1)		\$797.36	\$40.34	Ton
Oats Silage	6,683	14.98 Tons (1)		\$541.38	\$36.14	Ton
Misc. Field Crops	1,449	na Tons		\$252.87	na	Ton

(1) Represents a five year average of bearing acres, yields, and average dollars per acre from Sonoma Crop Reports 1990-1994.

(2) Apple yields assume that with the availability of irrigation water, apple growers will switch to new dwarf stock varieties such as Gala, Fuji and Sierra Beauty.

(3) Specialty berries include strawberries, blueberries, raspberries and blackberries.

(4) Specialty vegetables include lettuce, mustards, salad greens, zucchini, leeks, onions, and peppers.

(5) Oat hay yields provided by Vern Marble, Agronomist (telephone conversation December 11, 1995).

Sources: Sonoma County Crop Reports, 1990-1994; Vern Marble, Agronomist; Paul Vossen and Rick Bennett, UC Cooperative Extension; Economic & Planning Systems, Inc.

**Table 17**  
**Average Crop Yields and Gross Values per Acre for Various Crops in West County**  
**Santa Rosa Subregional Long-Term Wastewater Project**

Crop	Average Yield Tons/Pounds per Acre	Unit Notes	Average Gross Value per Acre	Average Gross Value per Ton/Pound	Unit
Wine Grapes	na	Tons (1)	na	na	Ton
Apples	na	Tons (1)	na	na	Ton
Berry Crops (3)	na	Tons	\$25,200.00	na	Ton
Vegetable Crops (4)	na	Tons	\$14,800.00 (2)	na	Ton
<b>Forage/Hay/Silage Crops</b>					
Oat Hay	4.00	Tons (2)	\$237.99	\$59.50	Ton
Green Chop	10.38	Tons (2)	\$172.70	\$16.63	Ton
Oats Grain	0.72	Tons (2)	\$158.97	\$220.79	Ton
Corn/Sudan Grass Ensilage	15.81	Tons (2)	\$637.89	\$40.34	Ton
Oats Silage	11.98	Tons (2)	\$433.10	\$36.14	Ton
Misc. Field Crops	na		\$202.29	na	Ton

- (1) There are no additional acres of apples or vineyards assumed for the West County Alternative.
- (2) It is assumed that yields will be 80% of average countywide yields due to the cooler climate and shorter growing season.
- (3) Specialty berries include strawberries, blueberries, raspberries and blackberries. Strawberry yields are assumed to be higher in the West County, while other berry yields are assumed to be about 20 percent lower (telephone conversation with Paul Vossen on January 10, 1996).
- (4) Specialty vegetables include lettuce, mustards, salad greens, zucchini, leeks, onions, and peppers.

Sources: Sonoma County Crop Reports, 1990-1994; Vern Marble, Agronomist; Paul Vossen and Rick Bennett, UC Cooperative Extension;  
Economic & Planning Systems, Inc.

**Table 18**  
**Russian River Region 1st Quarter Transient Occupancy Tax, 1988-1994 (1)**  
**Santa Rosa Subregional Long-Term Wastewater Project**

Year	Annual Hotel/Motel TOT Growth	
	Amount	Percent
1988	n/a	n/a
1989	(\$8,338)	-10.3%
1990	\$14,039	19.2%
1991	\$4,272	4.9%
1992	(\$1,245)	-1.4%
1993	\$10,225	11.4%
1994 (4)	\$13,206	13.2%
<b>Total Growth 1988-1994</b>	<b>\$32,158</b>	<b>39.5%</b>

- (1) The Russian River Region includes the unincorporated Sonoma County areas of Guerneville, Monte Rio, Rio Nido, and Forestville.
- (2) The Transient Occupancy Tax shown was paid in the first fiscal quarter, July, August, and September as these are the busiest months for tourism on the Russian River.
- (3) Starting in 1993 the TOT was collected for campgrounds.
- (4) As of October, 1993 the tax rate increased from 8 to 9 percent. TOT shown here has been adjusted down to account for the tax rate increase. The actual 1st quarter TOT in 1994 was \$127,672.

Source: Sonoma County Tax Collector 5th District Reports; Economic and Planning Systems, Inc.

**Table 19**  
**Russian River Region 4th Quarter Transient Occupancy Tax, 1994-1995 (1)**  
**Santa Rosa Subregional Long-Term Wastewater Project**

<b>Year</b>	<b>4th Quarter TOT (2)</b>
<b>1994</b>	<b>\$98,954</b>
<b>1995</b>	<b>\$62,250</b>
<b><u>Total Growth</u></b>	
<b>Amount</b>	<b>(\$36,704)</b>
<b>Percent</b>	<b>-37%</b>

(1) The Russian River Region includes the unincorporated Sonoma County areas of Guernville, Monte Rio, Rio Nido, and Forestville.

(2) The Transient Occupancy Tax shown was paid in the 4th fiscal quarter, April, May and June and includes the TOT collected for both hotels/motels and campgrounds.

Source: Sonoma County Tax Collector 5th District Reports; Economic and Planning Systems, Inc.

**Table 20**  
**Minimum Income Level which Meets EPA Guideline: Year 2000 and Buildout (1)**  
**Santa Rosa Long-term Wastewater Project**

Year/ Alternative	Santa Rosa	Rohnert Park	Cotati	Sebastopol
<b>Year 2000</b>				
1 No Project	\$24,984	\$22,160	\$30,808	\$24,400
2A Tolay A	\$36,906	\$34,082	\$42,730	\$36,322
2B Adobe Rd and Lakeville	\$39,257	\$36,433	\$45,081	\$38,673
2C Tolay C	\$40,876	\$38,052	\$46,700	\$40,292
2D Sears Pt and Lakeville	\$41,016	\$38,192	\$46,840	\$40,432
3A Two Rock	\$34,893	\$32,069	\$40,717	\$34,309
3B Bloomfield	\$36,171	\$33,347	\$41,995	\$35,587
3C Carroll Road	\$34,939	\$32,115	\$40,763	\$34,355
3D Valley Road	\$35,235	\$32,411	\$41,059	\$34,651
3E Huntley	\$35,217	\$32,393	\$41,041	\$34,633
4 Geysers Recharge	\$43,526	\$40,702	\$49,350	\$42,942
5A Discharge to River	\$26,361	\$23,537	\$32,185	\$25,777
5B Discharge to Creek	\$25,541	\$22,717	\$31,365	\$24,957
<b>Buildout</b>				
1 No Project	\$24,984	\$22,160	\$30,808	\$24,400
2A Tolay A	\$50,456	\$47,632	\$56,280	\$49,872
2B Adobe Rd and Lakeville	\$49,822	\$46,998	\$55,646	\$49,238
2C Tolay C	\$51,158	\$48,334	\$56,982	\$50,574
2D Sears Pt and Lakeville	\$56,407	\$53,583	\$62,231	\$55,823
3A Two Rock	\$42,033	\$39,209	\$47,857	\$41,449
3B Bloomfield	\$43,311	\$40,487	\$49,135	\$42,727
3C Carroll Road	\$42,884	\$40,060	\$48,708	\$42,300
3D Valley Road	\$43,256	\$40,432	\$49,080	\$42,672
3E Huntley	\$42,678	\$39,854	\$48,502	\$42,094
4 Geysers Recharge	\$84,628	\$81,804	\$90,452	\$84,044
5A Discharge to River	\$25,787	\$22,963	\$31,611	\$25,203
5B Discharge to Creek	\$24,984	\$22,160	\$30,808	\$24,400

(1) EPA guidelines state that the annual wastewater service charge should not exceed 1.5 percent of household income.

Source: Engineering Science; Economic and Planning Systems, Inc.