

FINAL REPORT

REVENUE REQUIREMENTS AND COST OF SERVICE RATES

B&V PROJECT NO. 172617

PREPARED FOR

**CITY OF ST. JOSEPH, MISSOURI
WASTEWATER UTILITY**

JUNE 2011

June 1, 2011

Mrs. Carolyn Harrison
Director of Financial Services
City of St. Joseph
1100 Frederick Avenue
St. Joseph, MO 64501

Dear Mrs. Harrison:

We are presenting herewith our Report on Revenue Requirements and Cost of Service Rates for wastewater service for the City of St. Joseph ("City"). The report presents analyses of the revenue requirements of the wastewater utility for the five-year study period of fiscal years 2012 through 2016 and development of rates, proposed to be effective July 1, 2011, for fiscal year 2012. An Executive Summary presents our major findings and recommended rates. Other major sections include the Introduction, Revenues, Revenue Requirements, Summary of Revenue Requirements and Proposed Adjustment to Revenue, Cost of Service Analysis, Wastewater Rate Adjustments, and Appendix I.

It has been a pleasure serving the City of St. Joseph on this project. Please do not hesitate to contact Craig Brown at (913) 458-3268 if you have any questions or would like to discuss the report.

Very truly yours,

BLACK & VEATCH CORPORATION



Russell A. Feingold
Vice President



Craig E. Brown
Project Manager

cc: J. Bruce Woody

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1 Executive Summary

The wastewater utility owned and operated by the City of St. Joseph, Missouri (Wastewater Utility) is projected to experience an average annual increase in customers of 0.16 percent for the study period fiscal year (FY) 2012 through 2016. Billable volume from current City customers is projected to increase slightly for the residential class, decrease slightly for retail commercial and industrial customers, and remain constant for wholesale customers (Tables 2 and 3).

The projection of billed revenues from sales increases from a base of \$15,956,200 in 2011 to \$16,026,000 in 2016 (Table 4). Miscellaneous operating revenues, which are primarily from penalties for late payment and tax credit revenue, are projected to be approximately \$627,200 in 2011 and remain fairly steady through the study period, decreasing slightly to about \$615,800 in 2016 (Table 5).

Operating expenses, which include operation and maintenance expense, routine capital expense, and transfers to other City funds, are expected to be \$9,291,700 in 2011 and are projected to increase to \$11,952,000 in 2016 (Table 6).

Beginning in fiscal year 2009, the City significantly increased the magnitude of its major capital improvement plan (CIP). The City's current CIP for fiscal years 2011 through 2016 totals \$196.4 million (Table 7). About one third of the CIP is for environmental and regulatory projects mandated by the Missouri Department of Natural Resources (MDNR). The two primary regulatory projects are for disinfection (\$26 million) and ammonia removal (\$30 million). This is similar to the CIP from the previous study, which also focused on projects related to the City's combined sewer overflow (CSO) long term control plan (LTCP). Because of the rate impacts of these regulatory projects, many of the CSO LTCP projects have been shifted beyond the study period. The current CIP includes a total of \$80 million in CSO related projects. The other large project in the CIP is for the Eastside Wastewater Improvements (\$28 million). The CIP is anticipated to be financed with proceeds from the Series 2007 IDA bonds, annual transfers from the operating fund, a \$21.7 million conventional bond issue in FY 2012, \$88.7 million State Revolving Fund (SRF) bond issue in FY 2013, \$56.4 million SRF bond issue in FY 2016, and two Short Term bonds for \$8.0 million and \$6.5 million in FY 2012 and 2014. Annual debt service on existing and proposed debt is projected to increase from approximately \$3.6 million in 2011 to \$14 million in 2016 (Table 9).

The following revenue increases are projected to be required to meet the Wastewater Utility's revenue requirements through the fiscal year ended June 30, 2016. Revenue requirements include both the cash obligations and the debt service coverage obligation of the Wastewater Utility.

EFFECTIVE DATE	PERCENTAGE OVERALL INCREASE IN REVENUES
July 1, 2011	12.0%
July 1, 2012	12.0%
July 1, 2013	13.0%
July 1, 2014	14.0%
July 1, 2015	9.0%

Total cost of service for 2012 to be met from wastewater service charges is \$17,908,600 (Table 12). Rates proposed in this report are designed to recover cost of service from each customer class

based on the service requirements of the customer class while recognizing contractual provisions for wholesale service.

The cost allocations follow standard wastewater utility cost allocation procedures that are shown in Tables 13 through 16. The proposed cost of service based rates scheduled to become effective July 1, 2011 are shown in Tables 18 and ES-1. The projected recovery by customer class of the allocated cost of service is shown in Tables 19 and ES-2. The projected recovery of allocated cost of service under the proposed rates is 100 percent for both the retail and wholesale customer classes.

**Table ES-1 Schedule of Proposed Rates
for Fiscal Year Ending June 30, 2012**

RETAIL				
<u>Service Charge</u>	<u>Monthly</u>			
	\$/bill			
Inside City	15.70			
Outside City	36.85			
<u>Volume Charge</u>	<u>Monthly</u>			
	\$/Ccf			
Inside City	3.16			
Outside City	7.22			
<u>Surcharges</u>		<u>Inside</u>	<u>Outside</u>	
		City	City	
BOD in excess of 300 mg/l		0.321	0.477	\$/lb
Suspended solids in excess of 350 mg/l		0.239	0.567	\$/lb
Fats, Oils, & Grease in Excess of 100 mg/l		0.108	0.248	\$/lb
Sulphides in excess of 15 mg/l		0.335	0.750	\$/lb
WHOLESALE (a)				
Flow charge		0.101	\$/Ccf	
Pump Station (b)		0.370	\$/Ccf	
BOD		0.256	\$/lb	
Suspended Solids		0.178	\$/lb	
Fats, Oils, & Grease		0.108	\$/lb	
Sulphides		0.335	\$/lb	

- (a) Applicable to the South St. Joseph Industrial Sewer District (SSJISD), National Beef Leathers, and Triumph Foods for secondary treatment service.
- (b) Applicable to SSJISD only.

Table ES-2 Comparison of Cost of Service with Revenue under Proposed Rates

Fiscal Year Ending June 30, 2012

Line No.	Customer Class	Allocated Cost of Service \$	Adjusted Allocated Cost of Service \$	Revenue Under Proposed Rates \$	Revenue as Percent of Adjusted Cost of Service %	Revenue Inc/(Dec) Compared to Existing Rates %
Retail						
1	Residential	9,604,857	10,218,055	10,169,600	99.5	12.2
2	Commercial/Industrial	4,882,226	5,481,264	5,546,800	101.2	13.5
3	Surcharge	578,530	578,530	565,100	97.7	11.7
4	Secondary Service Minimum	1,212,236				
5	Total Retail	16,277,849	16,277,849	16,281,500	100.0	12.6
Secondary Wholesale Treatment						
6	South St. Joseph Industrial Sewer District	1,075,549	1,075,549	1,073,600	99.8	5.8
7	National Beef Leathers	59,496	59,496	59,500	100.0	5.5
8	Triumph Foods	495,706	495,706	495,300	99.9	6.9
9	Total Secondary Wholesale Treatment	1,630,751	1,630,751	1,628,400	99.9	6.1
10	Total	17,908,600	17,908,600	17,909,900	100.0	12.0

2 Introduction

2.1 PURPOSE

The purpose of this report is to present the findings of our study of the financing needs and rate requirements of the Wastewater Utility owned and operated by the City of St. Joseph, Missouri (City). The study addresses three objectives: (1) projection of operating and capital financing costs of the Wastewater Utility for a five-year planning period ending June 30, 2016; (2) projection of revenue adjustments through fiscal year (FY) 2016; and (3) development of cost of service based rates for retail and wholesale customers for FY 2012. Unless otherwise noted, references in this report to a specific year are for the City's fiscal year ended June 30.

2.2 SCOPE

The report presents the study of revenue and revenue requirements, cost allocations, and proposed rate increases for wastewater service. The revenue and revenue requirements study includes consideration of future revenues under existing rates, operation and maintenance expense, principal and interest expense on bonded debt, expenditures for capital improvements, and compliance with existing bond indentures. Annual projections of the number of customers, billed wastewater volumes, revenues, and expenditures are shown for FY 2012 through FY 2016.

Revenue requirements are developed on a cash basis and the allocation of costs to cost components follows the design or cost causative allocation methodology. The analysis provides the basis for the design of schedules of charges for wastewater service that will recover the total cost of wastewater service for the fiscal year ended June 30, 2012.

2.3 GENERAL BACKGROUND

The City operates and maintains the Wastewater Utility as a self-supporting enterprise. The Wastewater Utility provides services to approximately 26,900 customers including residential, commercial, and industrial accounts.

The utility's wastewater rates are developed to provide sufficient revenues to meet all operation and maintenance expenses of the system, debt service requirements, capital improvement expenditures to be funded from current revenues, and other specific bond ordinance and revenue requirements.

The Wastewater Utility also provides secondary treatment service to South St. Joseph Industrial Sewer District (SSJISD), National Beef Leathers and Triumph Foods on a contractual basis. In 1980, the City and SSJISD entered into an agreement whereby the City would provide secondary treatment for the wastewater discharged from SSJISD's primary treatment facilities. The agreement was revised in January 1996 to define the basis for charges for the secondary treatment services and how the service charge to SSJISD would be developed and updated. The agreement provides that allocation factors used to develop the charges must be updated not less than every five years. The allocation factors were last updated in 2010.

The City also has agreements with National Beef Leathers and Triumph Foods. Provisions of the agreement are similar to those of SSJISD, with the exception that National Beef Leathers and Triumph Foods do not pay any costs associated with the SSJISD Pump Station. Otherwise, they are subject to the same rates as SSJISD.

3 Revenues

The majority of the Wastewater Utility's revenue is derived from rates and charges for wastewater service. A summary of the City's existing wastewater rates is presented in Table 1. Projections of future revenue under existing rates are based on analyses of historical trends of customer growth and average volume per customer (Tables 2 - 4). Other income sources such as wastewater service penalties, tax credits, and other revenue are presented in Table 5. Fiscal year 2011 customer and volume estimates are based on projecting the average of the first nine months of the fiscal year (July 2010 through March 2011).

3.1 CUSTOMER GROWTH

Table 2 summarizes the historical average number of Wastewater Utility customers by customer class during the years 2006 through 2010 and the projected number of customers for the years 2011 through 2016. Figures shown in Table 2 are annual averages based on the number of bills issued. Customer growth projections are based on an examination of recent trends in the number of customers added to the system. During the past five years the utility has experienced slight growth in the overall number of customers with an average annual increase of approximately 0.2 percent. The projected growth for fiscal years 2012 through 2016 is 0.2 percent annually for the residential customer class. Customer growth is projected to decrease by about 0.2 percent annually for commercial and industrial customers in the study period. Overall, the average number of customers is projected to increase from 26,857 customers in 2011 to 27,076 customers in 2016.

3.2 BILLED WASTEWATER VOLUME

Historical and projected billed wastewater volumes are shown in Table 3. Total billed wastewater volume (retail and wholesale) during the period 2006 through 2011 has increased from 4,647,301 hundred cubic feet (Ccf) to 5,390,400 Ccf.

The billed wastewater volume for retail customers has decreased approximately 5,000 Ccf, between 2006 and 2011. Over that same time, residential volume is also down slightly and commercial volume has increased slightly. Going forward, residential volume is projected to increase at approximately 0.2 percent annually and commercial is projected to decrease at approximately 0.2 percent annually. Both residential and commercial are in line with the customer growth forecast. Total billed wastewater volume (retail and wholesale) is estimated to increase from about 5,390,400 Ccf in 2011 to 5,395,000 Ccf in 2016, an increase of about 0.2 percent.

3.2.1 Wholesale Customer Growth

Contributed volume from the South St. Joseph Industrial Sewer District (SSJISD) increased by about 39 percent between 2006 and 2008, with the most significant increase in 2007. Since 2008, SSJISD's contributed volume has decreased each year. Going forward, SSJISD's contributed volume is expected to remain at current levels. SSJISD's contributed volume level decreased by about 8 percent in 2011. For forecast purposes, it is assumed that SSJISD will continue to contribute at these reduced levels.

In March 2009, Prime Tanning ceased operation and the business was sold to National Beef Leathers (NBL), who resumed operation of the facility in the same month. NBL was projecting to eventually contribute wastewater at a comparable level to Prime Tanning's historical trend. However, after reaching an annual total of 301,298 Ccf in 2010, its 2011 volume was 32% lower, indicating they might not reach the levels of Prime Tanning. Their flow is estimated to be 205,100 Ccf in 2011 and remain constant the remainder of the study period. In addition to the decrease in

volume, its contributed pounds of BOD and TSS decreased by 87% and 62%, respectively. 2010 included two months with atypically high discharges, so the decrease was expected.

Triumph Foods' 2011 flow decreased 3 percent over the previous year to an estimated 1.17 million Ccf. The strength of the wastewater contributed by Triumph decreased significantly in 2011, with contributed pounds of suspended solids decreasing by 48 percent.

Table 1 Schedule of Existing Rates

RETAIL^(a)

Service Charge

Monthly Service Charge	
Inside City	Outside City
(\$)	(\$)
14.08	33.05

Volume Charge

Inside City	Outside City
(\$/Ccf)	(\$/Ccf)
2.80	6.40

Overage Charges - \$/lb.

	Inside City	Outside City
	(\$/lb.)	(\$/lb.)
BOD in excess of 300 mg/l	0.286	0.425
Suspended solids in excess of 350 mg/l	0.239	0.567
Fats, Oils, & Grease in excess of 100 mg/l	0.096	0.220
Sulphides in excess of 15 mg/l	0.293	0.667

WHOLESALE^(b)

Flow charge	0.101	\$/Ccf
Pump Station ^(c)	0.370	\$/Ccf
BOD	0.234	\$/lb
Suspended Solids	0.164	\$/lb
Fats, Oils, & Grease	0.096	\$/lb
Sulphides	0.293	\$/lb

(a) Retail rates were fully effective on July 1, 2010.

(b) Applicable to the South St. Joseph Industrial Sewer District (SSJISD), National Beef Leathers, and Triumph Foods for secondary treatment service.

(c) Applicable to SSJISD only.

Table 2 Historical and Projected Number of Customers

Fiscal Years Ending June 30

Customer Class	Historical					Estimated (a)		Projected			
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
RETAIL											
Residential	23,813	24,045	24,220	24,245	24,184	24,202	24,250	24,299	24,348	24,397	24,446
Commercial/Industrial	2,744	2,745	2,740	2,724	2,707	2,652	2,647	2,642	2,637	2,632	2,627
WHOLESALE											
SSJISD	1	1	1	1	1	1	1	1	1	1	1
Prime Tanning, Corp.	1	1	1	1							
National Beef Leathers				1	1	1	1	1	1	1	1
Triumph Foods	1	1	1	1	1	1	1	1	1	1	1
Total	26,560	26,793	26,963	26,973	26,894	26,857	26,900	26,944	26,988	27,032	27,076

(a) 2011 Number of customers is based on average of first nine months of fiscal year

Table 3 Historical and Projected Contributed Volume

Fiscal Years Ending June 30

Customer Class	Historical					Estimated (a)		Projected			
	2006 Ccf	2007 Ccf	2008 Ccf	2009 Ccf	2010 Ccf	2011 Ccf	2012 Ccf	2013 Ccf	2014 Ccf	2015 Ccf	2016 Ccf
RETAIL											
Residential	1,653,283	1,665,174	1,663,157	1,686,409	1,633,790	1,624,000	1,650,800	1,654,100	1,657,400	1,660,800	1,664,100
Commercial/Industrial	1,562,040	1,592,813	1,656,742	1,616,977	1,568,646	1,586,500	1,562,800	1,559,800	1,556,900	1,553,900	1,551,000
Subtotal Retail	3,215,323	3,257,987	3,319,899	3,303,386	3,202,436	3,210,500	3,213,600	3,213,900	3,214,300	3,214,700	3,215,100
WHOLESALE											
SSJISD	763,441	1,009,560	1,060,719	951,120	871,461	805,100	805,100	805,100	805,100	805,100	805,100
Prime Tanning, Corp.	485,422	457,942	493,733	187,704							
National Beef Leathers				91,230	301,298	205,100	205,100	205,100	205,100	205,100	205,100
Triumph Foods	183,115	838,399	1,107,976	1,192,790	1,210,216	1,169,700	1,169,700	1,169,700	1,169,700	1,169,700	1,169,700
Subtotal Wholesale	1,431,978	2,305,901	2,662,428	2,422,844	2,382,975	2,179,900	2,179,900	2,179,900	2,179,900	2,179,900	2,179,900
Total System	4,647,301	5,563,888	5,982,327	5,726,231	5,585,412	5,390,400	5,393,500	5,393,800	5,394,200	5,394,600	5,395,000

(a) 2011 contributed volume is based on average of first nine months of fiscal year

3.3 WASTEWATER SERVICE CHARGE REVENUES UNDER EXISTING RATES

Estimates of revenues from wastewater service charges are based on projections of customer growth, billable wastewater volume, and surcharge billings. The estimates are obtained by applying the service charge and volume charge for each customer class to the projected number of customers and estimated billable wastewater volume. Approximately 97 percent of the retail customers pay the inside city rate while 3 percent pay the outside city rate. The City currently has eight retail surcharge customers, three of which have significant extra strength surcharges. Surcharge revenue in 2011 increased 18 percent to an estimated \$506,100. Some of the increase was from higher BOD strengths from 2010 to 2011. Surcharge revenue in fiscal years 2012 through 2016 are forecast to be \$506,100 (based on existing rates) through the remainder of the study period. As shown in Table 4, wastewater billed revenue from sales under existing rates are projected to be \$15,956,200 in 2011, and increase to \$16,026,000 in 2016.

3.4 OTHER REVENUE

Historical and projected miscellaneous operating and non-operating revenues are shown in Table 5. Miscellaneous operating revenues consist of Sewer Service Penalties, System Development Fees, BUILD Credit Revenue and Other Revenue. Miscellaneous revenue is projected to total about \$627,200 in 2011, and remain fairly steady through the study period, with projected 2016 miscellaneous revenue of approximately \$615,800.

As shown in Table 5, an additional source of revenue began in 2007. The City is receiving tax credits related to the Missouri Development Finance Board (MDFB) BUILD bonds. The BUILD program provides financial incentives for the location or expansion of large business projects that will result in specified levels of new jobs within a three-year period. The revenue is used to pay down existing debt service, specifically the 2004C Revenue Bonds.

The revenues shown in Table 5 do not include earnings from the investment of available cash balances. Interest earnings are considered in a subsequent section of this report.

Table 4 Historical and Projected Billed Revenue from Sales (Existing Rates)

Fiscal Years Ending June 30

Customer Class	Historical					Estimated		Projected			
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
RETAIL											
Residential	4,959,349	5,458,318	5,625,011	6,411,641	7,763,927	8,975,400	9,063,400	9,081,600	9,099,800	9,118,300	9,136,500
Commercial/Industrial	2,697,639	2,758,047	2,961,848	3,337,986	4,253,229	4,939,800	4,885,400	4,876,000	4,866,900	4,857,600	4,848,500
Extra Strength Surcharges	166,615	581,126	532,886	872,731	427,891	506,100	506,100	506,100	506,100	506,100	506,100
Subtotal Retail	7,823,603	8,797,491	9,119,745	10,622,358	12,445,047	14,421,300	14,454,900	14,463,700	14,472,800	14,482,000	14,491,100
WHOLESALE											
SSJISD	798,483	1,237,193	1,438,465	1,508,621	951,210	1,015,200	1,015,100	1,015,100	1,015,100	1,015,100	1,015,100
Prime Tanning, Corp.	55,886	59,676	83,051	25,300							
National Beef Leathers				21,100	181,384	56,335	56,400	56,400	56,400	56,400	56,400
Triumph Foods	33,539	330,940	310,349	264,100	481,928	463,400	463,400	463,400	463,400	463,400	463,400
Subtotal Wholesale	887,908	1,627,809	1,831,865	1,819,121	1,614,522	1,534,935	1,534,900	1,534,900	1,534,900	1,534,900	1,534,900
Total System	8,711,510	10,425,300	10,951,610	12,441,479	14,059,569	15,956,235	15,989,800	15,998,600	16,007,700	16,016,900	16,026,000

Table 5 Historical and Projected Miscellaneous Revenues

Fiscal Years Ending June 30

	Historical					Estimated		Projected			
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Miscellaneous Revenues											
Sewer Service Penalties	143,533	114,968	141,184	157,818	184,752	180,000	180,000	180,000	180,000	180,000	180,000
Sewer System Development Fees				36,000	30,000	30,000	30,000	34,000	38,000	42,000	46,000
Refund Prior Year Expenditures	0	0	0	0	231	0	0	0	0	0	0
BUILD Credit Revenue	0	148,807	774,493	385,900	384,800	387,700	387,700	385,900	384,800	383,700	382,500
Other Revenue	5,028	27,098	25,986	11,241	1,420	29,519	7,300	7,300	7,300	7,300	7,300
Total Miscellaneous Revenue	148,561	290,873	941,664	590,959	601,203	627,219	605,000	607,200	610,100	613,000	615,800

4 Revenue Requirements

Revenues required to provide for the continued operation of the Wastewater Utility must be sufficient to meet the cash requirements for operation and maintenance expense, principal and interest payments on bonded debt, routine annual capital improvements and replacements, and other major capital expenditures that are not financed through debt. In addition, revenues must be adequate to meet applicable rate covenants included in the City's ordinances authorizing the outstanding revenue bonds. The revenue requirements developed in this report incorporate the financial conditions as of July 1, 2010, and are projected for the five-year period ending June 30, 2016.

4.1 OPERATING EXPENSE

Operating expenses of the Wastewater Utility include the cost of operating and maintaining the wastewater collection and treatment facilities, routine capital expenditures, and transfers to other City departments or funds for services provided. These expenses are classified as Wastewater Plant Administration, Wastewater Treatment, Laboratory, and Sewer Maintenance. Other operating expenses include Routine Capital Expense and Transfers. Because these costs are a continuing normal annual obligation of the utility, they are met from operating revenue as they are incurred.

Projected operating expense is summarized in Table 6. Operating expense for 2011 is estimated to be \$9,291,700. This is about a 9 percent increase from 2010 actual direct expenses of \$8,480,700. This increase is partially attributed to a large increase in electric expense and additional in-house rehab and maintenance projects. Direct operating expense for 2012 is budgeted to be \$9,905,600. This is a 7 percent increase over the 2011 total. The primary increases in O&M in for 2012 are an additional \$220,000 in salaries and benefits in the Sewer Maintenance department and transfers increasing \$172,000. Direct operating expenses are projected to increase an average of 5 percent per year beginning in 2012 to \$11,952,000 in 2016.

Routine capital expenditures are purchases from the operating budget that are capitalized for accounting purposes. It includes costs that are incurred annually for normal replacement of equipment and system expenses. As such, they are funded from annual revenues. Routine capital expenses are summarized in Table 6. Additional items included in the 2012 budget include \$270,000 for increased in in-house rehabilitation projects and numerous vehicle replacements.

In addition, the Wastewater Utility transfers monies annually to the City's General Fund to pay the utility's allocated share of the City's general and administrative costs. The Wastewater Utility also transfers monies to the Computer Network Fund that provides monies for replacement of computers.

In 2012, transfers to the General Fund are budgeted at \$872,000, which is a 151 percent increase from 2011. However, the majority of the increase is offset by the elimination of the Street Improvement Maintenance Repair Fund (SIMR). Effectively in its place is an allocation transferred to the Public Works Administrative department based on the FY 2010 Public Works Admin Cost Allocation Plan. This amount for 2012 is budgeted at \$449,745. General Fund transfers are projected to increase at 3 percent annually. The Computer Network Fund may vary from year to year based on need; \$26,200 is budgeted in 2012 with projected growth of about 3 percent annually. The Wastewater Utility also transfers monies to the City's Aviation Department to pay for cost related to sludge disposal at the City airport. The Aviation Department transfers are budgeted for \$48,300 in 2012 and remain steady in the study period. Actual transfers are based on an annual Indirect Cost Allocation Plan.

Table 6 Projected Operating Expense

Fiscal Years Ending June 30

Line No.	Description	Historical	Estimated	Budgeted	Projected			
		2010	2011	2012	2013	2014	2015	2016
		\$	\$	\$	\$	\$	\$	\$
	Operation & Maintenance Expense							
1	Wastewater Plant Administration	838,500	817,100	926,100	952,700	980,000	1,008,300	1,037,700
2	Wastewater Treatment	4,393,400	4,927,200	4,879,100	5,441,300	5,675,100	5,920,300	6,177,400
3	Laboratory	489,300	515,400	544,400	567,300	591,400	616,700	643,400
4	Sewer Maintenance	1,359,100	1,409,200	1,702,800	1,774,700	1,850,300	1,929,900	2,013,800
5	Subtotal Direct O & M Expense	7,080,300	7,668,900	8,052,400	8,736,000	9,096,800	9,475,200	9,872,300
	Transfers							
6	General Fund	360,100	347,000	872,000	898,200	925,100	952,900	981,500
7	Computer Network	21,700	18,500	26,200	26,900	27,800	28,600	29,400
8	SIMR	407,000	373,800	0	0	0	0	0
9	Aviation	35,200	35,200	48,300	48,300	48,300	48,300	48,300
10	Subtotal Transfers	824,000	774,500	946,500	973,400	1,001,200	1,029,800	1,059,200
11	Total Direct O&M and Transfers	7,904,300	8,443,400	8,998,900	9,709,400	10,098,000	10,505,000	10,931,500
12	Routine Capital Expense	576,400	848,300	906,700	933,900	961,900	990,800	1,020,500
13	Total Operating Expense	8,480,700	9,291,700	9,905,600	10,643,300	11,059,900	11,495,800	11,952,000

4.2 CAPITAL IMPROVEMENT PROGRAM

The Wastewater Utility's capital improvement program (CIP) provides for the major repair and replacement of existing facilities, as well as treatment plant expansions, required major environmental upgrades, and collection system extensions to provide service to new customers. As shown in Table 7, the proposed capital improvement program totals \$37 million in 2012 (Line 70). The major project scheduled for 2012 is the construction of disinfection facilities, including effluent pump station and outfall improvements (\$26 million).

The CIP shown in Table 7 is divided into six major sections: Environmental and Regulatory projects, CMOM Projects, CSO Long Term Control Plan projects, System Expansion projects, Collection System capital projects, and Wastewater Treatment Plant (WWTP) capital projects.

4.2.1 Environmental and Regulatory Projects

The first section of Table 7 shows the projects classified as Environmental and Regulatory Projects. This section contains projects that are mandated by MDNR as part of the City's NPDES permit. Plant effluent disinfection, previously estimated at \$36.6 million, is now projected to cost \$26 million (Lines 3 and 4) based on updated scope and cost estimates. Ammonia removal is the other significant project in this section with design work projected to continue in 2012 and construction in 2013. The cost estimate is the same as the previous study.

4.2.2 Capacity, Management, Operation and Maintenance (CMOM) Projects

The next section of Table 7 shows the projects classified as Capacity, Management, Operation and Maintenance (CMOM) Projects. CMOM is a program that is mandated in the City's NPDES permit. It provides documentation and planning which demonstrates actions being taken to prevent overloading of wastewater treatment plants, maintenance of the collection system, and the overflow prevention of sanitary sewage into lakes and streams. The specific CMOM projects are shown on lines 9 through 26 of Table 7. All CMOM projects are projected to be funded with annual revenues and not debt financed.

4.2.3 CSO Long Term Control Plan Projects

The focus of CSO LTCP projects included in the 5-year study period is to remove excess stormwater from entering the collection system with Stormwater Separation Conduits in the Blacksnake and Whitehead watersheds. New additions to the CSO Program this year are annual expenditures for Green Solutions (\$200,000) and a Water Quality Education Program (\$75,000). The total amount forecast for these projects from 2012 through 2016 is \$79.5 million and will be financed with operating revenue and SRF bonds.

4.2.4 System Expansion Projects

In July 2007, the Department of Public Works was directed by the City Council to implement a plan to extend sewer mains throughout the city. Due to a lack of demand and economic conditions, few expansion projects have been executed to date. The scale of what is forecast for system expansion project has been reduced to a total of \$2.5 million in projects that are not specific to any area.

4.2.5 Capital Projects - Collection System and WWTP

Lines 37 through 68 of Table 7 show the major capital projects necessary to maintain the sewer collection system and the existing wastewater treatment plant (WWTP). These projects are necessary to operate and maintain the collection system and WWTP in a safe and efficient manner. Major projects in 2012 include Country Village Pump Station Pump Upgrades, WPF SCADA Backbone Installation, and painting the roughing filter support structures.

The Eastside collection system is in need of major upgrades in the new future. Because a new Eastside treatment plant or a new Eastside interceptor is not currently feasible from a rate impact perspective, as both projects would be in excess of \$100 million, an interim solution of upgrades at the Easton Road and Faraon Street Pump Stations is being designed. The projects will be financed with SRF bonds and are projected to begin design work in 2013.

Table 7 Proposed Capital Improvement Program

Fiscal Years Ending June 30

Line No.	Description	Estimated		Projected			Total
		2011	2012	2013	2014	2015	
		\$	\$	\$	\$	\$	\$
ENVIRONMENTAL AND REGULATORY PROJECTS							
1	Ammonia Removal (ROW)		32,000		-	-	32,000
2	Ammonia Removal	350,427	2,227,573	27,193,000	-	-	29,771,000
3	Disinfection / Effl PS / Outfall Improvements	-	4,516,000	-	-	-	4,516,000
4	Disinfection / Effl PS / Outfall Improvements	-	21,457,000	-	-	-	21,457,000
5	Existing Grit Basin Equipment Rehab (Interim Solution)	-	353,000	2,003,000	-	-	2,356,000
6	KCP&L and WPF Power Upgrades - Phase 1	500,000	454,000	-	-	-	954,000
7	KCP&L and WPF Power Upgrades - Phase 2	-	-	-	-	1,474,000	1,474,000
8	Subtotal	850,427	29,039,573	29,196,000	-	-	60,560,000
CMOM Projects							
9	TV Van	-	-	-	170,000	-	170,000
10	Other Rolling Stock - Sewer Maint.	-	-	463,000	-	-	463,000
11	Portable TV Unit	-	-	73,000	-	-	73,000
12	Easement Jet Machine	-	-	46,000	-	-	46,000
13	Purchase 50% of Street Sweeper A (2011 in Operating Budget)	-	-	-	180,000	-	180,000
14	Purchase 50% of Street Sweeper B	119,970	-	-	180,000	-	299,970
15	CMOM Cast-in-place Pipe Lining	315,000	324,500	334,200	344,200	354,500	2,037,500
16	CMOM Increased Root Control & Line Cleaning	106,000	109,200	112,500	115,900	119,400	686,000
17	CMOM Emergency Collection System Repairs	478,000	492,300	507,100	522,300	538,000	3,091,800
18	Major Mainline Sewer Repairs	32,800	47,000	49,900	51,400	52,900	288,500
19	CMOM Spray on Liner, Manhole, & Sewer Line Repair	158,000	162,700	167,600	172,600	177,800	1,021,800
20	CMOM Cave in Repairs	85,000	87,600	90,200	92,900	95,700	550,000
21	CMOM Software Purchase	-	465,000	-	-	-	465,000
22	Large Diameter Sewer Rehab (for Sinking Fund - spend every five year	-	500,000	500,000	500,000	500,000	2,500,000
23	I/I reduction	-	463,000	486,000	511,000	536,000	2,498,000
24	Manhole Inspection program	-	46,000	49,000	51,000	54,000	250,000
25	GPS Equipment	-	35,000	36,000	38,000	40,000	191,000
26	Update Aerial Photography	-	36,000	-	40,000	-	120,000
27	Subtotal	1,294,770	2,768,300	2,914,500	2,969,300	2,468,300	14,931,570
CSO LONG TERM CONTROL PLAN PROJECTS							
28	Green Solutions	-	200,000	200,000	200,000	200,000	1,000,000
29	Water Quality Education Program	-	75,000	75,000	75,000	75,000	375,000
30	Blacksnake Stormwater Separation Conduit (ROW)	-	-	-	216,000	-	216,000
31	Blacksnake Stormwater Separation Conduit	-	-	-	5,380,000	1,000,000	52,262,000
32	Whitehead Stormwater Separation Conduit (ROW)	-	500,000	-	-	-	500,000
33	Whitehead Stormwater Separation Conduit	-	1,931,736	23,254,000	-	-	25,185,736
34	Subtotal	-	2,706,736	23,529,000	5,871,000	1,275,000	79,538,736
SYSTEM EXPANSION PROJECTS							
35	System Expansion Projects	-	1,000,000	1,000,000	-	500,000	2,500,000
36	Subtotal	-	1,000,000	1,000,000	-	500,000	2,500,000
CAPITAL PROJECTS - COLLECTION SYSTEM							
37	Eastside Wastewater Improvements (Interim Solution) (ROW)	-	-	125,000	-	-	125,000
38	Eastside Wastewater Improvements (Interim Solution)	-	-	3,375,000	24,570,000	-	27,945,000
39	Whitehead Pumping Station - Elevator	79,243	-	-	-	-	79,243
40	Brown's Branch PS - Pump Replacement	-	-	-	122,000	-	122,000
41	Brown's Branch PS - MCC replacement	-	-	-	61,000	-	61,000
42	Brown's Branch PS Elevator	79,243	-	-	-	-	79,243
43	Faraon Street PS Elevator	79,243	-	-	-	-	79,243
44	Package Lift Stations - Generators	-	-	-	-	80,000	80,000
45	SSJISD PS - Wetwell Rehab Construction	1,193,400	20,000	-	-	-	1,213,400
46	Country Village Pump Station Pump Upgrades	-	280,000	-	-	-	280,000
47	Subtotal	1,431,130	300,000	3,500,000	24,753,000	-	30,064,130

Table 7 Proposed Capital Improvement Program (Continued)

Fiscal Years Ending June 30

Line No.	Description	Estimated	Projected				Total	
		2011	2012	2013	2014	2015		2016
		\$	\$	\$	\$	\$	\$	
CAPITAL PROJECTS - WWTP								
48	Rolling Stock - 170 hp Tractor A	-	-	160,000	-	-	-	160,000
49	Rolling Stock - Manure Spreader	-	-	-	-	64,000	-	64,000
50	Rolling Stock - Catapillar High Loader	-	-	-	-	160,000	-	160,000
51	Radio Communications Equipment	-	-	-	243,000	-	-	243,000
52	Plant Paving & Drainage	-	-	-	-	128,000	-	128,000
53	Replace Gas Burnoff	-	-	-	-	-	67,000	67,000
54	WPF SCADA Backbone Installation	-	509,000	-	-	-	-	509,000
55	Belt Filter Press (2 meter)	-	-	868,000	-	-	-	868,000
56	Primary Sludge PS - Roofs	-	-	-	13,000	-	-	13,000
57	Plant PS - Elevator	79,243	-	-	-	-	-	79,243
58	Flotation Building Rehab	-	110,000	-	-	-	-	110,000
59	Additional Centrifugal Blowers	-	-	-	1,459,000	-	-	1,459,000
60	American Air Filters Socks (X - 188) (X - \$43)	-	9,000	-	-	-	-	9,000
61	Replace Variable Speed Motor Drives (X - 6) (X - 2)	-	-	-	-	490,000	-	490,000
62	Intermediate Pumping Station - Variable Speed Drive Replacement	-	300,000	-	-	-	-	300,000
63	Intermediate Pumping Station Elevator	79,243	-	-	-	-	-	79,243
64	Rehab existing Secondary Clarifiers	-	-	-	-	511,000	-	511,000
65	Roughing Filters - Paint roughing support structures	-	276,000	-	-	-	-	276,000
66	Fats, Oils, Grease - Construct Bldg for Uploading Station.	198,033	-	-	-	-	-	198,033
67	Maint Garage - Rolling Stock and Spare Parts Storage	-	-	-	-	-	2,074,000	2,074,000
68	Laboratory Additions to Admin Building	-	-	-	1,021,000	-	-	1,021,000
69	Subtotal	356,520	1,204,000	1,028,000	2,736,000	1,353,000	2,141,000	8,818,520
70	Total	3,932,847	37,018,609	61,167,500	36,329,300	5,596,300	52,368,400	196,412,956
71	Recap							
72	Financed with Series 2007 proceeds	2,287,650	6,355,000	657,350	-	-	-	9,300,000
73	Total financed through SRF Bonds							
74	Environmental/Regulatory Projects	350,427	2,580,573	29,196,000	-	-	1,474,000	33,601,000
75	CSO LTCP Projects	-	1,931,736	23,254,000	5,380,000	1,000,000	45,882,000	77,447,736
76	Collection System Capital Projects	-	-	3,375,000	24,570,000	-	-	27,945,000
77	WWTP Capital Projects	-	-	-	2,480,000	-	2,074,000	4,554,000
78								143,547,736
79	Total financed through Conventional Bonds							
80	Environmental/Regulatory Projects	-	21,457,000	-	-	-	-	21,457,000
81	CSO LTCP Projects	-	-	-	-	-	-	-
82	System Expansion Projects	-	-	-	-	-	-	-
83	Collection System Capital Projects	-	-	-	-	-	-	-
84	WWTP Capital Projects	-	-	-	-	-	-	-
85								21,457,000
86	Total financed through Operating Funds	1,294,770	4,694,300	4,685,150	3,899,300	4,596,300	2,938,400	22,108,220
87	Total Annual Expenditures	3,932,847	37,018,609	61,167,500	36,329,300	5,596,300	52,368,400	196,412,956

4.3 FINANCING PLAN

Total planned investment from 2011 through 2016 is \$196.4 million, as shown on Table 7. The capital improvement program financing plan is presented in Table 8. The funding sources are summarized on Lines 1 through 4 and the Capital Fund requirements, or use of funds, are shown on Lines 5 through 9. As of June 30, 2010, the Capital Fund had a balance of \$9,382,000.

In April 2011, the voters of St. Joseph voted for bond approval that allows the city to apply to the Missouri Department of Natural Resources to participate in its State Revolving Fund (SRF) program. The SRF program provides low interest loans that have lower interest rates than conventional bond issues. The projected rate and term for SRF bonds are 3.0% for 20 years. This compares to 25-year conventional bonds with a 5.5% interest rates used in the previous study.

The SRF bonds are projected to be used for all of the major capital projects in the study period with the exception of construction of the disinfection facilities, as the project is not eligible. It is not guaranteed that the City will receive the SRF funding for each of the projects as many communities compete for a limited pool of funds each year. This study assumes that SRF funds will be available

for all projects requesting SRF funding. Should some projects be denied SRF funding, conventional bonds may be required which could impact future rate increases.

Another characteristic of SRF bonds that is different from conventional bonds is the funds are not made available until the start of the construction phase of the projects. Therefore, the City must fund the costs of all engineering design and related pre-construction work before the SRF funds are received. Eligible design and related costs may be reimbursed with the proceeds of the SRF bonds. Since the City does not maintain cash reserves to fund the cost of design work for multiple projects, alternative means of financing these costs are required to prevent increasing rates further to carry these costs.

To fund the costs of pre-construction costs, the City will use short term bonds. These bonds will be structured with a 3 year term, with interest only due prior to the maturity of the bond. Therefore, when SRF funds are received, the proceeds will be used to pay off the short term bonds. These 3-year bonds are projected to have interest rates ranging from 2.15 to 2.50 percent. The bonds will also be structured so that they will be callable if SRF funds are received before the final maturity of the bonds.

The CIP presented in Table 7 is anticipated to be funded with the remaining proceeds from the Series 2007 Industrial Development Authority (IDA) bond issue (\$9.3 million), which is included in the beginning of year fund balance, and bond issues in 2012 (\$29.7 million), 2013 (\$88.7 million), 2014 (\$6.5 million), and 2016 (\$56.4 million).

The Operating Fund will be used to fund projects not included in the bond issue, such as the CMOM Program, CSO Green Solutions, and rehab existing secondary clarifiers. The operating fund can also be used to offset minor contingencies on the proposed projects.

Table 8 Capital Flow of Funds

Fiscal Years Ending June 30

Line No.	Description	Estimated	Projected					Total
		2011	2012	2013	2014	2015	2016	
		\$	\$	\$	\$	\$	\$	\$
SOURCE OF FUNDS								
1	Funds on Hand at Beginning of Year	9,382,000	6,744,000	3,764,000	34,891,700	8,841,700	1,700	9,382,000
2	Transfer from Operating Fund	1,294,800	4,694,300	4,685,200	3,899,300	4,746,300	2,788,400	22,108,300
3	Bond Issue at Par	0	29,720,000	88,710,000	6,450,000	0	56,430,000	181,310,000
4	Total Funds Available	10,676,800	41,158,300	97,159,200	45,241,000	13,588,000	59,220,100	212,800,300
USE OF FUNDS								
5	Major Capital Improvement Program	3,932,800	37,018,600	61,167,500	36,329,300	5,596,300	52,368,400	196,412,900
6	Bond Issuance Costs	0	375,700	1,100,000	70,000	0	620,000	2,165,700
7	Payoff Principal on Short Term Bonds	0	0	0	0	7,990,000	0	7,990,000
8	Reimbursement to Operating Fund	0	0	0	0	0	0	0
9	Total Use of Funds	3,932,800	37,394,300	62,267,500	36,399,300	13,586,300	52,988,400	206,568,600
10	Funds on Hand at End of Year	6,744,000	3,764,000	34,891,700	8,841,700	1,700	6,231,700	6,231,700

4.4 DEBT SERVICE REQUIREMENTS

Table 9 presents a summary of the annual total of the monthly deposits into the Sewer Debt Fund for both the existing and proposed revenue bonds. The 2012 bond issue will be a joint issue of conventional and short term bonds. \$8.0 million will be a short term bond for engineering design and related work for projects that will be SRF funded. The short term bonds have a term of three years and a 2.15 percent interest rate. \$21.7 million will be in a conventional bond for the disinfection project. This bond will have a 25-year term and an average interest rate of 4.81 percent.

The first SRF bond is projected in 2013 and will fund projects and payoff the short term bonds. SRF bonds are projected to have a 20-year term and an average interest rate of 3.0 percent. Another short term bond is required in 2014 for design work for projects starting in 2016. This bond is estimated at 2.5 percent for 3 years. The 2016 bond will be another SRF bond, primarily funding the Blacksnake Stormwater Separation Conduit. It should be noted that the two SRF bonds in the study period total \$145 million, which exceeds the voter approved amount of \$105 million. This study assumes that voter authority will again be received for continued use of SRF funding.

Table 9 Existing and Proposed Debt Service

Fiscal Years Ending June 30

	2011	2012	2013	2014	2015	2016
	\$	\$	\$	\$	\$	\$
EXISTING BONDS						
State Environmental Improvement & Energy Resources Authority, Series 1993	841,700	839,700	841,000	844,200	843,200	0
State Environmental Improvement & Energy Resources Authority, Series 1997	540,800	544,200	541,400	542,300	541,900	540,700
Sewerage System Revenue. Refunding & Improvement Bonds Series 1999	247,100	251,500	0	0	0	0
Sewer System Revenue Bonds Series 2003	57,100	60,800	59,300	57,800	61,200	59,400
Sewer System Revenue Bonds Series 2004	938,800	940,200	940,800	940,600	939,600	937,800
Industrial Development Authority Bonds Series 2007	988,600	988,600	988,600	988,600	988,600	988,600
Subtotal Existing Annual Debt Service	3,613,900	3,625,000	3,371,100	3,373,500	3,374,400	2,526,400
PROPOSED BONDS						
Proposed Conventional Bonds FY 2012 Issue (\$21.7 million)		958,100	1,512,600	1,512,600	1,512,600	1,512,600
Proposed Short Term Bonds FY 2012 Issue (\$8.0 million)		157,500	171,800	171,800	8,075,900	0
Proposed SRF Bonds FY 2013 Issue (\$88.7 million)			221,800	5,962,700	5,962,700	5,962,700
Proposed Short Term Bonds FY 2014 Issue (\$6.5 million)				161,300	161,300	161,300
Proposed SRF Bonds FY 2016 Issue (\$56.4 million)						3,793,000
Subtotal Proposed Annual Debt Service	0	1,115,600	1,906,200	7,808,400	15,712,500	11,429,600
Total Annual Debt Service	3,613,900	4,740,600	5,277,300	11,181,900	19,086,900	13,956,000

5 Summary of Revenue Requirements and Proposed Adjustment to Revenue

The total revenue requirements of the Wastewater Utility consist of operation and maintenance expense, debt service requirements, routine annual capital outlays, and cash financing of major capital improvements. Revenue levels must also be sufficient to meet existing and future revenue bond covenants that net revenues in each fiscal year be not less than 110 percent of the debt service requirement. It is also essential that the Wastewater Utility maintain sufficient cash balances to provide for Operating Fund encumbrances, offset fluctuations in revenues and expenditures, and provide for funds for use in emergencies. Charges for wastewater service provide the principal source of revenues to meet these requirements with additional revenue being derived from miscellaneous operating and non-operating income and from interest earnings.

Table 10 combines the projected revenues and revenue requirements into a pro forma operations statement or cash flow summary. The cash flow summary provides a basis for evaluation of the timing and size of wastewater revenue increases that are indicated to be necessary to meet the projected revenue requirements for the period 2012 through 2016. Projected revenues from wastewater service charges under existing rates are shown on Lines 1 through 4. The indicated total additional revenues under proposed rate increases are shown on Line 10. The increased revenues are the result of the rate increases shown on Lines 5 through 9. The revenue increase effective dates shown on Lines 5 through 9 of Table 10 indicate when additional revenue associated with the revenue increases will be realized. These revenue increases are primarily needed to cover large increases in debt service due to implementation of mandated regulatory projects and the CSO LTCP, in addition to higher operation and maintenance expenses and system rehabilitation projects, which reduce net revenues available for debt coverage purposes, and net operating reserve balances available to cover a working capital allowance.

Projected miscellaneous operating revenues from Table 5 are shown on Line 12. Interest income from the Operating and Capital Fund balances are shown on Line 13. These monies are projected to yield an average annual interest rate of 2.0 percent for the period. Interest income on the Bond Reserve Fund, shown on Line 14, is also calculated using a 2.0 percent interest rate. With the proposed revenue increases, total Wastewater Utility revenues are projected to range from \$16,762,200 in 2011 to \$28,968,200 in 2016 (Line 15).

Revenue requirements for operation and maintenance expense, including transfers, debt service, routine annual capital outlays, and cash financed capital projects are taken from Tables 6, 8, and 9 and are summarized on Lines 16 through 26. These annual operating requirements are projected to increase from \$14,088,300 in 2011 to \$28,938,400 in 2016, as shown on Line 27 of Table 10.

The projected net annual operating balance is shown on Line 28 and ranges from a low of negative \$2,429,300 in 2014 to a high of \$2,706,600 in 2011. Any annual surpluses accrued will be used to finance future capital projects and reduce the amount of future bond issues. The end of year operating cash balances shown on Line 30 include monies that have been encumbered and which, by ordinance, must be available to the Wastewater Utility. Beginning in fiscal year 2010, the City changed its policy on the minimum days of working capital in the operating fund (operating reserve). Previously the requirement was 60 days of operating expense and routine capital outlays and the City has now changed this policy to 120 days. This serves two primary purposes: first, with the substantial amount of new debt the City is forecast to take on in the coming years, it is prudent utility practice to have additional liquidity to offset fluctuations in revenues and expenditures and allow for contingencies; second, it provides the City with a stronger base for the City to maintain its current credit rating. With the significant amount of debt the City plans to issue to fund its CSO

LTCP and mandated regulatory projects, there is a risk the rating agencies could lower the City's credit rating, possibly increasing the cost of issuing additional debt.

Table 10 Operating Flow of Funds

Fiscal Years Ending June 30

Line No.	Operating Fund	Estimated			Projected		
		2011	2012	2013	2014	2015	2016
		\$	\$	\$	\$	\$	\$
Revenue							
1	Retail Revenue Under Existing Rates (Table 4)	14,421,300	14,454,900	14,463,700	14,472,800	14,482,000	14,491,100
2	SSJISD Under Existing Rates (Table 4)	1,015,200	1,015,100	1,015,100	1,015,100	1,015,100	1,015,100
3	National Beef Leathers Under Existing Rates (Table 4)	56,300	56,400	56,400	56,400	56,400	56,400
4	Triumph Foods Under Existing Rates (Table 4)	463,400	463,400	463,400	463,400	463,400	463,400
Additional Sewer Revenue Required:							
	<u>Revenue Increase Effective Date</u>	<u>Annualized Revenue Increase (a)</u>					
5	July 1, 2011	12.0%	1,918,800	1,920,000	1,920,900	1,922,000	1,923,100
6	July 1, 2012	12.0%		2,150,200	2,151,400	2,152,700	2,153,900
7	July 1, 2013	13.0%			2,610,400	2,611,900	2,613,400
8	July 1, 2014	14.0%				3,178,500	3,180,300
9	July 1, 2015	9.0%					2,330,700
10	Total Additional Sewer Revenue	0	1,918,800	4,070,200	6,682,700	9,865,100	12,201,400
11	Total Sewer Revenue	15,956,200	17,908,600	20,068,800	22,690,400	25,882,000	28,227,400
12	Miscellaneous Revenue (Table 5)	627,200	605,000	607,200	610,100	613,000	615,800
13	Interest Income - Operating & Capital Fund (b)	138,000	141,000	281,000	296,000	82,000	84,000
14	Interest Income - Bond Reserve Fund	40,800	40,800	40,800	40,800	40,800	40,800
15	Total Operating Fund Revenues Available	16,762,200	18,695,400	20,997,800	23,637,300	26,617,800	28,968,000
Revenue Requirements							
16	Operation and Maintenance Expense (Table 6) (c)	8,443,400	8,998,900	9,709,400	10,098,000	10,505,000	10,931,500
17	Routine Capital Outlay (Table 6)	848,300	906,700	933,900	961,900	990,800	1,020,500
18	Subtotal Operating Requirements	9,291,700	9,905,600	10,643,300	11,059,900	11,495,800	11,952,000
19	Net Revenues	7,470,500	8,789,800	10,354,500	12,577,400	15,122,000	17,016,000
Debt Service							
20	Existing Debt Service (Table 9)	3,613,900	3,625,000	3,371,100	3,373,500	3,374,400	2,526,400
20	Proposed Bond Debt Service (Table 9)	0	1,115,600	1,906,200	7,808,400	15,712,500	11,429,600
21	Less: Repayment of Principal on Short Term Bonds	-	-	-	-	(7,990,000)	-
22	Total Debt Service	3,613,900	4,740,600	5,277,300	11,181,900	11,096,900	13,956,000
23	Less: Interest on EI ERA Reserve Fund	(191,800)	(162,700)	(131,900)	(99,500)	(65,200)	(29,100)
24	EI ERA Administrative Fee	47,000	40,000	33,000	25,000	16,000	7,000
25	Net Effective Debt Service	3,469,100	4,617,900	5,178,400	11,107,400	11,047,700	13,933,900
26	Transfer to (from) Capital Fund	1,294,800	4,694,300	4,685,200	3,899,300	4,746,300	2,788,400
27	Total Operating Requirements	14,055,600	19,217,800	20,506,900	26,066,600	27,289,800	28,674,300
28	Net Annual Balance	2,706,600	(522,400)	490,900	(2,429,300)	(672,000)	293,700
29	Beginning of Year Balance	4,333,000	7,039,600	6,517,200	7,008,100	4,578,800	3,906,800
30	End of Year Balance	7,039,600	6,517,200	7,008,100	4,578,800	3,906,800	4,200,500
31	Desired Working Capital Allowance (d)	3,097,200	3,301,900	3,547,800	3,686,600	3,831,900	3,984,000

(a) Average annual revenue adjustment percentage. Revenues reflect twelve effective months in the first year of revenue adjustment

(b) Interest earnings based on budget and projected fund balances

(c) Includes Operation & Maintenance Expense and Transfers

(d) Working capital allowance calculated as 120 days operation and maintenance expense

5.1 DEBT SERVICE COVERAGE

For existing debt, an annual debt service coverage test must be met regardless of whether additional bonds will be issued during the study period. The annual coverage test compares annual net revenues with annual debt service. Bond covenants stipulate that annual Net Revenues Available for Debt Service must be at least 110 percent of annual principal and interest payments.

5.2 RATE COVENANT

A summary of the annual revenue bonds test found in the bond indentures for the Series 1992 Bonds and similarly, in Section 902 of Article IX of the outstanding EI ERA bonds, is as follows:

The City will fix, establish, maintain and collect such rates and charges for the use and services furnished by or through the System as will produce Revenues sufficient to (a) pay the costs of the operation and maintenance of the System; (b) pay the principal of and interest on the Bonds as and when the same become due at the Maturity thereof or any Interest Payment Date; (c) enable the City to have in each fiscal year Net Revenues not less than 110 percent of the amount required to be paid in such fiscal year on account of both principal of and interest on all System Revenue Bonds at the time outstanding; and (d) provide reasonable and adequate reserves for the payment of the Bonds and the interest thereon and for the protection and benefit of the System as provided in the Ordinance. The City will require the prompt payment of accounts for service rendered by or through the System and will promptly take whatever action is legally permissible to enforce and collect delinquent charges. The City will, from time to time as often as necessary, in accordance with and subject to applicable legal requirements, revise the rates and charges aforesaid in such manner as may be necessary or proper so that the Net Revenues will be sufficient to cover the obligations of the City under the provisions of the Ordinance. If in any fiscal year Net Revenues are less than as hereinbefore provided, the City will immediately employ a Consultant to make recommendations with respect to such rates and charges. A copy of the Consultant's report and recommendations shall be filed with the City Clerk and with the Purchaser of the Bonds and shall be furnished to any Owner of the Bonds requesting a copy of the same, at the cost of such Owner. The City is required, to the extent feasible, to follow the recommendations of the Consultant.

In order for parity bonds to be issued, two additional bonds tests exist, only one of which must be met for parity to be attained. The historical additional bonds test stipulates that net revenues available for debt service (adjusted as defined in the bond resolution) be 110 percent of average annual debt service. The future additional bonds test requires that net revenues available for debt service (adjusted as defined in the bond resolution) be 110 percent of average annual debt service for the average of the two years following commercial operation of the capital improvements financed from the proceeds of the issue.

In April, 1992 the citizens of St. Joseph authorized the City to issue up to \$17,600,000 in Environmental Improvement & Energy Resource Authority (EI ERA) bonds for the purpose of "repairing, constructing, improving, and extending the sanitary wastewater collection system of the City..." In September, 1993 the City issued \$10,308,000 in EI ERA bonds through Missouri's state revolving loan fund as parity with the Series 1992 revenue bonds. In June 1997, the City issued \$6,515,000 of additional EI ERA bonds on parity debt with the Series 1992 and Series 1993 bonds. The bond covenants associated with the EI ERA bonds stipulate similar coverage requirements as the Series 1992 bonds, with the exception that both annual and additional bonds tests must meet or exceed 110 percent debt service coverage.

The financial plan demonstrated herein assumes issuance of bonds in 2012, 2013, 2014, and 2016. For purposes of this report, 110 percent coverage is assumed for all future bond issues. A summary of the EIERA and IDA additional bonds tests is as follows:

1. The City shall not be in default in the payment of principal of or interest on any Bonds or the Parity bonds or in making any payment at the time required to be made into the respective funds and accounts created by and referred to in this Ordinance or any Parity Ordinance; and
2. The City shall obtain a certificate showing either of the following:
 - a. The average annual Net Revenues Available for Debt Service as set forth in the last available annual audits for the two Fiscal Years immediately preceding the issuance of additional bonds, are at least 110 percent of the average annual debt service on the System Revenue Bonds, including the additional bonds proposed to be issued, to be paid out of the Net Revenues Available for Debt Service in succeeding Fiscal Years. Interest to be paid on any SRF Program Bonds may be reduced by the SRF Subsidy, if any. If the City has made any increase in rates for the use and services of the System and the increase has not been in effect during all of the two Fiscal Years for which annual audits are available, the City may add the additional Net Revenues Available for Debt Service which would have resulted if the rate increase been in effect for the entire period to the audited Net Revenues Available for Debt Service; or
 - b. The estimated average annual Net Revenues Available for Debt Service for the two Fiscal Years immediately following the Fiscal Year in which the improvements to the System being financed by the additional bonds are to be in commercial operation, as certified by the Consultant, is at least 110 percent of the average annual debt service on the System Revenue Bonds, including the additional bonds to be issued, to be paid out of the Net Revenues Available for Debt Service in succeeding Fiscal Years following the commencement of commercial operation of the improvements. Interest to be paid on any SRF Program Bonds may be reduced by the SRF Subsidy, if any. In determining the amount of estimated Net Revenues Available for Debt Service for the purpose of this subsection, the Consultant may adjust the estimated net income and revenues by adding the estimated increase in Net Revenues Available for Debt Service resulting from any increase in rates for the use and services of the System approved by the City.

Additional revenue bonds or other obligations of the City issued under the conditions set forth in this Section shall stand on a parity with the Bonds and shall enjoy complete equality of lien on and claim against the net revenues of the System with the Bonds, and the City may make equal provision for paying said bonds and the interest thereon out of the revenue Fund and may likewise provide for the creation of reasonable system debt service funds and system debt reserve funds for the payment of such additional bonds and the interest thereon out of moneys in the Revenue Fund.

Debt service coverage for existing and proposed bonds is shown in Table 11. Annual coverage must meet or exceed 110 percent and ranges from a high of 200 percent in 2013 to low of 113 percent in 2014. The future additional bonds test minimum coverage of 110 percent is met every year, ranging from 125 percent to 141 percent.

The City needs to closely monitor both the annual debt service coverage and the additional bonds test as part of the annual budgeting process. Projected rate adjustments may need to be modified to assure that the City will meet the bond ordinance requirements.

Table 11 Debt Service Coverage Tests

Fiscal Years Ending June 30

Line No.	Description	2012	2013	2014	2015	2016
		\$	\$	\$	\$	\$
ANNUAL COVERAGE						
1	Total Operating Fund Revenues (a)	18,695,400	20,997,800	23,637,300	26,617,800	28,968,000
2	O&M Expense and Transfers	(8,998,900)	(9,709,400)	(10,098,000)	(10,505,000)	(10,931,500)
3	Routine Capital	(906,700)	(933,900)	(961,900)	(990,800)	(1,020,500)
4	Net Operating Revenue	8,789,800	10,354,500	12,577,400	15,122,000	17,016,000
Debt Service (b)						
5	Existing Bonds	3,625,000	3,371,100	3,373,500	3,374,400	2,526,400
6	Proposed Bonds	1,115,600	1,906,200	7,808,400	7,722,500	11,429,600
7	EIERA Subsidy (c)	(122,700)	(98,900)	(74,500)	(49,200)	(22,100)
8	Net Debt Service	4,617,900	5,178,400	11,107,400	11,047,700	13,933,900
9	Annual Coverage = Line 4 / Line 7 (d)	190%	200%	113%	137%	122%
ADDITIONAL BONDS TEST - FUTURE						
10	Average Net Revenues Available for Debt Service (e)	11,465,950	13,849,700	16,069,000	n/a	n/a
11	Average Annual Debt Service (e)	8,142,900	11,077,550	12,490,800		
12	Future Coverage = Line 9 / Line 10 (f)	141%	125%	129%		

(a) Includes interest on Capital Fund

(b) Represents payments to bondholders.

(c) EIERA Admin Fee less Interest on EIERA Reserve Fund

(d) Requires 1.10 times coverage.

(e) Calculated as average of two years following test year.

(f) Requires 1.10 times coverage.

6 Cost of Service Analysis

The cost of service phase of the study consists of three steps: (1) the determination of the cost of service to be recovered from charges for wastewater service, (2) the allocation of cost of service to functional cost components which recognize the system characteristics, and (3) the distribution of functionalized cost of service components to customer classes.

Revenue requirements to be derived from charges for wastewater service are synonymous with the total cost of service. As a basis for developing an equitable rate structure, these costs are allocable to the various customer classifications according to respective service requirements. Allocations of revenue requirements to customer classes should take into account the quantity of wastewater discharged, the number of customers, the quantity of pollutant loadings, and relative responsibility for infiltration/inflow into the wastewater system.

6.1 COST OF SERVICE TO BE ALLOCATED

The costs of service to be recovered from wastewater service revenue consist of the elements of operation and maintenance expense and capital costs, as shown in Table 12. Operation and maintenance expense includes costs directly related to the collection and treatment of wastewater, including administrative functions and maintenance of system facilities. Capital related costs include projected debt service payments on existing and proposed bonds, normal annual capital improvements, and major capital improvements financed from revenues. The projected revenue requirement for the Wastewater Utility for FY 2012 totals \$19,217,800 (Line 5). Revenue requirements that are met from sources other than wastewater revenue such as miscellaneous revenues and interest income on Operating, Capital, and Bond Reserve Funds are deducted from total revenue requirements on Lines 6 through 8. The projected decrease in the City's Operating Fund is \$522,400 as shown on Line 10. The resulting cost of service for FY 2011 totals \$17,908,600.

Table 12 Development of Total Cost of Service

For the Fiscal Year 2012

Line No.		
	Revenue Requirements	
1	Operation and Maintenance Expense	8,998,900
2	Debt Service	4,617,900
3	Routine Capital Outlay	906,700
4	Transfer to (from) Capital Fund	<u>4,694,300</u>
5	Total Revenue Requirements	\$19,217,800
	Adjustments to Revenue Requirements	
6	Miscellaneous Revenues	605,000
7	Interest Income - Operating and Capital Funds	141,000
8	Interest Income - Bond Reserve Fund	<u>40,800</u>
9	Subtotal	\$18,431,000
10	Increase (Decrease) in Fund Balances	<u>(522,400)</u>
11	Total FY 2012 Cost of Service	\$17,908,600

6.2 FUNCTIONAL COST COMPONENTS

The cost of wastewater service is analyzed by system function to properly allocate the costs to various classes of customers. Costs of service are separated into applicable functional cost components. The cost components are Volume, Biochemical Oxygen Demand (BOD), and Suspended Solids (SS) for both primary and secondary treatment, SSJISD Pump Station, and Billing.

Volume costs are those costs, which vary directly with the volume of wastewater flow in the system. Included in the volume component are costs associated with the collections system, primary and secondary settling basins, wastewater pumping stations, and disinfection.

BOD strength costs include those costs, which are influenced in magnitude by the BOD in the influent flow. Principal costs included in the BOD component are the operating and capital costs related to roughing filters, aeration facilities, and that portion of sludge disposal facilities required for handling and disposal of BOD related sludge.

Suspended solids strength costs consist of the treatment plant related costs that vary with the quantity of suspended solids in the influent flow. Included in this cost component are the costs of sludge pumping and disposal of sludge resulting from removal of suspended solids from the raw wastewater.

SSJISD Pump Station costs are costs associated with the SSJISD Pump Station and related facilities. The allocated cost of service applicable to SSJISD pump station is discussed in further detail in the following section. Billing costs are costs associated with billing and collection.

In addition to this study, a local limits study related to permit limits for the City's wholesale customers is currently being performed. The study is evaluating a basis for permit limits, as well as future cost allocation and rate charges for ammonia removal, phosphorous treatment, and total nitrogen removal. The results of the local limits study are not complete and are not factored into the results of this study. When the study is complete, and when the scope and cost estimates for the individual projects are final, cost-of-service based rates will be introduced for each of the treatment processes.

6.3 ALLOCATION TO COST COMPONENTS

Each element of cost is allocated to functional cost components on the basis of the parameter or parameters having significant influence on the magnitude of the element of cost. The separation of costs into functional components provides a means for distributing such costs to the various classes of customers on the basis of the respective requirements for service of each particular class. Costs are allocated directly to cost components to the extent they are identifiable. General and administrative cost elements are then allocated on the basis of the allocation of other costs to which they are most nearly related. The results of a detailed allocation of costs, which is included in this report as Appendix I, are shown in Table 13. As mentioned in the Introduction of this report, the allocation factors must be updated at least every 5 years, and were last updated in 2010. The cost allocation factors from Table 13 are applied to the 2012 total cost of service of \$17,908,600 and result in the functional cost allocations presented in Table 14.

6.3.1 SSJISD Pump Station Allocation

The allocation of capital costs to the SSJISD pump station is a combination of an allocation based on existing fixed assets and an estimated share of proposed debt for a project currently in the CIP. The allocation of existing debt service is based on the allocation factors updated in 2010 as shown in Table 13. This amounts to \$70,000 as shown on Table 14 (column 8, line 25). For proposed debt

service, the allocation is based on the proposed debt service specific to the SSJISD Wet Well rehab, as shown on line 45 of Table 7. Included in the \$1,193,400 project was another project for Rosecrans lagoons for \$250,000. This amount is subtracted from the total project cost to get a capital cost estimated for the SSJ Pump Station $\$1,193,400 - \$250,000 = \$943,400$. This value is the basis for an allocation of proposed debt using an estimated equal annual debt service payment with a term on 20 years and an average interest rate of 4.75 percent. This results in a proposed debt allocation of \$74,105, as seen on Table 14 (column 8, line 26).

Table 13 Cost Allocation Factors

Line No.	Cost Category	Total	Primary			Secondary			Pump Station	Billing	Basis of Allocation
			Volume	BOD	SS	Volume	BOD	SS			
Wastewater Treatment Plant (a)											
1	Personnel Related	100%	36%	5%	13%	7%	28%	8%	3%	Personnel- Appendix I-7.1	
	Materials & Supplies										
2	Wastewater Treatment Chemic	100%		11%	31%		36%	22%		Sludge- Appendix I-5	
3	Motor Fuel & Lubricants	100%	12%	9%	25%	2%	33%	18%	1%	Vehicles- Appendix I-7.3	
4	Other	100%	36%	5%	13%	7%	28%	8%	3%	Personnel- Appendix I-7.1	
Outside Services											
5	Gas Service	100%	36%	5%	13%	7%	28%	8%	3%	Personnel- Appendix I-7.1	
6	Electric Service	100%	66%	2%	2%	6%	20%	2%	2%	Power- Appendix I-9.1	
7	M&R Buildings/Facilities	100%	24%	15%	18%	9%	22%	10%	2%	Plant Investment- Buildings- Appendix I-6.1	
8	M&R Machinery & Equip.	101%	50%	12%	12%	5%	14%	3%	5%	Plant Investment- Equipment- Appendix I-6.2	
9	M&R Motor Vehicles	100%	12%	9%	25%	2%	33%	18%	1%	Vehicles- Appendix I-7.3	
10	Other	100%	36%	5%	13%	7%	28%	8%	3%	Personnel- Appendix I-7.1	
11	Transfer to Aviation	100%		11%	31%		36%	22%		Sludge- Appendix I-5	
12	Capital Outlay	101%	25%	15%	18%	9%	22%	10%	2%	Plant Invest.- Buildings & Equip.- Appendix I-6.3	
13	Laboratory	100%	16%	17%	17%	16%	17%	17%		Laboratory- Appendix I-8	
14	Wastewater Plant Admin.	Allocated based on Wastewater Treatment Plant and Lab less Wastewater Treatment Chemicals, Motor Fuel & Lube, Gas & Electricity - App. I-3									
15	Sewer Maintenance (b)	100%	100%							Direct	
16	Transfer to General Fund	100%	36%	5%	13%	7%	28%	8%	3%	General Fund Transfer- Appendix I-10	
17	Existing Debt Service	100%	55%	9%	11%	2%	14%	7%	2%	Debt Service- Appendix I-6.3	
18	Proposed Debt Service	100%	48%	0%	0%	41%	10%	0%	1%	Proposed Debt Service - Appendix I-6.5	
19	Transfer to Capital Fund	100%	57%	9%	11%	2%	14%	7%	0%	Non Pump Station Debt Service	

(a) Including Lift Stations

(b) Includes Street & Sewer Maintenance, Sewer Rehabilitation, Trunk Sewer Development, and District Sewer Improvements.

Table 14 Functional Cost Allocation

Line No.	Cost Category	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Fiscal Year Ended 6/30/2012	Volume	BOD	Suspended Solids	Volume	BOD	Suspended Solids	SSJISD Pump Station	Billing
		\$	\$	\$	\$	\$	\$	\$	\$	\$
Wastewater Treatment Plant (a)										
1	Personnel Related	2,219,300	798,900	111,000	288,500	155,400	621,400	177,500	66,600	-
Materials & Supplies										
2	Wastewater Treatment	265,000	-	29,100	82,200	-	95,400	58,300	-	-
3	Motor Fuel & Lubricants	80,000	9,600	7,200	20,000	1,600	26,400	14,400	800	-
4	Other	318,900	114,800	15,900	41,500	22,300	89,300	25,500	9,600	-
5	Subtotal Mat. & Supplies	663,900	124,400	52,200	143,700	23,900	211,100	98,200	10,400	-
Outside Services										
6	Gas Service	65,000	23,200	3,300	8,500	4,600	18,200	5,200	2,000	-
7	Electric Service	1,186,300	783,000	23,700	23,700	71,200	237,300	23,700	23,700	-
8	M&R Buildings/Facilities	621,000	149,000	93,200	111,800	55,900	136,600	62,100	12,400	-
9	M&R Machinery & Equip.	12,500	6,100	1,500	1,500	600	1,800	400	600	-
10	M&R Motor Vehicles	28,700	3,300	2,600	7,200	600	9,500	5,200	300	-
11	Other	82,500	29,700	4,100	10,700	5,800	23,100	6,600	2,500	-
12	Subtotal	1,996,000	994,300	128,400	163,400	138,700	426,500	103,200	41,500	-
13	Transfer to Aviation (b)	48,300	-	5,300	15,000	-	17,400	10,600	-	-
14	Capital Outlay	906,700	217,600	136,000	163,200	81,600	199,500	90,700	18,100	-
15	Total Wastewater Treatment	5,834,200	2,135,200	432,900	773,800	399,600	1,475,900	480,200	136,600	-
16	Laboratory	544,400	87,300	92,500	92,500	87,100	92,500	92,500	-	-
17	Subtotal	6,378,600	2,222,500	525,400	866,300	486,700	1,568,400	572,700	136,600	-
18	Wastewater Plant Admin.	926,100	201,000	66,000	104,500	58,500	170,100	67,300	15,700	243,000
19	Sewer Maintenance	1,702,800	1,702,800	-	-	-	-	-	-	-
20	Transfer to General	898,200	323,300	44,900	116,800	62,900	251,500	71,900	26,900	-
21	Subtotal	3,527,100	2,227,100	110,900	221,300	121,400	421,600	139,200	42,600	243,000
22	Total Op, Maint, & Replace	9,905,700	4,449,600	636,300	1,087,600	608,100	1,990,000	711,900	179,200	243,000
23	Less: Adjustments (c)	605,000	271,900	38,900	66,400	37,100	121,500	43,500	10,900	14,800
24	Net Op, Maint, & Replace	9,300,700	4,177,700	597,400	1,021,200	571,000	1,868,500	668,400	168,300	228,200
25	Existing Debt Service	3,502,300	1,956,400	308,900	377,600	68,600	480,500	240,300	70,000	-
26	Proposed Debt Service	1,115,600	472,495	-	-	457,400	111,600	-	74,105	-
27	Total Debt Service	4,617,900	2,428,895	308,900	377,600	526,000	592,100	240,300	144,105	-
28	Less: Adjustments (d)	704,300	393,500	62,100	75,900	13,800	96,600	48,300	14,100	-
29	Net Debt Service	3,913,600	2,035,395	246,800	301,700	512,200	495,500	192,000	130,005	-
30	Transfer to Capital Fund	4,694,300	2,675,700	422,500	516,400	93,900	657,200	328,600	-	-
31	Total Capital	8,607,900	4,711,095	669,300	818,100	606,100	1,152,700	520,600	130,005	-
32	Total Revenue Requirement	17,908,600	8,888,795	1,266,700	1,839,300	1,177,100	3,021,200	1,189,000	298,305	228,200
33	WWTP and Lab less WWT Chemicals, Motor Fuel & Lube, Gas, and Electricity.	4,782,300	1,406,700	462,100	731,900	409,300	1,191,100	471,100	110,100	-

(a) Including Lift Stations.

(b) Includes cost related to sludge disposal at City airport.

(c) Less miscellaneous revenue.

(d) Less Interest income on op. fund, capital fund, and EIARA revenue; plus the decrease in fund balance, EIARA admin. Fee.

6.4 DISTRIBUTION OF COSTS TO CUSTOMER CLASSES

The total cost responsibility of customer classes is determined by the allocation of the costs of service for each cost component to customers based on the respective units of service of each class. Each class is assigned its proportionate share of the costs by function using projected units of service.

6.4.1 Customer Classification

For purposes of cost of service analysis and rate design, wastewater customers are classified to reflect groups of customers with similar service requirements. The classifications used by the City for record keeping purposes are satisfactory for this purpose. The customer classifications include residential, commercial, SSJISD, National Beef Leathers, and Triumph Foods. Costs are also allocated to BOD and suspended solids surcharges for commercial customers with wastewater strength that exceeds 300 mg/l for BOD and 350 mg/l for suspended solids.

6.4.2 Units of Service

Volume related costs vary with, and are allocated on, the basis of the volume of billable wastewater volume and infiltration and inflow conveyed by the wastewater system. Strength costs are related to the function of reducing BOD and suspended solids concentrations and are allocated to customer classes in proportion to the respective strength loadings. Billing costs are related to the number of bills sent to customers.

The estimated 2012 service requirements or units of service for the various customer classes are shown in Table 15. Estimates of annual billable wastewater volume and number of bills are based on the projection of the number of Wastewater Utility customers and their estimated billable wastewater volume. Contributed wastewater volume shown for the residential class is based upon the average water usage billed during the winter period that serves as the basis for assessing charges.

Infiltration/inflow includes flow entering the wastewater system from groundwater infiltration through wastewater service pipe and main joints and inflow from manhole covers and the combined wastewater system. Infiltration/inflow is estimated to total approximately 66 percent of the total wastewater flow reaching the primary treatment plant on an annual basis.

Each customer class, with the exception of the secondary wholesale customers whose flows are measured at the treatment plant, should bear its proportionate share of the costs associated with infiltration/inflow. 60 percent of infiltration/inflow is allocated to customer classes in proportion to the number of individual customers and 40 percent is allocated in proportion to customer class contributed volume. Table 15 shows the results of the allocations.

The BOD and suspended solids responsibility of each retail customer class is based on the estimated average strength concentrations and contributed wastewater volume for each class. The average strength for contributed wastewater flow is estimated to be 120 mg/l for BOD and 220 mg/l for suspended solids. Infiltration/inflow is estimated to have a BOD strength of 90 mg/l and a suspended solids strength of 175 mg/l.

The estimates of suspended solids and BOD strengths in excess of normal limits are assigned to the surcharge customer classification, and are shown separately in Table 15. The estimates are based on extra strength data maintained by the Wastewater Utility and utilized for current average billings.

Estimates of the strength related loadings on the secondary treatment plant are based on the strength of the effluent from the primary treatment plant and the strength of the flows from the secondary wholesale customers.

In an effort to mitigate the impact of the decrease in loadings at the secondary plant primarily due to the closing of the Monfort Plant in November 1993, a Secondary Service Minimum class was added to the cost allocation procedures by means of contracts between the City and SSJISD. Contract provisions provide that wholesale rates shall be established using a minimum flow of 1,725,000 hundred cubic feet of flow, 6,800,000 pounds of BOD, and 3,250,000 pounds of suspended solids. The units shown on Line 8 of Table 15 are the units needed to meet the minimum requirement. By City policy, the costs associated with the Secondary Service Minimum class are recovered in the retail volume charge; therefore lessening the impact to the wholesale customers.

Table 15 Retail and Wholesale Units of Service

Line No.	Contributed Volume Ccf	Infiltration/ Inflow Ccf	Total Flow Ccf	Primary Treatment						Secondary Treatment		Retail Customers	Retail Bills	
				BOD			Suspended Solids			BOD pounds	Suspended Solids pounds			
				Contributed pounds	Infiltration/ pounds	Total pounds	Contributed pounds	Infiltration/ pounds	Total pounds					
Primary and Secondary Service														
1	Residential	1,624,000	4,706,000	6,330,000	1,216,100	2,642,900	3,859,000	2,229,400	5,139,000	7,368,400	2,508,400	2,210,500	24,299	291,588
2	Commercial/Industrial	1,586,500	1,623,500	3,210,000	1,188,000	911,800	2,099,800	2,177,900	1,772,900	3,950,800	1,364,900	1,185,200	2,642	31,704
3	Surcharge				1,672,200		1,672,200	101,300		101,300	1,086,900	30,400		
4	Subtotal	3,210,500	6,329,500	9,540,000	4,076,300	3,554,700	7,631,000	4,508,600	6,911,900	11,420,500	4,960,200	3,426,100	26,941	323,292
Secondary Service														
5	SSJISD			805,100							2,071,600	921,900		
6	National Beef Leathers			205,100							69,600	118,000		
7	Triumph Foods			1,169,700							1,170,700	435,000		
8	Secondary Service Minimum (a)			0							3,488,100	1,775,100		
9	Subtotal	0	0	2,179,900			0	0	0	0	6,800,000	3,250,000	0	0
10	Total	3,210,500	6,329,500	11,719,900			7,631,000	4,508,600	6,911,900	11,420,500	11,760,200	6,676,100	26,941	323,292

(a) Per agreements with SSJISD, the total flow, BOD loading, and suspended solids loading for Secondary Service for cost allocation purposed is to be at least 1,725,000 Ccf, 6,800,000 pounds of BOD, and 3,250,000 pounds of Suspended Solids.

6.4.3 Customer Class Costs of Service

Costs of service are allocated to the customer classes by application of unit costs of service to respective service requirements. The unit costs are developed by dividing the total cost allocated to each functional cost component by the total applicable units of service. The customer class cost of service is obtained by applying the unit costs of service to the number of units for which the customer class is responsible. Table 16 shows the development of the unit costs of service for each functional cost component, and the subsequent application of unit costs to the respective service requirements of each customer class. By City policy, the cost of service for retail customers is adjusted in Column 10 to reflect the Secondary Service Minimum class cost of service.

Table 16 Customer Class Allocated Cost of Service

For Fiscal Year Ending June 30, 2012

Line No.		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Primary			Secondary			SSJISD Pump Station	Billing	Total	Adjusted Retail Cost of Service
		Volume	BOD	Suspended Solids	Volume	BOD	Suspended Solids				
Units of Service											
Retail											
1	Residential	6,330,000	3,859,000	7,368,400	6,330,000	2,508,400	2,210,500		291,588		
2	Commercial/Industrial	3,210,000	2,099,800	3,950,800	3,210,000	1,364,900	1,185,200		31,704		
3	Surcharge		1,672,200	101,300	0	1,086,900	30,400				
Wholesale											
5	SSJISD				805,100	2,071,600	921,900	805,100			
6	National Beef Leathers				205,100	69,600	118,000				
7	Triumph Foods				1,169,700	1,170,700	435,000				
8	Secondary Service Minimum				0	3,488,100	1,775,100				
9	Total	9,540,000	7,631,000	11,420,500	11,719,900	11,760,200	6,676,100	805,100	323,292		
Functional Cost Allocations											
10	Net Operation, Maint. & Replacement - \$	4,177,700	597,400	1,021,200	571,000	1,868,500	668,400	168,300	228,200	9,300,700	
11	Net Capital - \$	4,711,095	669,300	818,100	606,100	1,152,700	520,600	130,005	0	8,607,900	
12	Total Cost of Service - \$	8,888,795	1,266,700	1,839,300	1,177,100	3,021,200	1,189,000	298,305	228,200	17,908,600	
13	Total Annual Units	9,540,000	7,631,000	11,420,500	11,719,900	11,760,200	6,676,100	805,100	323,292		
14	Op, Maint & Replace. Unit Cost (a) - \$/Unit	0.4379	0.0783	0.0894	0.0487	0.1589	0.1001	0.2090	0.7059		
15	Capital Unit Cost (a) - \$/Unit	0.4938	0.0877	0.0716	0.0517	0.0980	0.0780	0.1615	0.0000		
16	Total Unit Cost (a)- \$/Unit	0.9317	0.1660	0.1611	0.1004	0.2569	0.1781	0.3705	0.7059		
Allocated Cost of Service											
Residential											
17	Operation, Maint. & Replacement - \$	2,771,995	302,105	658,869	308,402	398,543	221,312		205,821	4,867,047	
18	Capital - \$	3,125,916	338,465	527,830	327,359	245,866	172,374		0	4,737,810	
19	Residential Subtotal - \$	5,897,911	640,570	1,186,699	635,761	644,409	393,686		205,821	9,604,857	10,218,055
Commercial/Industrial											
20	Operation, Maint. & Replacement - \$	1,405,703	164,385	353,272	156,394	216,860	118,660		22,379	2,437,653	
21	Capital - \$	1,585,180	184,169	283,013	166,007	133,783	92,421		0	2,444,573	
22	Commercial Monthly Subtotal - \$	2,990,883	348,554	636,285	322,401	350,643	211,081		22,379	4,882,226	5,481,264
Surcharge											
23	Operation, Maint. & Replacement - \$	0	130,910	9,058	0	172,690	3,044		0	315,702	
24	Capital - \$	0	146,665	7,257	0	106,535	2,371		0	262,828	
25	Surcharge Subtotal - \$	0	277,575	16,315	0	279,225	5,415		0	578,530	578,530
26	Subtotal Retail Before Secd. Ser. Min. - \$	8,888,794	1,266,699	1,839,299	958,162	1,274,277	610,182		228,200	15,065,613	16,277,849
Secondary Service Minimum (b)											
27	Operation, Maint. & Replacement - \$	0	0	0	0	554,201	177,720		0	731,921	
28	Capital - \$	0	0	0	0	341,893	138,422		0	480,315	
	Subtotal Secondary Service Minimum - \$	0	0	0	0	896,094	316,142		0	1,212,236	0
29	Subtotal Retail - \$	8,888,794	1,266,699	1,839,299	958,162	2,170,371	926,324		228,200	16,277,849	16,277,849
South St. Joseph Industrial Sewer District											
30	Operation, Maint. & Replacement - \$				39,225	329,143	92,299	168,300	0	628,967	
31	Capital - \$				41,636	203,052	71,889	130,005	0	446,582	
32	SSJISD Subtotal - \$				80,861	532,195	164,188	298,305	0	1,075,549	
National Beef Leathers											
33	Operation, Maint. & Replacement - \$				9,993	11,058	11,814	0	0	32,865	
34	Capital - \$				10,607	6,822	9,202	0	0	26,631	
35	Prime Tanning Subtotal				20,600	17,880	21,016	0	0	59,496	
Triumph Foods											
36	Operation, Maint. & Replacement - \$				56,988	186,005	43,551	0	0	286,544	
37	Capital - \$				60,492	114,749	33,921	0	0	209,162	
38	Triumph Foods Subtotal				117,480	300,754	77,472	0	0	495,706	
36	Total	8,888,794	1,266,699	1,839,299	1,177,103	3,021,200	1,189,000	298,305	228,200	17,908,600	

(a) Unit costs are dollars per one hundred cubic feet (\$/Ccf) for volume and dollars per pound (\$/lb) for both BOD and suspended solids.

(b) Per agreement with SSJISD cost allocations are based on minimum units of service from Secondary Service customers. Secondary Service Minimum is allocated costs for the units of service required to meet the minimum amount. Secondary Service Minimum allocated costs are recovered from Retail Service customers.

Projected revenue under existing rates and allocated cost of service are shown in Table 17. The indicated revenue changes required to meet costs of service are shown for each customer class. The indicated changes in retail rates range from 12.2 percent to 14.3 percent. The average indicated increase for retail customers is 12.6 percent. The indicated rate change for wholesale customers is an increase of 6.0 percent for South St. Joseph Industrial Sewer District, an increase of 5.5 percent for National Beef Leathers, and an increase of 7.0 percent for Triumph Foods. The overall adjustment indicated for wholesale customers is an increase of 6.2 percent.

Table 17 Comparison of Revenue Under Existing Rates with Allocated Cost of Service

For Fiscal Year Ending June 30, 2012

Line No.	Customer Class	Revenue Under Existing Rates \$	Allocated Cost of Service \$	Adjusted Allocated Cost of Service \$	Indicated Percent Change %
Retail					
1	Residential	9,063,400	9,604,857	10,218,055	12.7
2	Commercial/Industrial	4,885,400	4,882,226	5,481,264	12.2
3	Surcharge	506,100	578,530	578,530	14.3
4	Secondary Service Minimum		1,212,236		
5	Total Retail	14,454,900	16,277,849	16,277,849	12.6
Secondary Wholesale Treatment					
6	South St. Joseph Industrial Sewer District	1,015,100	1,075,549	1,075,549	6.0
7	National Beef Leathers	56,400	59,496	59,496	5.5
8	Triumph Foods	463,400	495,706	495,706	7.0
9	Total Secondary Wholesale	1,534,900	1,630,751	1,630,751	6.2
10	Total	15,989,800	17,908,600	17,908,600	12.0

7 Wastewater Rate Adjustments

The revenue requirements studies described in the preceding sections of this report provide a basis for the design of wastewater rates. It should be recognized, however, that these studies are the result of engineering estimates, based on historical data and, to some extent, upon judgment and experience. Detailed results should not be used as literal and exact answers, but as guides for rate adjustments. Judgment must enter into the final choice of rates, and consideration must be given to factors such as previous rate levels, existing contractual requirements, and past local practice. It has been the practice of the City to increase all retail rates by a uniform percentage so that, in total, retail customers pay their cost of service. This practice does result in some customer classes paying more than the indicated cost of service and other customer classes paying less than the cost of service.

7.1 PROPOSED WASTEWATER RATES

Table 18 presents the proposed wastewater rate schedule recommended to be fully effective July 1, 2011. The proposed rates provide for a 12.0 percent overall revenue increase once the rates are in effect.

Presented in Table 19 is a comparison of adjusted allocated cost of service with revenue under proposed rates. The proposed retail rates are projected to recover 100 percent of the cost of service and results in an average increase over existing rates of 12.6 percent (12.2 percent for Residential customers). The proposed wholesale rates are projected to recover 100 percent of the cost of service and results in an average increase over existing rates of 6.1 percent.

Table 18 Schedule of Proposed Rates

for Fiscal Year Ending June 30, 2012

RETAIL

<u>Service Charge</u>	<u>Monthly</u> \$/bill
-----------------------	---------------------------

Inside City	15.70
Outside City	36.85

<u>Volume Charge</u>	<u>Monthly</u> \$/Ccf
----------------------	--------------------------

Inside City	3.16
Outside City	7.22

<u>Surcharges</u>	<u>Inside</u> <u>City</u>	<u>Outside</u> <u>City</u>	
BOD in excess of 300 mg/l	0.321	0.477	\$/lb
Suspended solids in excess of 350 mg/l	0.239	0.567	\$/lb
Fats, Oils, & Grease in Excess of 100 mg/l	0.108	0.248	\$/lb
Sulphides in excess of 15 mg/l	0.335	0.750	\$/lb

WHOLESALE (a)

Flow charge	0.101	\$/Ccf
Pump Station (b)	0.370	\$/Ccf
BOD	0.256	\$/lb
Suspended Solids	0.178	\$/lb
Fats, Oils, & Grease	0.108	\$/lb
Sulphides	0.335	\$/lb

- (a) Applicable to the South St. Joseph Industrial Sewer District (SSJISD), National Beef Leathers, and Triumph Foods for secondary treatment service.
- (b) Applicable to SSJISD only.

Table 19 Comparison of Cost of Service With Revenue Under Proposed Rates

for Fiscal Year Ending June 30, 2011

Line No.	Customer Class	Allocated Cost of Service	Adjusted Allocated Cost of Service	Revenue Under Proposed Rates	Revenue as Percent of Adjusted Cost of Service	Revenue Inc/(Dec) Compared to Existing Rates
		\$	\$	\$	%	%
Retail						
1	Residential	9,604,857	10,218,055	10,169,600	99.5	12.2
2	Commercial/Industrial	4,882,226	5,481,264	5,546,800	101.2	13.5
3	Surcharge	578,530	578,530	565,100	97.7	11.7
4	Secondary Service Minimum	1,212,236				
5	Total Retail	16,277,849	16,277,849	16,281,500	100.0	12.6
Secondary Wholesale Treatment						
6	South St. Joseph Industrial Sewer District	1,075,549	1,075,549	1,073,600	99.8	5.8
7	National Beef Leathers	59,496	59,496	59,500	100.0	5.5
8	Triumph Foods	495,706	495,706	495,300	99.9	6.9
9	Total Secondary Wholesale Treatment	1,630,751	1,630,751	1,628,400	99.9	6.1
10	Total	17,908,600	17,908,600	17,909,900	100.0	12.0

7.2 COMPARISON OF TYPICAL CUSTOMER BILLS

A comparison of typical bills for various quantities of billable wastewater volume under the proposed schedule of wastewater rates with those under existing rates is shown in Table 20. The resulting increase in the typical bills is also indicated. The average residential user contributes approximately 6 Ccf per month. At this level, a customer's monthly bill would increase by \$3.78 to \$34.66.

Table 20 Typical Retail Sewer Bills Under Existing and Proposed Rates

Monthly Billed Sewer Volume Ccf	Inside City			Outside City		
	Existing Rates	Proposed Rates	Increase	Existing Rates	Proposed Rates	Increase
	\$	\$	%	\$	\$	%
0	14.08	15.70	11.5	33.05	36.85	11.5
2	19.68	22.02	11.9	45.85	51.29	11.9
6	30.88	34.66	12.2	71.45	80.17	12.2
10	42.08	47.30	12.4	97.05	109.05	12.4
30	98.08	110.50	12.7	225.05	253.45	12.6
50	154.08	173.70	12.7	353.05	397.85	12.7
75	224.08	252.70	12.8	513.05	578.35	12.7
100	294.08	331.70	12.8	673.05	758.85	12.7
150	434.08	489.70	12.8	993.05	1,119.85	12.8
200	574.08	647.70	12.8	1,313.05	1,480.85	12.8
500	1,414.08	1,595.70	12.8	3,233.05	3,646.85	12.8
1,000	2,814.08	3,175.70	12.9	6,433.05	7,256.85	12.8

APPENDIX I

Detailed Allocation to Cost Components

Updated for
Fiscal Year Ending
June 30, 2011

Appendix I-1.1
Summary of Revenue Requirements

Line No.	Cost Category	Fiscal Year Ended 6/30/11 \$	
	Wastewater Treatment Plant - 63633		
1	Personnel Related	2,171,800	Program 63633 Objects 1110 - 1280
	Materials & Supplies		
2	Wastewater Treatment	265,000	Program 63633 Object 1350
3	Motor Fuel & Lubricants	80,000	Program 63633 Object 1355
4	Other	324,300	Program 63633 Objects 1305 -1345, 1360, 1370 - 1460, 1468, 1470, 1485 - 1502, 1513, 1515
5	Subtotal Mat. & Supplies	669,300	
	Outside Services		
6	Gas Service	65,000	Program 63633 Object 1463
7	Electric Service	1,186,300	Program 63633 Object 1465
8	M&R Buildings/Facilities	621,000	Program 63633 Object 1475
9	M&R Machinery & Equip.	12,500	Program 63633 Object 1478
10	M&R Motor Vehicles	28,700	Program 63633 Object 1480
11	Other	82,500	Program 63633 Objects 1365, 1473, 1483, 1610 - 1730 less Line 14
12	Subtotal	1,996,000	
13	Transfer to Aviation	35,200	Program 63631 Object 1569
14	Capital Outlay	1,017,700	Capitalized Wastewater Treatment Expenditures
15	Total Wastewater Treatment	5,890,000	
16	Laboratory - 63635	511,200	Program 63635
17	Subtotal	6,401,200	
18	Wastewater Plant Admin. -63631	778,700	Program 63631 less Objects 1503 - 1512, 1520 - 1569
19	Sewer Maintenance - 64643	1,431,000	Program 64643 less Program 98988 Object 5661
20	Transfer to General	739,300	Program 63631 Object 1520
21	Subtotal	2,949,000	
22	Total Op, Maint, & Replace	9,350,200	
23	Less: Adjustments	583,800	Program 98988 Objects 4340, 5075, 5080
24	Net Op, Maint, & Replace	8,766,400	
25	Existing Debt Service	3,613,900	Required Deposits to the Debt Service Fund during the year
26	Proposed Debt Service	1,386,000	Table 10, Line 21
27	Less: Adjustments	(1,116,100)	Program 98988 Objects 5410, 5411 less increase in fund balance, and EIERA Administration Fee
28	Net Debt Service	6,116,000	
29	Transfer to Capital Fund	1,402,000	Table 10, Line 26
30	Total Capital	7,518,000	
31	Total Revenue Requirement	16,284,400	Line 24 plus Line 30

Appendix I-1.2

Operating Flow of Funds Fiscal Year Ending June 30

Line No.	Operating Fund	2011 \$
	Revenue	
1	Retail Revenue Under Existing Rates	12,268,800
2	SSJISD Revenue Under Existing Rates	917,200
3	Prime Tanning Revenue Under Existing Rates	217,300
4	Triumph Foods Revenue Under Existing Rates	515,000
5	Revenue Increase	<u>2,366,100</u>
6	Total Sewer Revenue	16,284,400
7	Miscellaneous Revenue	583,800
8	Interest Income - Operating and Capital Fund	120,000
9	Interest Income - Bond Reserve Fund	<u>90,800</u>
10	Total Operating Fund Revenues Available	17,079,000
	Revenue Requirements	
11	Operation and Maintenance Expense	8,332,400
12	Routine Capital Outlay	<u>1,017,700</u>
13	Net Revenues	7,728,900
	Debt Service	
14	Debt Service	3,613,900
15	Proposed EIERA Bond Debt Service	<u>1,386,000</u>
16	Total Debt Service	4,999,900
17	Less: Interest on EIERA Reserve Fund	(191,800)
18	EIERA Administrative Fee	<u>67,000</u>
19	Net Effective Debt Service	4,875,100
20	Transfer to (from) Capital Fund	<u>1,402,000</u>
21	Total Operating Requirements	15,627,200
22	Net Annual Balance	1,451,800
23	Beginning Operating Fund Balance	<u>2,668,200</u>
24	Net Operating Reserve Balance	4,120,000

Appendix I-2

Cost Allocation Factors

Line No.	Cost Category	Total		Primary		Secondary		Pump Station	Billing	Basis of Allocation
		Volume	SS	BOD	SS	Volume	BOD			
1	Wastewater Treatment Plant (a)	100%								
	Personnel Related	36%	12%	5%	8%	28%	8%	3%		Personnel- Appendix I-7.1
2	Materials & Supplies	100%								
	Wastewater Treatment Chemicals	12%	27%	11%	3%	39%	23%	1%		Sludge- Appendix I-5
3	Motor Fuel & Lubricants	100%	22%	9%	2%	36%	18%	3%		Vehicles- Appendix I-7.3
4	Other	36%	12%	5%	8%	28%	8%	3%		Personnel- Appendix I-7.1
	Outside Services									
5	Gas Service	100%	12%	5%	8%	28%	8%	3%		Personnel- Appendix I-7.1
6	Electric Service	100%	3%	3%	8%	25%	3%	3%		Power- Appendix I-9.1
7	M&R Buildings/Facilities	100%	18%	15%	8%	23%	10%	2%		Plant Investment- Buildings- Appendix I-6.1
8	M&R Machinery & Equip.	100%	11%	11%	6%	15%	3%	5%		Plant Investment- Equipment- Appendix I-6.2
9	M&R Motor Vehicles	100%	22%	9%	2%	36%	18%	1%		Vehicles- Appendix I-7.3
10	Other	36%	12%	5%	8%	28%	8%	3%		Personnel- Appendix I-7.1
11	Transfer to Aviation	100%	27%	11%	8%	39%	23%			Sludge- Appendix I-5
12	Capital Outlay	100%	18%	15%	8%	22%	10%	2%		Plant Invest.- Buildings & Equip.- Appendix I-6.3
13	Laboratory	100%	17%	17%	16%	17%	17%			Laboratory- Appendix I-8
14	Wastewater Plant Admin.	Allocated based on Wastewater Treatment Plant and Lab less Wastewater Treatment Chemicals, Motor Fuel & Lube, Gas & Electricity - App. I-3								
15	Sewer Maintenance (b)	100%								
16	Transfer to General Fund	36%	12%	5%	8%	28%	8%	3%		Direct General Fund Transfer- Appendix I-10
17	Existing Debt Service	100%	11%	9%	2%	15%	7%	2%		Debt Service- Appendix I-6.3
18	Proposed Debt Service	100%	0%	0%	41%	10%	0%	1%		Proposed Debt Service - Appendix I-6.5
19	Transfer to Capital Fund	54%	11%	9%	2%	15%	7%	2%		Debt Service- Appendix I-6.3

(a) Including Lift Stations

(b) Includes Street & Sewer Maintenance, Sewer Rehabilitation, Trunk Sewer Development, and District Sewer Improvements.

Appendix I-3

Functional Cost Allocation

Line No.	Cost Category	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Fiscal Year Ended 6/30/2011	Volume	BOD	Suspended Solids	Volume	BOD	Suspended Solids	SSJISD Pump Station	Billing
		\$	\$	\$	\$	\$	\$	\$	\$	\$
	Wastewater Treatment Plant (a)									
1	Personnel Related	2,171,800	781,900	108,600	260,600	173,700	608,100	173,700	65,200	-
	Materials & Supplies									
2	Wastewater Treatment	265,000	-	29,100	71,500	-	103,400	61,000	-	-
3	Motor Fuel & Lubricants	80,000	9,600	7,200	17,600	1,600	28,800	14,400	800	-
4	Other	324,300	116,900	16,200	38,900	25,900	90,800	25,900	9,700	-
5	Subtotal Mat. & Supplies	669,300	126,500	52,500	128,000	27,500	223,000	101,300	10,500	-
	Outside Services									
6	Gas Service	65,000	23,300	3,300	7,800	5,200	18,200	5,200	2,000	-
7	Electric Service	1,186,300	652,400	35,600	35,600	94,900	296,600	35,600	35,600	-
8	M&R Buildings/Facilities	621,000	149,000	93,200	111,800	49,700	142,800	62,100	12,400	-
9	M&R Machinery & Equip.	12,500	6,000	1,400	1,400	800	1,900	400	600	-
10	M&R Motor Vehicles	28,700	3,400	2,600	6,300	600	10,300	5,200	300	-
11	Other	82,500	29,700	4,100	9,900	6,600	23,100	6,600	2,500	-
12	Subtotal	1,996,000	863,800	140,200	172,800	157,800	492,900	115,100	53,400	-
13	Transfer to Aviation (b)	35,200	-	3,900	9,500	-	13,700	8,100	-	-
14	Capital Outlay	1,017,700	254,300	152,700	183,200	81,400	223,900	101,800	20,400	-
15	Total Wastewater Treatment	5,890,000	2,026,500	457,900	754,100	440,400	1,561,600	500,000	149,500	-
16	Laboratory	511,200	81,800	86,900	86,900	81,800	86,900	86,900	-	-
17	Subtotal	6,401,200	2,108,300	544,800	841,000	522,200	1,648,500	586,900	149,500	-
18	Wastewater Plant Admin.	778,700	158,100	52,200	78,700	46,700	133,500	52,300	12,300	244,900
19	Sewer Maintenance	1,431,000	1,431,000	-	-	-	-	-	-	-
20	Transfer to General	739,300	266,200	37,000	88,700	59,100	207,000	59,100	22,200	-
21	Subtotal	2,949,000	1,855,300	89,200	167,400	105,800	340,500	111,400	34,500	244,900
22	Total Op. Maint. & Replace	9,350,200	3,963,600	634,000	1,008,400	628,000	1,989,000	698,300	184,000	244,900
23	Less: Adjustments (c)	583,800	247,400	39,600	63,000	39,200	124,200	43,600	11,500	15,300
24	Net Op. Maint. & Replace	8,766,400	3,716,200	594,400	945,400	588,800	1,864,800	654,700	172,500	229,600
25	Existing Debt Service	3,613,900	1,983,400	318,700	389,600	70,800	531,200	247,900	72,300	-
26	Proposed Debt Service	1,386,000	665,200	-	-	568,300	138,600	-	13,900	-
27	Total Debt Service	4,999,900	2,648,600	318,700	389,600	639,100	669,800	247,900	86,200	-
28	Less: Adjustments (d)	(1,116,100)	(612,500)	(98,400)	(120,300)	(21,900)	(164,100)	(76,600)	(22,300)	-
29	Net Debt Service	6,116,000	3,261,100	417,100	509,900	661,000	833,900	324,500	108,500	-
30	Transfer to Capital Fund	1,402,000	757,200	126,200	154,200	28,000	210,300	98,100	28,000	-
31	Total Capital	7,518,000	4,018,300	543,300	664,100	689,000	1,044,200	422,600	136,500	-
32	Total Revenue Requirement	16,284,400	7,734,500	1,137,700	1,609,500	1,277,800	2,909,000	1,077,300	309,000	229,600
33	WWTP and Lab less WWT Chemicals, Motor Fuel & Lube, Gas, and Electricity.	4,804,900	1,423,000	469,600	708,500	420,500	1,201,500	470,700	111,100	-

(a) Including Lift Stations.

(b) Includes cost related to sludge disposal at City airport.

(c) Less miscellaneous revenue.

(d) Less Interest income on op. fund, capital fund, and EIERA revenue; plus the decrease in fund balance, EIERA admin. Fee.

Appendix I-4

**Customer Class Allocated Cost of Service
for Fiscal Year Ended June 30, 2011**

Line No.	Primary			Secondary			SSJISD Pump Station	(8) Billing	(9) Total	(10) Adjusted Retail Cost of Service
	(1) Volume	(2) BOD	(3) Suspended Solids	(4) Volume	(5) BOD	(6) Suspended Solids				
Units of Service										
Retail										
1	Residential	6,904,100	5,603,500	8,402,400	6,904,100	2,801,800	2,100,600		293,196	
2	Commercial/Industrial	3,391,900	3,571,600	4,537,300	3,391,900	1,785,800	1,134,300		32,604	
3	Surcharge		1,277,500	116,600	0	1,022,000	81,600			
Wholesale										
5	SSJISD				834,300	2,080,100	893,000	834,300		
6	National Beef Leathers				322,200	657,700	370,800			
7	Triumph Foods				1,218,700	1,334,300	976,300			
8	Secondary Service Minimum				0	2,727,900	1,009,900			
9	Total	10,296,000	10,452,600	13,056,300	12,671,200	12,409,600	6,566,500	834,300	325,800	
Functional Cost Allocations										
10	Net Operation, Maint. & Replacement - \$	3,716,200	594,400	945,400	588,800	1,864,800	654,700	172,500	229,600	8,766,400
11	Net Capital- \$	4,018,300	543,300	664,100	689,000	1,044,200	422,600	136,500	0	7,518,000
12	Total Cost of Service - \$	7,734,500	1,137,700	1,609,500	1,277,800	2,909,000	1,077,300	309,000	229,600	16,284,400
13	Total Annual Units	10,296,000	10,452,600	13,056,300	12,671,200	12,409,600	6,566,500	834,300	325,800	
14	Op, Maint & Replace. Unit Cost (a) - \$/Unit	0.3609	0.0569	0.0724	0.0465	0.1503	0.0997	0.2068	0.7047	
15	Capital Unit Cost (a) - \$/Unit	0.3903	0.0520	0.0509	0.0544	0.0841	0.0644	0.1636	0.0000	
16	Total Unit Cost (a)- \$/Unit	0.7512	0.1088	0.1233	0.1008	0.2344	0.1641	0.3704	0.7047	
Allocated Cost of Service										
Residential										
17	Operation, Maint. & Replacement - \$	2,491,939	318,650	608,413	320,818	421,029	209,436		206,623	4,576,908
18	Capital - \$	2,694,517	291,256	427,382	375,412	235,756	135,188		0	4,159,511
19	Residential Subtotal - \$	5,186,456	609,906	1,035,795	696,230	656,785	344,624		206,623	8,736,419
Commercial/Industrial										
20	Operation, Maint. & Replacement - \$	1,224,259	203,103	328,543	157,614	268,354	113,093		22,977	2,317,943
21	Capital - \$	1,323,783	185,643	230,787	184,435	150,265	73,000		0	2,147,913
22	Commercial Monthly Subtotal - \$	2,548,042	388,746	559,330	342,049	418,619	186,093		22,977	4,465,856
Surcharge										
23	Operation, Maint. & Replacement - \$	0	72,647	8,443	0	153,577	8,136		0	242,803
24	Capital - \$	0	66,401	5,931	0	85,996	5,252		0	163,580
25	Surcharge Subtotal - \$	0	139,048	14,374	0	239,573	13,388		0	406,383
26	Subtotal Retail Before Secd. Ser. Min. - \$	7,734,498	1,137,700	1,609,499	1,038,279	1,314,977	544,105		229,600	13,608,658
Secondary Service Minimum (b)										
27	Operation, Maint. & Replacement - \$	0	0	0	0	409,924	100,690		0	510,614
28	Capital - \$	0	0	0	0	229,538	64,994		0	294,532
	Subtotal Secondary Service Minimum - \$	0	0	0	0	639,462	165,684		0	805,146
29	Subtotal Retail - \$	7,734,498	1,137,700	1,609,499	1,038,279	1,954,439	709,789		229,600	14,413,804
South St. Joseph Industrial Sewer District										
30	Operation, Maint. & Replacement - \$				38,768	312,578	89,035	172,500	0	612,881
31	Capital - \$				45,365	175,029	57,471	136,500	0	414,365
32	SSJISD Subtotal - \$				84,133	487,607	146,506	309,000	0	1,027,246
National Beef Leathers										
33	Operation, Maint. & Replacement - \$				14,972	98,833	36,970	0	0	150,775
34	Capital - \$				17,520	55,342	23,864	0	0	96,726
35	Prime Tanning Subtotal				32,492	154,175	60,834	0	0	247,501
Triumph Foods										
36	Operation, Maint. & Replacement - \$				56,630	200,506	97,340	0	0	354,476
37	Capital - \$				66,267	112,274	62,832	0	0	241,373
38	Triumph Foods Subtotal				122,897	312,780	160,172	0	0	595,849
36	Total	7,734,498	1,137,700	1,609,499	1,277,801	2,909,001	1,077,301	309,000	229,600	16,284,400

(a) Unit costs are dollars per one hundred cubic feet (\$/Ccf) for volume and dollars per pound (\$/lb) for both BOD and suspended solids.

(b) Per agreement with SSJISD cost allocations are based on minimum units of service from Secondary Service customers. Secondary Service Minimum is allocated costs for the units of service required to meet the minimum amount. Secondary Service Minimum allocated costs are recovered from Retail Service customers.

Appendix I-5 Sludge Handling Cost Allocation Factors

<u>Primary Sludge</u> pounds	<u>Secondary Sludge</u> pounds	<u>Total</u> pounds
11,222,254	17,573,899	28,796,153
38%	62%	100%

	Primary			Secondary		
	<u>Volume</u>	<u>BOD</u>	<u>Suspended Solids</u>	<u>Volume</u>	<u>BOD</u>	<u>Suspended Solids</u>
Sludge Handling (a)		11%	27%		39%	23%

(a) Assume Primary Treatment related sludge is 38 percent of the total sludge processed and allocate 29 percent to Primary Treatment related BOD and 71 percent to Primary Treatment related Suspended Solids. Allocate the remaining 62 percent, 63 percent to Secondary Treatment related BOD and 37 percent to Secondary Treatment related Suspended Solids.

Appendix I-6.1
Summary of Fixed Assets
Trended Reproduction Cost Less Depreciation

	Trended Reproduction Cost Less Depreciation (1)			Percentage Allocation			
	Land	Buildings	Machinery & Equipment	Total	Buildings	Machinery & Equipment	Total
PRIMARY							
Land	189,810						
Buildings							
General		2,232,072		2,232,072	3.40%		1.77%
Filter/Anaerobic Digesters		10,666,292		10,666,292	16.24%		8.44%
Other Primary		15,492,757		15,492,757	23.59%		12.26%
Machinery/Equip.			6,266,465	6,266,465		10.32%	4.96%
Intermediate P.S.		4,505,829	1,167,697	5,673,525	6.86%	1.92%	4.49%
SECONDARY							
Land	91,344						
Blower		1,439,407	1,460,738	2,900,145	2.19%	2.41%	2.29%
Aeration		2,052,875	77,288	2,130,163	3.13%	0.13%	1.69%
Trickling Filters		3,221,644	375,618	3,597,263	4.91%	0.62%	2.85%
Secondary Clarifiers		5,308,208	1,047,731	6,355,940	8.08%	1.73%	5.03%
DAF		1,149,256	509,318	1,658,573	1.75%	0.84%	1.31%
Aerobic Digestors		12,727,715	519,373	13,247,089	19.38%	0.86%	10.48%
PUMP/LIFT STATIONS							
SSJISD Pump Stations	3,500	1,443,564	773,532	2,217,095	2.20%	1.27%	1.75%
Other	173,342	4,450,821	4,459,167	8,909,988	6.78%	7.34%	7.05%
SEWER MAINS/COLLECTION SYSTEM							
	245,936	987,884	44,056,139	45,044,023	1.50%	72.56%	35.64%
TOTAL FIXED ASSETS	<u>703,932</u>	<u>65,678,325</u>	<u>60,713,065</u>	<u>126,391,390</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>

(1) Values shown are net of known contributed property

Appendix I-6.2 Buildings Allocation Factors

	Primary			Secondary				
	Total (a)	Volume	BOD	Suspended Solids	Volume	BOD	Suspended Solids	SS/ISD Pump Station
PRIMARY								
Buildings								
General (b)	3.40%	0.19%	0.58%	1.43%	0.07%	0.75%	0.37%	
Filter/Anaerobic Digesters ©	16.24%		6.98%	9.26%				
Other Primary	23.59%	9.44%	7.08%	7.08%				
Intermediate P.S.	6.86%	6.86%						
SECONDARY								
Blower	2.19%					2.19%		
Aeration	3.13%					3.13%		
Trickling Filters	4.91%					3.08%	1.82%	
Secondary Clarifiers	8.08%				8.08%			
DAF (c)	1.75%					1.10%	0.65%	
Aerobic Digestors (c)	19.38%					12.18%	7.20%	
PUMP/LIFT STATIONS								
SS/ISD Pump Stations	2.20%							2.20%
Others	6.78%	6.78%						
WWTP & PUMP STATION BUILDINGS ALLOCA1	100%	24%	15%	18%	8%	23%	10%	2%
SEWER MAINS/COLLECTION SYSTEM	1.50%	1.50%						
TOTAL SYSTEM	100%	25%	15%	18%	8%	22%	10%	2%

(a) From Appendix I-6.1

(b) Includes Administrative Buildings

(b) Allocation is 43 percent to BOD and 57 percent to suspended solids, Appendix I-5

(c) Allocation is 63 percent to BOD and 37 percent to suspended solids, Appendix I-5

Appendix I-6.3 Equipment & Machinery Allocation Factors

	Primary			Secondary				
	<u>Total (a)</u>	<u>Volume</u>	<u>BOD</u>	<u>Suspended Solids</u>	<u>Volume</u>	<u>BOD</u>	<u>Suspended Solids</u>	<u>SSJISD Pump Station</u>
PRIMARY								
Machinery & Equipment (b)	10.32%	4.13%	3.10%	3.10%				
Intermediate P.S.	1.92%	1.92%						
SECONDARY								
Blower	2.41%					2.41%		
Aeration	0.13%					0.13%		
Trickling Filters	0.62%					0.39%	0.23%	
Secondary Clarifiers	1.73%				1.73%			
DAF (c)	0.84%					0.53%	0.31%	
Aerobic Digestors (c)	0.86%					0.54%	0.32%	
PUMP/LIFT STATIONS								
SSJISD Pump Stations	1.27%							1.27%
Others	7.34%	7.34%						
WWTP & PUMP STATION ALLOCATOR		49%	11%	11%	6%	15%	3%	5%
SEWER MAINS/COLLECTION SYSTEM	72.56%	72.56%						
TOTAL SYSTEM	100%	86%	3%	3%	2%	4%	1%	1%

(a) From Appendix I-6.1

(b) Allocation based on Control Building Allocation Factors, Appendix I-6.5

(c) Allocation is 63 percent to BOD and 37 percent to suspended solids, Appendix I-5

Appendix I-6.4
Total Fixed Assets and Existing Debt Service
Allocation Factors

	Primary			Secondary				
	Total (a)	Volume	BOD	Suspended Solids	Volume	BOD	Suspended Solids	SSJISD Pump Station
PRIMARY								
Buildings								
General	1.77%	0.10%	0.30%	0.74%	0.04%	0.39%	0.19%	
Anaerobic Digesters	8.44%		3.63%	4.81%				
Other Primary	12.26%	4.90%	3.68%	3.68%				
Machinery/Equip.	4.96%	1.98%	1.49%	1.49%				
Intermediate P.S.	4.49%	4.49%						
SECONDARY								
Blower	2.29%					2.29%		
Aeration	1.69%					1.69%		
Trickling Filters (c)	2.85%					1.79%	1.06%	
Secondary Clarifiers	5.03%				2.01%	1.51%	1.51%	
DAF (c)	1.31%					0.82%	0.49%	
Aerobic Digestors (c)	10.48%					6.59%	3.89%	
PUMP/LIFT STATIONS								1.75%
SSJISD Pump Stations	1.75%							
Others	7.05%	7.05%						
SEWER MAINS/COLLECTION SYSTEM								
	35.64%	35.64%						
TOTAL	100.00%	54.16%	9.09%	10.72%	2.05%	15.08%	7.14%	1.75%
CAPITAL & DEBT (Rounded)	100%	54%	9%	11%	2%	15%	7%	2%

(a) From Appendix I-6.1

(b) Allocation based on Control Building Allocation Factors, Appendix I-6.5

(c) Allocation is 63 percent to BOD and 37 percent to suspended solids, Appendix I-5

Appendix I-6.5 Proposed Debt Allocation Factors

	Primary		Secondary		Allocation Basis			
	Volume	BOD	Suspended Solids	Volume		BOD	Suspended Solids	SS/ISD Pump Station
Environmental/Regulatory Projects	51.5%			41.2%	10.3%			80% Sec Volume / 20% Sec BOD
CMOM Projects	0.0%	0.0%						100% Primary Volume
CSO LTCP Projects	23.5%	23.5%						100% Primary Volume
System Expansion Projects	1.9%	1.9%						100% Primary Volume
Collection System Capital Projects	22.0%	21.0%					1.0%	96% Primary Volume / 4% SSJ PS
WWTP Capital Projects	1.1%	0.6%	0.1%	0.1%	0.2%	0.0%	0.1%	WWTP Mach/Equip - Appendix I 6-3
TOTAL (ROUNDED)	100%	48%	0%	41%	10%	0%	1%	

Appendix I-6.6
Control Building Allocation Factors

	Total	Primary			Secondary			
		Volume	BOD	Suspended Solids	Volume	BOD	Suspended Solids	SS/SD Pump Station
Control Building Allocation Factor								
General (a)	20.00%	5.60%	1.20%	2.80%	2.00%	6.60%	1.80%	0.00%
Anaerobic Digesters	40.00%		11.46%	28.54%				
Filter Presses (b)	40.00%		4.40%	10.80%		15.60%	9.20%	
	100.00%	5.60%	17.06%	42.14%	2.00%	22.20%	11.00%	0.00%

(a) Allocate based on Personnel Allocation Factors, Appendix I-7.1

(b) Allocate based on Sludge Allocation Factors, Appendix I-5

Appendix I-6.6
Determination of Trended Reproduction Cost Less Depreciation

Location	Function	Asset Description	Code	Original Cost	Accumulated Depreciation	Year in Service	Trend Factor	Trended Cost	Trended Cost Less Depr
				\$	\$			\$	\$
LAND									
LAND	Primary	102 INTERCEPTOR	LD	26,262	0	1976	1.000	26,262	26,262
LAND	Primary	LAND EASEMENTS	LD	2,521	0	1967	1.000	2,521	2,521
LAND	Primary	OUTFALL LINE	LD	18,300	0	1976	1.000	18,300	18,300
LAND	Primary	R-3 INTERCEPTOR MISC EXP	LD	16,174	0	1967	1.000	16,174	16,174
LAND	Primary	TREATMENT PLANT LAND	LD	126,553	0	1967	1.000	126,553	126,553
LAND	Pump Station	BROWN'S BRANCH PUMP STATION	LD	8,339	0	1967	1.000	8,339	8,339
LAND	Pump Station	FARAON PUMP STATION LAND	LD	90,594	0	1969	1.000	90,594	90,594
LAND	Pump Station	R2-1 WHITEHEAD PUMP STATION	LD	57,836	0	1967	1.000	57,836	57,836
LAND	Pump Station	WHITEHEAD PUMP STATION LAND	LD	12,565	0	1967	1.000	12,565	12,565
LAND	Secondary	SECONDARY PLANT	LD	91,344	0	1967	1.000	91,344	91,344
LAND	Sewer	BLACKSNAKE PUMP STATION LAND	LD	2,048	0	1967	1.000	2,048	2,048
LAND	Sewer	CARNATION EASEMENT	LD	2,928	0	1976	1.000	2,928	2,928
LAND	Sewer	COUNTRY SQUIRE	LD	2,100	0	1984	1.000	2,100	2,100
LAND	Sewer	D#217 GF LAND PARCEL	LD	2,550	0	1967	1.000	2,550	2,550
LAND	Pump Station	EASTON RD LIFT STATION LAND	LD	1,000	0	1984	1.000	1,000	1,000
LAND	Sewer	G1-1 PICKETT-MITCHELL	LD	1,667	0	1967	1.000	1,667	1,667
LAND	Sewer	G7-1 6TH STREET	LD	1,421	0	1967	1.000	1,421	1,421
LAND	Sewer	G7-2 KING HILL EXTENSION	LD	1,029	0	1967	1.000	1,029	1,029
LAND	Sewer	LAND EASEMENT SEWER DIST #317	LD	2,000	0	1987	1.000	2,000	2,000
LAND	Sewer	LAND EASEMENT SEWER NORTHBRIDGE	LD	1,650	0	1987	1.000	1,650	1,650
LAND	Sewer	LAND EASEMENTS	LD	9,390	0	1987	1.000	9,390	9,390
LAND	Sewer	R2-2 WHITEHEAD FORCE MAIN	LD	1,295	0	1967	1.000	1,295	1,295
LAND	Pump Station	ROY'S BRANCH PUMP STATION LAND	LD	3,008	0	1967	1.000	3,008	3,008
LAND	Sewer	SD#262 GF LAND PARCEL	LD	1,000	0	1986	1.000	1,000	1,000
SSJ	SSJ	SOUTH ST JOSEPH PUMP STATION	LD	3,500	0	1978	1.000	3,500	3,500
WPC	Sewer	4316 STOCKYARDS EXPRESSWAY	LD	41,220	0	2006	1.000	41,220	41,220
WPC	Sewer	UP Railroad Land Purch-Blcksnk	LD	175,638	0	2009	1.000	175,638	175,638
		TOTAL LAND		703,932				703,932	703,932
BUILDINGS AND IMPROVEMENTS									
OLDCONTROL	Digester	FILTER BLDG ROOF REPLACEMENT	BD	27,321	16,848	1991	2.008	54,849	38,001
OLDCONTROL	Digester	FILTER CTRL BLDG W/ DIGESTERS	BD	4,179,844	2,549,706	1979	3.136	13,108,387	10,558,680
OLDCONTROL	Digester	ROOF REPLACEMENT WASTEWTR PLANT	BD	37,160	13,006	1999	1.606	59,681	46,675
OLDCONTROL	Digester	STAIRS AND 2 RAILINGS	BD	17,662	7,359	1996	1.715	30,294	22,935
NEWCONTROL	General	ADMIN BLDG CIP 420-060	BD	1,615,268	673,029	1997	1.677	2,709,152	2,036,123
WPC	General	MAIN OFFICE ROOF REPLACEMENT	BD	16,306	16,306	1995	1.755	28,616	12,310
WPC	General	MANHOLE REHAB PROJECT	IM	148,900	141,455	2000	1.563	232,793	91,338
WPC	General	REPLACE STAINLESS AIR FILTER	IM	45,200	45,200	2004	1.328	60,040	14,840
WPC	General	ROOF REPLACEMENT	BD	23,941	13,168	2003	1.359	32,535	19,368
WPC	General	SECURITY GATE SYSTEM	IM	41,703	4,865	2006	1.178	49,117	44,252
WPC	General	WPC FACILITY FENCES	IM	10,940	4,923	1996	1.715	18,764	13,841
INTERMED	Intermediate PS	INTERMEDIATE PUMP STATION	BD	1,554,740	948,390	1979	3.136	4,875,812	3,927,422
INTERMED	Intermediate PS	INTERMEDIATE PUMPING ST IMPROV	BD	457,163	205,724	1996	1.715	784,131	578,407
CHEMICAL	Primary	C P CLARIFIER WITH CONTROL	BD	393,689	240,151	1979	3.136	1,234,647	994,496
CLARIFIERS	Primary	PRIMARY CLARIFIER #2	BD	271,220	165,443	1979	3.136	850,572	685,129
CLARIFIERS	Primary	PRIMARY CLARIFIER #3	BD	271,220	165,443	1979	3.136	850,572	685,129
CLARIFIERS	Primary	PRIMARY CLARIFIER #4	BD	271,220	165,443	1979	3.136	850,572	685,129
GRITBASIN	Primary	AERATED GRIT BASIN EAST & WEST	BD	130,368	116,028	1965	9.464	1,233,840	1,117,812
RAWPUMP	Primary	MAG METER 7 PLC INSTALLATIONS	BD	26,708	12,909	1995	1.755	46,871	33,962
RAWPUMP	Primary	RAW SLUDGE PUMP HOUSE #1	BD	57,682	35,187	1979	3.136	180,896	145,709
RAWPUMP	Primary	RAW SLUDGE PUMP HOUSE #2	BD	57,682	35,187	1979	3.136	180,896	145,709
RETURNPUMP	Primary	RETURN #1 ONE STORY BLDG	BD	284,208	173,367	1979	3.136	891,303	717,936
RETURNPUMP	Primary	RETURN #2 ONE STORY BLDG	BD	284,208	173,367	1979	3.136	891,303	717,936
TRANSFER	Primary	TRANSFER PUMP/UTILITY WATER	BD	233,249	142,283	1979	3.136	731,492	589,209
WPC	Primary	INTERCEPTOR CLEANING & REHAB	IM	616,327	277,347	1996	1.715	1,057,131	779,784
WPC	Primary	LOT OF LAND IMPROVEMENTS	IM	195,000	195,000	1979	3.136	611,538	416,538
WPC	Primary	MISC TRTMT PLANT IMPRV 420026	BD	3,828,936	1,595,390	1997	1.677	6,421,949	4,826,559
AIRPORT	Pump Station	AIRPORT LIFT STATION FLOOD REP	BD	26,561	13,723	1994	1.847	49,050	35,327
AIRPORT	Pump Station	DRAINAGE PUMP STATION FLOOD RP	BD	18,008	9,304	1994	1.847	33,255	23,952
AIRPORT	Pump Station	PUMP STATION WIRING 420-137	IM	263,340	263,340	1998	1.661	437,525	174,184
BROWN	Pump Station	BROWN'S BRANCH PUMP ST IMPROVEM	BD	138,961	62,532	1996	1.715	238,347	175,815
BROWN	Pump Station	BROWN'S BRANCH PUMPING STATION	BD	76,080	76,080	1968	8.281	630,038	553,958
BROWN	Pump Station	INSULATED ROLL UP OVRHEAD DOOR	BD	2,980	1,739	1992	2.015	6,005	4,267
BROWN	Pump Station	ROOF REPLACEMENT BROWN'S BRNCH	BD	14,077	4,927	1999	1.606	22,609	17,682
EASTON	Pump Station	EASTON GENERATOR SHED WET WELL	BD	33,494	33,494	1979	3.136	105,040	71,546
EASTON	Pump Station	EASTON RD LIFT STATION 6294FS	BD	68,760	41,944	1979	3.136	215,638	173,694
FARAON	Pump Station	FARAON STREET PUMP STATION	BD	485,293	485,293	1979	3.136	1,521,924	1,036,631
FARAON	Pump Station	ROOF REPLACE - FARAON PUMP STA	BD	39,420	37,449	2000	1.563	61,630	24,181
FARAON	Pump Station	STORAGE SHED	BD	4,660	4,660	1979	3.136	14,615	9,955
STATIONS	Pump Station	CAMBRIDGE LIFT STATION	BD	23,200	15,081	1977	3.759	87,206	72,124
STATIONS	Pump Station	GENERATOR FLOOD REPLACEMENT	BD	26,452	13,667	1993	1.927	50,980	37,313
STATIONS	Pump Station	LIFT STATION 16 AIRPRT 15-1578	BD	22,000	22,000	1987	2.208	48,583	26,583
STATIONS	Pump Station	LIFT STATION WHEATRIDGE	BD	13,000	4,291	1993	1.927	25,055	20,764
STATIONS	Pump Station	OLD 12 OAKS Lift Station-should be deleted	BD	13,000	4,291	1993	1.927	25,055	20,764
STATIONS	Pump Station	PHILLIPS & SHERMAN LIFT STATIO	BD	19,520	13,858	1974	4.530	88,424	74,566
STATIONS	Pump Station	ROY'S BRANCH LIFT STATION	BD	16,120	12,092	1972	5.761	92,865	80,774
STATIONS	Pump Station	SHERWOOD LIFT STATION	BD	20,880	14,407	1975	4.109	85,786	71,379
STATIONS	Pump Station	ZIMMERMAN LIFT STATION	BD	12,280	10,440	1967	8.689	106,695	96,255
WHITEHEAD	Pump Station	C/O ASPHALT PAVING AND FENCING	IM	6,282	6,282	1965	9.464	59,457	53,174
WHITEHEAD	Pump Station	INSTALL 3 FREQUENCY DRIVES	IM	61,854	21,649	1999	1.606	99,341	77,692
WHITEHEAD	Pump Station	INSULATED ROLL UP OVRHEAD DOOR	BD	4,165	2,430	1992	2.015	8,393	5,964
WHITEHEAD	Pump Station	Magnetic Flow Meter	IM	19,745	3,620	2003	1.359	26,833	23,213
WHITEHEAD	Pump Station	ROOF REPLACE-WHITEHEAD	BD	42,350	40,233	2000	1.563	66,211	25,978
WHITEHEAD	Pump Station	WHITEHEAD PUMPING STATION	BD	172,854	172,854	1965	9.464	1,635,940	1,463,086
BLOWER	Secondary	AEROBIC DIGESTER	BD	2,289,326	1,396,488	1979	3.136	7,179,543	5,783,055
BLOWER	Secondary	BLOWER BUILDING	BD	517,152	315,463	1979	3.136	1,621,836	1,306,374
BLOWER	Secondary	ELECTRICAL IMPROVEMENTS	BD	65,497	38,207	1991	2.008	131,489	93,282
BLOWER	Secondary	WPC ROOF REPAIR/REPLACEMENT	BD	27,761	16,193	1992	2.015	55,944	39,751
BLUESIDE	Secondary	AEROBIC ACTIVATED SLUDGE SYSTE	BD	1,723,974	1,120,584	1990	2.046	3,527,824	2,407,240
CLARIFIERS	Secondary	REPAIRS TO SEC CLARIFIER #3	IM	144,523	18,788	2002	1.425	205,906	187,119
CLARIFIERS	Secondary	SECONDARY CLARIFIER #2	BD	675,758	412,211	1979	3.136	2,119,241	1,707,030
CLARIFIERS	Secondary	SECONDARY CLARIFIER #3	BD	675,758	412,211	1979	3.136	2,119,241	1,707,030
CLARIFIERS	Secondary	SECONDARY CLARIFIER #4	BD	675,758	412,211	1979	3.136	2,119,241	1,707,030

Appendix I-6.6
Determination of Trended Reproduction Cost Less Depreciation

Location	Function	Asset Description	Code	Original Cost	Accumulated Depreciation	Year in Service	Trend Factor	Trended Cost	Trended Cost Less Depr
				\$	\$			\$	\$
FLOTATION	Secondary	DISSOLVED AIR FLOTATION	BD	524,028	524,028	1979	3.136	1,643,400	1,119,373
FLOTATION	Secondary	OVERHEAD HOISTING RAIL	BD	23,500	11,359	1995	1.755	41,242	29,883
INTERMED	Secondary	TRICKLING FILTER #2	BD	786,658	353,996	1996	1.715	1,349,284	995,288
INTERMED	Secondary	TRICKLING FILTER #3	BD	968,100	467,916	1995	1.755	1,698,984	1,231,068
INTERMED	Secondary	TRICKLING FILTER #4	BD	786,658	353,996	1996	1.715	1,349,284	995,288
WPC	Secondary	AERATION TANK RETURN	BD	812,667	495,725	1979	3.136	2,548,600	2,052,875
WPC	Secondary	AEROBIC DIGESTER IMPROVEMENTS	BD	906,506	377,711	1996	1.715	1,554,849	1,177,138
WPC	Secondary	DIGESTER #1&2 REHAB (R-28)	IM	1,765,081	735,450	1997	1.677	2,960,421	2,224,971
WPC	Secondary	DIGESTER REHAB	IM	1,075,810	53,790	2008	1.062	1,142,644	1,088,854
WPC	Secondary	DIGESTER REHABS 1,2,3,4	BD	36,719	16,524	1996	1.715	62,981	46,457
SSJ	SSJ	INVERTER REPLACEMENT	IM	583,629	48,636	2006	1.178	687,385	638,750
SSJ	SSJ	ROOF REPLACEMENT STJOE PLANT	BD	14,774	5,171	1999	1.606	23,728	18,557
SSJ	SSJ	SOUTH ST JOE INDUSTRIAL PUMP	BD	118,472	118,472	1978	3.419	405,098	286,626
SSJ	SSJ	TREATMENT PLANT INVERTER REPLA	IM	603,581	211,253	2006	1.178	710,884	499,631
INFRAS	Sewer	Block St. Drainage Improvments	IM	144,009	2,400	2009	1.000	144,009	141,609
SEWAGE	Primary	FLOWERVE CENTRIFICAL PUMP	IM	45,270	8,300	2004	1.328	60,133	51,833
SEWAGE	Primary	MAG METER & PLC INSTALLATION	BD	26,708	12,909	1995	1.755	46,871	33,962
SEWAGE	Primary	PLANT SEWAGE PUMP STATION	BD	100,337	100,337	1965	9.464	949,616	849,279
SEWAGE	Primary	PLANT SEWAGE PUMP STATION IMPR	BD	421,822	175,760	1996	1.715	723,514	547,755
SWMTN	Sewer	Llama Ln Storm Drainage Projt	IM	113,896	1,898	2009	1.000	113,896	111,998
SWMTN	Sewer	MAINTENANCE BUILDING	BD	277,867	169,498	1979	3.136	871,417	701,918
SWMTN	Sewer	SEWER MAINT GARAGE	IM	31,271	2,606	2007	1.118	34,965	32,360
WPC	Primary	FILTER CTRL BLDG IMPROVEMENTS	BD	1,165,280	485,534	1997	1.677	1,954,425	1,468,892
WPC	Secondary	WWTP EXPAN FOR TRIUMPH FOODS	IM	14,004,292	700,215	2008	1.062	14,874,298	14,174,083
				48,875,642				98,952,446	79,852,408
				(14,004,292)	(700,215)			(14,874,298)	(14,174,083)
Less Contributed Property								84,078,148	65,678,325
				34,871,350					

MACHINERY AND EQUIPMENT

AIRPORT	General	3HP TORNADO AERATOR	ME	16,370	16,370	1997	1.648	26,973	10,603
AIRPORT	General	400 BU SPREADER	ME	11,050	11,050	1995	1.742	19,246	8,196
AIRPORT	General	BIOSOLIDS SPREADER	ME	27,450	13,725	2007	1.167	32,034	18,309
AIRPORT	General	CATERPILLAR 924F WHEEL LOADER	ME	70,572	70,572	1994	1.796	126,724	56,152
AIRPORT	General	JOHN DEERE 630 DISKS	ME	11,977	11,977	1993	1.841	22,053	10,076
AIRPORT	General	JOHN DEERE SPREADER #780	ME	9,822	9,822	1988	2.101	20,641	10,819
AIRPORT	General	New Holland Tractor	ME	110,264	33,079	2007	1.167	128,678	95,599
AIRPORT	General	TW-35 FORD TRACTOR	ME	47,929	47,929	1988	2.101	100,720	52,791
GARAGE	General	15HP 1750 CHOPPER SUBMERSIBLE	ME	9,620	9,620	1992	1.895	18,234	8,614
GARAGE	General	3 WAY RETRIVAL TRIPOD	ME	3,119	3,119	1995	1.742	5,432	2,313
GARAGE	General	300 GALLON 3 POINT SPRAYER	ME	1,353	1,353	1998	1.589	2,150	797
GARAGE	General	AC/DC PORTABLE WELDER	ME	2,224	2,224	1993	1.841	4,095	1,871
GARAGE	General	EAST GARAGE DOOR 12' W X 12' H	ME	2,490	2,490	1992	1.895	4,720	2,230
GARAGE	General	EM2500 HONDA GENERATOR/PORTABL	ME	1,109	1,109	1993	1.841	2,042	933
GARAGE	General	EM2500 HONDA GENERATOR/PORTABL	ME	1,109	1,109	1993	1.841	2,042	933
GARAGE	General	FLOOR CRANE #2200	ME	1,771	1,771	1990	1.966	3,482	1,711
GARAGE	General	FURNACE	ME	23,665	23,665	1999	1.530	36,216	12,551
GARAGE	General	GENIE AERIAL WORK PLATFORM	ME	5,587	5,587	1993	1.841	10,287	4,700
GARAGE	General	HYDRORANGER 1 W/ 120' CABLE	ME	1,813	1,813	1995	1.742	3,158	1,345
GARAGE	General	HYDRORANGER 1 W/ 120' CABLE	ME	1,797	1,797	1995	1.742	3,130	1,333
GARAGE	General	LATHE-METAL	ME	8,540	8,540	1973	5.800	49,532	40,992
GARAGE	General	PERSONNEL WINCH RETRIEVAL SYST	ME	3,320	3,320	1995	1.742	5,783	2,463
GARAGE	General	STANLEY HYDE VALVE OPERATOR	ME	7,875	7,875	1993	1.841	14,500	6,625
GARAGE	General	STANLEY HYDE VALVE OPERATOR	ME	7,875	7,875	1993	1.841	14,500	6,625
GARAGE	General	SUTORBUILT BLOWER	ME	4,999	4,999	1996	1.696	8,478	3,479
GARAGE	General	TEKTRONIC OSCILLOSCOPE	ME	2,475	2,475	1992	1.895	4,691	2,216
GARAGE	General	XK PACEMASTER PLASMA CUTTER	ME	2,908	2,908	1997	1.648	4,792	1,884
NEWLAB	General	3000XL-PLUS SS AUTO EXTRACTOR	ME	32,665	16,332	2006	1.203	39,306	22,974
NEWLAB	General	ICP PLASMA UNIT	ME	87,508	43,754	2007	1.167	102,122	58,368
NEWLAB	General	INCUBATOR 120V 60HZ MODEL 307	ME	1,836	1,836	1993	1.841	3,381	1,545
NEWLAB	General	KJELTEC Distiller	ME	29,245	2,925	2009	1.000	29,245	26,321
NEWLAB	General	LABRATORY CENTRIFUGE	ME	14,249	12,824	2004	1.309	18,656	5,831
NEWLAB	General	R/O PURIFIED WATER SYSTEM	ME	9,533	4,766	2006	1.203	11,471	6,704
NEWLAB	General	SPECTROPHOTOMETER	ME	5,294	5,294	2004	1.309	6,931	1,637
NEWLAB	General	Thermo BOD Incubator	ME	7,222	3,611	2007	1.167	8,428	4,817
NEWLAB	General	Thermo BOD Incubator	ME	6,088	3,044	2007	1.167	7,105	4,061
NEWLAB	General	UVAS Hach Probe	ME	15,525	4,658	2008	1.070	16,614	11,956
WPC	General	1 TON TRUCK	ME	16,704	16,704	1983	2.387	39,870	23,166
WPC	General	1996 FORD F250 3/4 TON	ME	19,097	19,097	1996	1.696	32,387	13,290
WPC	General	1996 INT DUMPSTER TRUCK	ME	30,812	30,812	1996	1.696	52,254	21,442
WPC	General	1997 8200 6X4 3AXLE TRACTOR	ME	61,801	61,801	1996	1.696	104,809	43,008
WPC	General	1997 CHEVROLET 1/2 TON 4X4 PU	ME	19,882	19,882	1996	1.696	33,718	13,836
WPC	General	1997 FORD F-250 3/4 TON PU	ME	20,726	20,726	1997	1.648	34,151	13,425
WPC	General	1997 FORD F-250 TRUCK	ME	20,726	20,726	1997	1.648	34,151	13,425
WPC	General	1998 CHEVROLET 1 TON CAB	ME	22,686	22,686	1997	1.648	37,380	14,694
WPC	General	1998 CHEVROLET 3/4 TON PICKUP	ME	21,521	21,521	1997	1.648	35,461	13,940
WPC	General	1998 CHEVROLET S-10 PICKUP	ME	15,738	15,738	1998	1.589	25,008	9,270
WPC	General	2000 CHEVY 3/4 TON CAB/CHASSIS	ME	25,800	25,800	2000	1.491	38,468	12,668
WPC	General	2000 CHEVY 3/4 TON CAB/CHASSIS	ME	23,400	23,400	2000	1.491	34,889	11,489
WPC	General	2000 CHEVY 3/4 TON CAB/CHASSIS	ME	25,800	25,800	2000	1.491	38,468	12,668
WPC	General	2000 FORD RANGER	ME	13,807	13,807	2000	1.491	20,586	6,779
WPC	General	2000 INTL 9200I 6X4 TRUCK/TRCT	ME	69,244	69,244	2000	1.491	103,242	33,999
WPC	General	2001 VOLVO DUMP TRUCK	ME	89,510	89,510	2002	1.401	125,400	35,890
WPC	General	2001 VOLVO TRUCK	ME	90,818	90,818	2001	1.454	132,016	41,198
WPC	General	2001 VOLVO TRUCK	ME	90,818	90,818	2001	1.454	132,016	41,198
WPC	General	2002 Chevrolet Impala, 4 Door	ME	17,600	17,600	2002	1.401	24,657	7,057
WPC	General	2003 Chevrolet C2500 3/4 Ton C	ME	24,683	24,683	2003	1.349	33,293	8,610
WPC	General	2003 CHEVY S-10 PICKUP	ME	12,218	12,218	2003	1.349	16,480	4,262
WPC	General	2003 CHEVY S-10 PICKUP	ME	12,218	12,218	2002	1.401	17,117	4,899
WPC	General	2003 INTERNATIONAL 4200	ME	34,564	34,564	2002	1.401	48,423	13,859
WPC	General	2004 CHEVY 2500 PU	ME	24,963	24,963	2004	1.309	32,683	7,720
WPC	General	2005 CHEVY COLORADO	ME	16,083	14,475	2005	1.255	20,191	5,716
WPC	General	2005 CHEVY SILVERADO	ME	17,793	16,014	2004	1.309	23,296	7,282
WPC	General	2006 Snorkel Boom Lift	ME	45,000	4,500	2009	1.000	45,000	40,500
WPC	General	2007 CHEVY SILVERADO	ME	18,582	9,291	2006	1.203	22,360	13,069
WPC	General	2007 Freightliner Sprinter Van	ME	34,344	10,303	2007	1.167	40,080	29,776
WPC	General	2009 Ford F250	ME	26,000	2,600	2009	1.000	26,000	23,400
WPC	General	2009 Ford Ranger	ME	12,236	1,224	2009	1.000	12,236	11,012
WPC	General	2009 Ford Ranger	ME	12,236	1,224	2009	1.000	12,236	11,012
WPC	General	36 AMERICAN R/D 50 LINE DI	ME	24,500	24,500	2000	1.491	36,530	12,030
WPC	General	8W 10'6" FLAT BED FOR 952-16	ME	1,156	1,156	1996	1.696	1,960	804
WPC	General	Chevrolet S-10 Crew Cab Pickup	ME	18,867	18,867	2003	1.349	25,449	6,582

Appendix I-6.6
Determination of Trended Reproduction Cost Less Depreciation

Location	Function	Asset Description	Code	Original Cost	Accumulated Depreciation	Year in Service	Trend Factor	Trended Cost	Trended Cost Less Depr
				\$	\$			\$	\$
RETURNPUMP	Primary	GATE VALVE MOTORIZED	ME	10,350	10,350	1979	3.240	33,536	23,186
RETURNPUMP	Primary	GATE VALVE MOTORIZED	ME	10,350	10,350	1979	3.240	33,536	23,186
RETURNPUMP	Primary	GATE VALVE MOTORIZED	ME	10,350	10,350	1979	3.240	33,536	23,186
RETURNPUMP	Primary	GATE VALVE MOTORIZED	ME	10,350	10,350	1979	3.240	33,536	23,186
RETURNPUMP	Primary	GATE VALVE MOTORIZED	ME	10,350	10,350	1979	3.240	33,536	23,186
RETURNPUMP	Primary	GATE VALVE MOTORIZED	ME	10,350	10,350	1979	3.240	33,536	23,186
RETURNPUMP	Primary	GATE VALVE MOTORIZED	ME	10,350	10,350	1979	3.240	33,536	23,186
RETURNPUMP	Primary	GATE VALVE MOTORIZED	ME	10,350	10,350	1979	3.240	33,536	23,186
RETURNPUMP	Primary	GATE VALVE MOTORIZED	ME	10,350	10,350	1979	3.240	33,536	23,186
RETURNPUMP	Primary	MOTOR CONTROL CENTER	ME	31,050	31,050	1979	3.240	100,609	69,559
RETURNPUMP	Primary	MOTOR CONTROL CENTRAL	ME	31,050	31,050	1979	3.240	100,609	69,559
RETURNPUMP	Primary	MOTORIZED GATE VALVE 24	ME	10,350	10,350	1979	3.240	33,536	23,186
RETURNPUMP	Primary	MULTIRANGER PLUS TRANSCIEVER	ME	1,900	1,900	1992	1.895	3,601	1,701
RETURNPUMP	Primary	MULTIRANGER PLUS TRANSCIEVER	ME	1,900	1,900	1992	1.895	3,601	1,701
RETURNPUMP	Primary	MULTIRANGER PLUS TRANSCIEVER	ME	1,900	1,900	1992	1.895	3,601	1,701
RETURNPUMP	Primary	MULTIRANGER PLUS TRANSCIEVER	ME	1,900	1,900	1992	1.895	3,601	1,701
RETURNPUMP	Primary	MULTIRANGER PLUS TRANSCIEVER	ME	1,900	1,900	1992	1.895	3,601	1,701
RETURNPUMP	Primary	REPLACE 3 VALVES AT WPC	ME	17,417	17,417	1992	1.895	33,013	15,596
RETURNPUMP	Primary	SCREW PUMP #2	ME	41,400	41,400	1979	3.240	134,145	92,745
RETURNPUMP	Primary	SCREW PUMP #3	ME	41,400	41,400	1979	3.240	134,145	92,745
RETURNPUMP	Primary	SCREW PUMP SEWAGE #4	ME	41,400	41,400	1979	3.240	134,145	92,745
RETURNPUMP	Primary	SCREW PUMP SEWAGE #5	ME	41,400	41,400	1979	3.240	134,145	92,745
RETURNPUMP	Primary	SCREW PUMP SEWAGE #6	ME	41,400	41,400	1979	3.240	134,145	92,745
TRANSFER	Primary	CENTRIFUGAL PROCESS TYPE PUMP	ME	5,660	5,660	1993	1.841	10,421	4,761
TRANSFER	Primary	CENTRIFUGAL PROCESS TYPE PUMP	ME	5,660	5,660	1993	1.841	10,421	4,761
TRANSFER	Primary	CENTRIFUGAL PROCESS TYPE PUMP	ME	5,660	5,660	1993	1.841	10,421	4,761
TRANSFER	Primary	GLDS PUMP 3X4-8GS	ME	4,480	4,480	1994	1.796	8,045	3,565
TRANSFER	Primary	GLDS PUMP 3X4-8GS	ME	4,480	4,480	1994	1.796	8,045	3,565
TRANSFER	Primary	MECHANICAL BAR SCREEN #1	ME	55,200	55,200	1979	3.240	178,860	123,660
TRANSFER	Primary	MECHANICAL BAR SCREEN #2	ME	55,200	55,200	1979	3.240	178,860	123,660
TRANSFER	Primary	MOTOR CONTROL CENTER	ME	31,050	31,050	1979	3.240	100,609	69,559
TRANSFER	Primary	MOTOR CONTROL CENTER	ME	20,700	20,700	1979	3.240	67,073	46,373
TRANSFER	Primary	PROCESS PIPING	ME	24,150	24,150	1979	3.240	78,251	54,101
TRANSFER	Primary	SEWAGE PUMP-C/O SCREW PUMP #1	ME	41,400	41,400	1979	3.240	134,145	92,745
TRANSFER	Primary	SEWAGE PUMP-C/O SCREW PUMP #2	ME	41,400	41,400	1979	3.240	134,145	92,745
TRANSFER	Primary	SEWAGE PUMP-C/O SCREW PUMP #3	ME	41,400	41,400	1979	3.240	134,145	92,745
TRANSFER	Primary	TRAVELING HOIST-25LF ELECTRIC	ME	6,900	6,900	1979	3.240	22,358	15,458
BROWN	Pump Station	ALLEN BRADLEY CONTROLLER	ME	2,747	2,747	1997	1.648	4,527	1,780
BROWN	Pump Station	CHART RECORDER CABINET	ME	7,450	7,450	1965	9.206	68,587	61,137
BROWN	Pump Station	MECHANICAL BAR SCREEN #1	ME	23,840	23,840	1965	9.206	219,479	195,639
BROWN	Pump Station	MECHANICAL BAR SCREEN #2	ME	60,000	60,000	1987	2.125	127,473	67,473
BROWN	Pump Station	MOTOR CONTROL CENTER	ME	7,450	7,450	1965	9.206	68,587	61,137
BROWN	Pump Station	PROCESS PIPING C/O PIPE	ME	23,840	23,840	1965	9.206	219,479	195,639
EASTON	Pump Station	EASTON ROAD SLUICE GATE	ME	26,412	8,364	2000	1.491	39,380	31,016
EASTON	Pump Station	EMERGENCY GENERATOR SET	ME	34,500	34,500	1979	3.240	111,788	77,288
FARAO	Pump Station	3250 GALLON CHEMICAL TANK	ME	5,887	5,887	1998	1.589	9,355	3,468
FARAO	Pump Station	3250 GALLON STORAGE TANK	ME	5,887	5,887	1998	1.589	9,355	3,468
FARAO	Pump Station	550GALLON TANK W/ CONTAINMENT	ME	1,089	1,089	1993	1.841	2,005	916
FARAO	Pump Station	EMERGENCY GENERATOR SET	ME	86,250	86,250	1979	3.240	279,469	193,219
FARAO	Pump Station	HEATING AND VENTILATION UNITS	ME	155,838	155,838	2001	1.454	226,531	70,693
FARAO	Pump Station	HOIST CAHIN 2 TON WITH 100LF	ME	5,520	5,520	1979	3.240	17,886	12,366
FARAO	Pump Station	HYDRORANGER 1W/ 120' CABLE	ME	1,735	1,735	1995	1.742	3,022	1,287
FARAO	Pump Station	INCOMING POWER PANEL THREE	ME	6,900	6,900	1979	3.240	22,358	15,458
FARAO	Pump Station	MECHANICAL BAR SCREEN 36	ME	55,200	55,200	1979	3.240	178,860	123,660
FARAO	Pump Station	MECHANICAL BAR SCREEN 36	ME	55,200	55,200	1979	3.240	178,860	123,660
FARAO	Pump Station	MOTOR CONTROL CENTER C/O	ME	24,150	24,150	1979	3.240	78,251	54,101
FARAO	Pump Station	MOTOR CONTROL CENTER C/O	ME	17,250	17,250	1979	3.240	55,894	38,644
FARAO	Pump Station	POWER CONTROL CENTER MAIN	ME	27,600	27,600	1979	3.240	89,430	61,830
FARAO	Pump Station	PROCESS PIPING C/O PIPE	ME	172,500	172,500	1979	3.240	558,939	386,439
FARAO	Pump Station	SEWAGE PUMP CENTRIFUGAL	ME	17,250	17,250	1979	3.240	55,894	38,644
FARAO	Pump Station	SEWAGE PUMP CENTRIFUGAL	ME	17,250	17,250	1979	3.240	55,894	38,644
FARAO	Pump Station	SEWAGE PUMP CENTRIFUGAL	ME	17,250	17,250	1979	3.240	55,894	38,644
FARAO	Pump Station	SEWAGE PUMP CENTRIFUGAL	ME	17,250	17,250	1979	3.240	55,894	38,644
FARAO	Pump Station	SEWAGE PUMP CENTRIFUGAL	ME	17,250	17,250	1979	3.240	55,894	38,644
FARAO	Pump Station	SEWAGE PUMP CENTRIFUGAL	ME	17,250	17,250	1979	3.240	55,894	38,644
FARAO	Pump Station	SHAW BOX CRANE 2TON WITH 50LF	ME	6,900	6,900	1979	3.240	22,358	15,458
FARAO	Pump Station	SHOW BOX CRANE	ME	10,350	10,350	1979	3.240	33,536	23,186
FARAO	Pump Station	TRAILER 3495 EAST ALUMINUM	ME	54,356	54,356	1995	1.742	94,674	40,318
FARAO	Pump Station	TRAILER 3495 EAST ALUMINUM	ME	54,356	54,356	1995	1.742	94,674	40,318
STATIONS	Pump Station	Emergency Generator for Roy's	ME	8,669	8,669	2001	1.454	12,602	3,933
WHITEHEAD	Pump Station	ADJUSTABLE FREQUENCY DRIVE	ME	17,584	17,584	1999	1.530	26,910	9,326
WHITEHEAD	Pump Station	ADJUSTABLE FREQUENCY DRIVE	ME	17,584	17,584	1999	1.530	26,910	9,326
WHITEHEAD	Pump Station	ADJUSTABLE FREQUENCY DRIVE	ME	17,584	17,584	1999	1.530	26,910	9,326
WHITEHEAD	Pump Station	MAGNETIC DRIVE CONTROLLER #1	ME	7,000	7,000	1965	9.206	64,444	57,444
WHITEHEAD	Pump Station	MAGNETIC DRIVE CONTROLLER #2	ME	7,000	7,000	1965	9.206	64,444	57,444
WHITEHEAD	Pump Station	MOTOR CONTROL CENTER	ME	35,580	35,580	1977	3.816	135,766	100,186
WHITEHEAD	Pump Station	PROCESS PIPING C/O PIPE	ME	105,790	105,790	1965	9.206	973,940	868,150
WHITEHEAD	Pump Station	PROCESS PIPING C/O PIPE	ME	77,480	77,480	1965	9.206	713,308	635,828
WHITEHEAD	Pump Station	SEWAGE PUMP CENTRIFUAL #1	ME	23,840	23,840	1977	3.816	90,968	67,128
WHITEHEAD	Pump Station	SEWAGE PUMP CENTRIFUAL #2	ME	23,840	23,840	1977	3.816	90,968	67,128
WHITEHEAD	Pump Station	SEWAGE PUMP CENTRIFUAL #3	ME	47,440	47,440	1977	3.816	181,021	133,581
WHITEHEAD	Pump Station	SEWAGE PUMP CENTRIFUAL #4	ME	47,440	47,440	1977	3.816	181,021	133,581
WHITEHEAD	Pump Station	SEWAGE PUMP CENTRIFUAL #5	ME	47,440	47,440	1977	3.816	181,021	133,581
WHITEHEAD	Pump Station	SHAW BOX CRANE 5 TON	ME	14,825	14,825	1977	3.816	56,569	41,744
BLOWER	Secondary	ADJUSTABLE FREQUENCY DRIVE	ME	31,050	31,050	1979	3.240	100,609	69,559
BLOWER	Secondary	ADJUSTABLE FREQUENCY DRIVE	ME	31,050	31,050	1979	3.240	100,609	69,559
BLOWER	Secondary	ADJUSTABLE FREQUENCY DRIVE	ME	31,050	31,050	1979	3.240	100,609	69,559
BLOWER	Secondary	MOTOR CONTROL CENTER	ME	58,650	58,650	1979	3.240	190,039	131,389
BLOWER	Secondary	ROTARY LOBE BLOWER #5	ME	34,500	34,500	1979	3.240	111,788	77,288
BLOWER	Secondary	ROTARY LOBE BLOWER 200HP	ME	34,500	34,500	1979	3.240	111,788	77,288
BLOWER	Secondary	ROTARY LOBE BLOWER 200HP	ME	34,500	34,500	1979	3.240	111,788	77,288
BLOWER	Secondary	ROTARY LOBE BLOWER 200HP	ME	34,500	34,500	1979	3.240	111,788	77,288
BLOWER	Secondary	ROTARY LOBE BLOWER 200HP	ME	34,500	34,500	1979	3.240	111,788	77,288
BLOWER	Secondary	ROTARY LOBE BLOWER 200HP	ME	34,500	34,500	1979	3.240	111,788	77,288
BLOWER	Secondary	ROTARY LOBE BLOWER 200HP	ME	34,500	34,500	1979	3.240	111,788	77,288
BLOWER	Secondary	ROTARY LOBE BLOWER 200HP	ME	34,500	34,500	1979	3.240	111,788	77,288
BLOWER	Secondary	ROTARY LOBE BLOWER 200HP	ME	34,500	34,500	1979	3.240	111,788	77,288
BLOWER	Secondary	ROTARY LOBE BLOWER 200HP	ME	34,500	34,500	1979	3.240	111,788	77,288
BLOWER	Secondary	ROTARY LOBE BLOWER W/ENGINE	ME	51,750	51,750	1979	3.240	167,682	115,932
BLOWER	Secondary	ROTARY LOBE BLOWER W/ENGINE	ME	51,750	51,750	1979	3.240	167,682	115,932

Appendix I-6.6
Determination of Trended Reproduction Cost Less Depreciation

Location	Function	Asset Description	Code	Original Cost	Accumulated Depreciation	Year in Service	Trend Factor	Trended Cost	Trended Cost Less Depr
				\$	\$			\$	\$
BLOWER	Secondary	ROTARY LOBE BLOWER W/ENGINE	ME	51,750	51,750	1979	3.240	167,682	115,932
BLOWER	Secondary	SWING FUSERS INCLUDING PIPING	ME	231,840	231,840	1979	3.240	751,213	519,373
CLARIFIERS	Secondary	CLARIFIER MECHANISM #2	ME	86,250	86,250	1979	3.240	279,469	193,219
CLARIFIERS	Secondary	CLARIFIER MECHANISM #2	ME	103,500	103,500	1979	3.240	335,363	231,863
CLARIFIERS	Secondary	Mechanism for Clarifier #3	ME	263,500	39,525	2008	1.070	281,974	242,449
CLARIFIERS	Secondary	Mechanism for Clarifier #4	ME	263,500	39,525	2008	1.070	281,974	242,449
CLARIFIERS	Secondary	SEC CLARIFIER SCUM PIT PUMP #2	ME	10,451	10,451	1996	1.696	17,724	7,273
CLARIFIERS	Secondary	SEC CLARIFIER SCUM PIT PUMP #3	ME	10,451	10,451	1996	1.696	17,724	7,273
CLARIFIERS	Secondary	SEC CLARIFIER SCUM PIT PUMP #4	ME	10,451	10,451	1996	1.696	17,724	7,273
FLOTATION	Secondary	ASPIRATING PUMP	ME	8,340	3,753	2005	1.255	10,470	6,717
FLOTATION	Secondary	ASPIRATING PUMP	ME	8,340	3,753	2005	1.255	10,470	6,717
FLOTATION	Secondary	ASPIRATING PUMP	ME	8,340	3,753	2005	1.255	10,470	6,717
FLOTATION	Secondary	ASPIRATING PUMP	ME	8,340	3,753	2005	1.255	10,470	6,717
FLOTATION	Secondary	ASPIRATING PUMP	ME	8,340	3,753	2005	1.255	10,470	6,717
FLOTATION	Secondary	ASPIRATING PUMP	ME	8,340	3,753	2004	1.309	10,919	7,166
FLOTATION	Secondary	ASPIRATING PUMP	ME	8,340	3,753	2004	1.309	10,919	7,166
FLOTATION	Secondary	ASPIRATING PUMP	ME	8,340	3,753	2004	1.309	10,919	7,166
FLOTATION	Secondary	DAF SLUDGE PUMP & DRIVE	ME	13,554	13,554	1996	1.696	22,986	9,432
FLOTATION	Secondary	DAF SLUDGE PUMP & DRIVE	ME	13,554	13,554	1996	1.696	22,986	9,432
FLOTATION	Secondary	G E 7700 LINE CONTROL CENTER	ME	13,800	13,800	1979	3.240	44,715	30,915
FLOTATION	Secondary	G E MOTOR CONTROL CENTER	ME	48,300	48,300	1979	3.240	156,503	108,203
FLOTATION	Secondary	PROCESS PIPING C/O PIPE	ME	103,500	103,500	1979	3.240	335,363	231,863
FLOTATION	Secondary	ROTARY SCREW COMPRESSOR	ME	5,420	5,420	1994	1.796	9,733	4,313
FLOTATION	Secondary	ROTARY SCREW COMPRESSOR	ME	5,420	5,420	1994	1.796	9,733	4,313
FLOTATION	Secondary	SLUDGE PUMP	ME	6,900	6,900	1979	3.240	22,358	15,458
FLOTATION	Secondary	SLUDGE PUMP	ME	6,900	6,900	1979	3.240	22,358	15,458
FLOTATION	Secondary	SLUDGE PUMP	ME	6,900	6,900	1979	3.240	22,358	15,458
FLOTATION	Secondary	SLUDGE PUMP	ME	6,900	6,900	1979	3.240	22,358	15,458
FLOTATION	Secondary	SLUDGE PUMP	ME	5,040	5,040	1999	1.530	7,713	2,673
OLDCONTROL	Secondary	HEAT EXCHANGER	ME	51,750	51,750	1979	3.240	167,682	115,932
OLDCONTROL	Secondary	HEAT EXCHANGER	ME	51,750	51,750	1979	3.240	167,682	115,932
OLDCONTROL	Secondary	HEAT EXCHANGER	ME	51,750	51,750	1979	3.240	167,682	115,932
OLDCONTROL	Secondary	STORAGE TANK FERRIC CHLORIDE	ME	6,210	6,210	1979	3.240	20,122	13,912
OLDCONTROL	Secondary	STORAGE TANK FERRIC CHLORIDE	ME	6,210	6,210	1979	3.240	20,122	13,912
CHEMICAL	Secondary Clarifiers	CLARIFIER MECHANISM ASSY	ME	51,750	51,750	1979	3.240	167,682	115,932
CHEMICAL	Secondary Clarifiers	PROCESS PIPING C/O PIPE	ME	20,700	20,700	1979	3.240	67,073	46,373
CHEMICAL	Secondary Clarifiers	SURFACE AERATOR 7.5 HP	ME	13,800	13,800	1979	3.240	44,715	30,915
SSJ	SSJ	HOIST ELECTRIC 3 TON	ME	6,420	6,420	1978	3.537	22,705	16,285
SSJ	SSJ	PROCESS PIPING C/O PIPE	ME	144,450	144,450	1978	3.537	510,860	366,410
SSJ	SSJ	SEWAGE PUMP CENTRIFUGAL	ME	51,360	51,360	1978	3.537	181,639	130,279
SSJ	SSJ	SEWAGE PUMP CENTRIFUGAL	ME	51,360	51,360	1978	3.537	181,639	130,279
SSJ	SSJ	SEWAGE PUMP CENTRIFUGAL	ME	51,360	51,360	1978	3.537	181,639	130,279
OLDCONTROL	Primary	3 TON ELECTRIC HOIST	ME	6,420	6,420	1978	3.537	22,705	16,285
OLDCONTROL	Primary	ADJUSTABLE LIFTING CANTRY	ME	3,141	3,141	1992	1.895	5,953	2,812
OLDCONTROL	Primary	ADJUSTABLE LIFTING CANTRY	ME	3,141	3,141	1992	1.895	5,953	2,812
OLDCONTROL	Primary	KOCH STATIC MIXING UNIT	ME	3,245	3,245	1990	1.966	6,380	3,135
OLDCONTROL	Primary	KOCH STATIC MIXING UNIT	ME	3,245	3,245	1990	1.966	6,380	3,135
OLDCONTROL	Primary	VENTILATION FAN	ME	3,960	3,960	1994	1.796	7,111	3,151
OLDCONTROL	Primary	VENTILATION FAN	ME	3,960	3,960	1994	1.796	7,111	3,151
SEWAGE	Primary	ALLEN BRADLEY CONTROLLER	ME	2,747	2,747	1997	1.648	4,527	1,780
SEWAGE	Primary	FAIRBANKS SEWAGE PUMP #1	ME	10,350	10,350	1979	3.240	33,536	23,186
SEWAGE	Primary	FAIRBANKS SEWAGE PUMP #2	ME	10,350	10,350	1979	3.240	33,536	23,186
SEWAGE	Primary	FLOW CABINET, TWO INDICATORS	ME	17,250	17,250	1979	3.240	55,894	38,644
SEWAGE	Primary	LOAD LIFTER CRANE, ELECTRIC	ME	6,900	6,900	1979	3.240	22,358	15,458
SEWAGE	Primary	MECH BAR SCREEN REPLACEMENT BU	ME	160,260	160,260	1992	1.895	303,761	143,501
SEWAGE	Primary	MECHANICAL BAR SCREEN	ME	69,000	69,000	1979	3.240	223,575	154,575
SEWAGE	Sewer	PROCESS PIPING C/O PIPER	ME	69,000	69,000	1979	3.240	223,575	154,575
STREETS	Sewer	JCB 215 BACKHOE/LOADER 1996	ME	57,830	57,830	1996	1.696	98,074	40,244
STREETS	Sewer	One Ton Cab & Chassis	ME	24,974	24,974	2003	1.349	33,686	8,712
SWMTN	Sewer	040126HEVY 2500 PICKUP	ME	25,700	25,700	2004	1.309	33,648	7,948
SWMTN	Sewer	1993 GMC CAB & CHASSIS W/HOIST	ME	37,983	37,983	2003	1.841	69,937	31,954
SWMTN	Sewer	1999 GMC CAB & CHASSIS	ME	55,496	55,496	1998	1.589	88,185	32,689
SWMTN	Sewer	2002 Chevrolet CSB	ME	23,204	23,204	2001	1.454	33,730	10,526
SWMTN	Sewer	2003 INTERNL 7400 & CATCH BAS	ME	98,454	98,454	2003	1.349	132,799	34,345
SWMTN	Sewer	2004 CHEVY 2500 PICKUP	ME	23,787	23,787	2003	1.349	32,085	8,298
SWMTN	Sewer	2005 CHEVY SILVERADO	ME	22,550	20,295	2004	1.309	29,524	9,229
SWMTN	Sewer	2005 CHEVY SILVERADO	ME	22,550	20,295	2004	1.309	29,524	9,229
SWMTN	Sewer	2006 INTERNATIONAL 7300	ME	62,256	43,579	2006	1.203	74,914	31,335
SWMTN	Sewer	60 FOOT MANHANDLER WINCH	ME	2,005	2,005	1996	1.696	3,400	1,395
SWMTN	Sewer	8HP HONDA STONE MORTAR MIXER	ME	2,505	2,505	1997	1.648	4,128	1,623
SWMTN	Sewer	CASE 590 BACKHOE/LOADER	ME	72,695	36,347	2007	1.167	84,835	48,488
SWMTN	Sewer	Easement Machine	ME	48,750	48,750	2009	1.000	48,750	48,750
SWMTN	Sewer	INGERSOLL RAND AIR COMPRESSOR	ME	12,110	12,110	2004	1.309	15,855	3,745
SWMTN	Sewer	INGERSOLL-RAND AIR COMPRESSOR	ME	10,966	10,966	1992	1.895	20,786	9,819
SWMTN	Sewer	JCB 215 BACKHOE	ME	82,925	82,925	1999	1.530	126,904	43,979
SWMTN	Sewer	MANHOLE REHABILITATION MACHINE	ME	52,353	36,647	2006	1.203	62,997	26,350
SWMTN	Sewer	One Ton Cab & Chassis	ME	26,359	26,359	2003	1.349	35,554	9,195
SWMTN	Sewer	PRO SCOUT INSPECTION SYSTEM	ME	11,000	11,000	2000	1.491	16,401	5,401
SWMTN	Sewer	SA-1 REVERSE DIAL INDICATOR	ME	2,983	2,983	1996	1.696	5,059	2,076
SWMTN	Sewer	SEWER JET ROD MACHINE	ME	99,353	99,353	2000	1.491	148,136	48,783
SWMTN	Sewer	STETCO 12 ROUND CRANE BUCKET"	ME	4,160	4,160	1997	1.648	6,855	2,695
SWMTN	Sewer	STETCO 15ORANGE CRANE BUCKET"	ME	2,995	2,995	1997	1.648	4,935	1,940
SWMTN	Sewer	SULL AIR JACK HAMMER	ME	1,100	1,100	1996	1.696	1,865	765
SWMTN	Sewer	TRASH PUMP SELF-PRIMING 6X6 GR	ME	16,029	16,029	1996	1.696	27,184	11,155
SWMTN	Sewer	TRENCH BOX	ME	2,744	2,744	1999	1.530	4,199	1,455
SWMTN	Sewer	TRENCH SHIELD	ME	5,835	5,835	2001	1.454	8,482	2,647
SWMTN	Sewer	VACTOR 2110 SEWER MACHINE	ME	153,318	153,318	2004	1.309	200,732	47,414
SWMTN	Sewer	VACTOR SEWER MACHINE	ME	261,384	130,692	2007	1.167	305,036	174,344
				10,469,642				27,136,213	17,923,483
OTHER									
AIRPORT	Sewer	4th Cell at Rosecrans Lagoon	CP	53,025	0	2009	1.000	53,025	53,025
EASTON	Sewer	Easton Rd Station & Force Main	CP	148,003	0	2009	1.000	148,003	148,003
INFRAS	Sewer	Greystone Sewers	CP	2,537,289	0	2009	1.000	2,537,289	2,537,289
SSJ	Sewer	SSJ Pump Stat Wet Well Rehab	CP	56,170	0	2009	1.000	56,170	56,170
STATIONS	Sewer	Roy's Branch Sewer Separation	CP	659,969	0	2009	1.000	659,969	659,969
SWMTN	Sewer	Woodbine Rd Sewer Extension	CP	80,765	0	2009	1.000	80,765	80,765
SWMTN	Sewer	Riverside Rd Sewer Extension	CP	1,444,273	0	2009	1.000	1,444,273	1,444,273
WPC	Sewer	Septage Receiving Sys - JWC	CP	127,145	0	2009	1.000	127,145	127,145
WPC	Sewer	Replace 5 Flow Sewers Pumps	CP	167	0	2009	1.000	167	167
SWMTN	Sewer	SEWER LINES EXISTING	IN	55,569,360	27,921,450	2006	1.178	65,448,357	37,526,907
SWMTN	Sewer	SEWER LINES FY07 ACCEPTED SUBD	IN	1,324,937	82,809	2007	1.118	1,481,470	1,398,661
SWMTN	Sewer	FY08 Donated Sewers	IN	688,019	25,801	2008	1.062	730,762	704,961
SWMTN	Sewer	FY09 Donated Sewers	IN	2,622,400	3,280	2009	1.000	2,624,000	2,591,200
GARAGE	Sewer	MOUNTED TRASH PUMP	OF	15,194	15,194	1996	1.715	26,061	10,867
NEWCONTROL	Sewer	MANITOWOC 450 ICE MACHINE	OF	1,499	1,499	1996	1.715	2,570	1,072
SWMTN	Sewer	SEWER VIEW SOFTWARE	OF	4,405	4,405	1998	1.661	7,319	2,914
SWMTN	Sewer	MINOLTA MICROFILM READ PRINTER	OF	3,775	3,775	1998	1.661	6,272	2,497
WPC	Sewer	SURVEILLANCE CAMERA W/VCR	OF	2,133	2,133	1998	1.661	3,543	1,411
WPC	Sewer	SURVEILLANCE CAMERA W/VCR	OF	2,133	2,133	1998	1.661	3,543	1,411
WPC	Sewer	MANITOWOC 290 DISPENSER	OF	2,188	2,188	1996	1.715	3,753	1,565
#N/A	Sewer	12 Mob Emer Centrifugal Pump	ME	112,186	0	2009	1.000	112,186	112,186
#N/A	Sewer	2010 Alumweld Talon Boat	ME	21,947	0	2009	1.000	21,947	21,947
				63,116,981				73,216,990	45,152,324
		Less Contributed Assets		(2,275,356)				(2,474,631)	(2,362,742)
				60,841,625				70,742,359	42,789,582
				123,166,197				185,135,283	127,095,322

Appendix I-7.1
Wastewater Treatment Plant and Personnel Expense

Activity	Percentage Distribution (a) %	Primary			Secondary			SSJISD Pump Station %
		Volume %	BOD %	Suspended Solids %	Volume %	BOD %	Suspended Solids %	
Primary Operations	14.00	14.00						
Secondary Operations (b)	13.00		2.47	8.97	1.56			
Sludge - Belt Press (c)	5.00		0.55	1.35	1.15			
Sludge - Haul & Spread (c)	6.00		0.66	1.62	1.38			
Equipment Maintenance (d)								
Primary Operations	21.00	9.50	3.25	8.25				
Secondary Operations	21.00		5.14	13.13	2.74			
Pump Station (e)	16.00	12.81					3.19	
Vehicle Maintenance (f)	4.00	0.48	0.36	0.88	0.72		0.04	
Total	100.00	36.79	4.82	12.10	7.69	27.83	3.23	
Percentage Distribution								
Wastewater Treatment Plant & L.S.	100.00%	36.00%	5.00%	12.00%	8.00%	28.00%	8.00%	3.00%
Wastewater Treatment Plant Only	100.00%	28.00%	6.00%	14.00%	10.00%	33.00%	9.00%	
Vehicles	100.00%	12.00%	9.00%	22.00%	2.00%	36.00%	18.00%	1.00%

(a) Percentage distribution based on analysis of functional duties and salary budget

(b) Allocation based on Secondary Operation Allocation Factors, Appendix I-7.2.

(c) Allocation based on Sludge Handling Cost Allocation Factors, Appendix I-5.

(d) Allocation based on Equipment & Machinery Allocation Factors for Wastewater Treatment, Appendix I-6.2.

(e) Allocation based on Equipment & Machinery Allocation Factors for Pump Stations, Appendix I-6.2.

(f) Allocation based on Vehicle Allocation Factors, Appendix I-7.3.

Appendix I-7.3 Wastewater Treatment Plant Vehicle Allocation Factors

	70.00%								
Sludge Hauling & Land Application	30.00%					Primary	Secondary		SSJISD
All Other	<u>100.00%</u>	Volume	BOD	Suspended Solids	Volume	BOD	Suspended Solids	Pump Station	
Other									
Sludge Related (a)	70.00%	0.00%	7.70%	18.90%	0.00%	27.30%	16.10%	0.00%	
Other (b)	<u>30.00%</u>	<u>11.35%</u>	<u>1.39%</u>	<u>3.51%</u>	<u>2.38%</u>	<u>8.25%</u>	<u>2.13%</u>	<u>1.00%</u>	
Total	100.00%	11.35%	9.09%	22.41%	2.38%	35.55%	18.23%	1.00%	
Total (Rounded)	100%	12%	9%	22%	2%	36%	18%	1%	

(a) Allocation based on Sludge Handling Cost allocation Factors, Appendix I-5.

(b) Allocation based on Wastewater Treatment Plant and Lift Station Personnel Expense Allocation Factors, excluding Vehicles, Appendix I-7.1.

Appendix I-8 Laboratory Allocation Factors

<u>Laboratory Cost</u>	Primary		Secondary		SSJISD Pump Station
	Volume	BOD	Volume	BOD	
	Suspended Solids		Suspended Solids		
<u>Total</u>	<u>Volume</u>	<u>BOD</u>	<u>Volume</u>	<u>BOD</u>	<u>Suspended Solids</u>
Secondary Treatment Plant	50.00%				
Other Laboratory Expense	<u>50.00%</u>				
Total Laboratory Expense	<u>100.00%</u>				
Secondary Treatment Plant (a)	16.67%	16.67%	16.67%	16.67%	16.66%
Other Laboratory Expense (b)	<u>16.67%</u>	<u>16.67%</u>	<u>16.67%</u>	<u>16.67%</u>	<u>16.66%</u>
Total Laboratory	16%	17%	16%	17%	17%
Total Laboratory (Rounded)					<u>0.00%</u>
					0%

(a) Allocate equally to each Secondary cost component.

(b) Allocate equally to each Primary cost component.

Appendix I-9.1 Power Cost Allocation Factors

Location	Power Costs (a) \$	Primary			Secondary			SSJISD Pump Station \$
		Volume \$	BOD \$	Suspended Solids \$	Volume \$	BOD \$	Suspended Solids \$	
Substation 1- Intermed. P.S. (b)	198,997	132,671	0	0	66,326	0	0	0
Substation 2- Blower Bldg.	205,483	0	0	0	0	205,483	0	0
Substation 3- Util. Water P.S. (c)	25,261	9,599	1,768	2,526	2,526	6,063	2,779	0
Substation 4- Control Bldg. (d)	173,126	65,493	26,304	23,576	4,876	28,407	24,470	0
Subtotal	602,867	207,763	28,072	26,102	73,728	239,953	27,249	0
Lift Stations	346,133	318,702						27,432
Total	949,000	526,465	28,072	26,102	73,728	239,953	27,249	27,432
Percentage Distribution	100.00%	55.00%	3.00%	3.00%	8.00%	25.00%	3.00%	3.00%

(a) Wastewater Treatment electricity cost for fiscal year 2010.

(b) Allocation based on Substation No. 1 allocation factors, Appendix I-9.2.

(c) Allocation based on Substation No. 2 allocation factors, Appendix I-9.2.

(d) Allocation based on Substation No. 4 allocation factors, Appendix I-9.2.

Appendix I-9.2
Allocation of Installed Amperage
Wastewater Treatment Plant

Location/Equipment	Installed Amperage	Primary			Secondary		
		Volume	BOD	Suspended Solids	Volume	BOD	Suspended Solids
Substation No. 1							
Intermediate Pump Station	1,600	1,600					
Return Pump Station No. 1	400				400		
Return Pump Station No. 2	400				400		
Subtotal	2,400	1,600	0	0	800	0	0
Percentage	100.00%	66.67%	0.00%	0.00%	33.33%		
Substation No. 2							
Blower Building & Equipment	4,000					4,000	
Percentage	100.00%					100.00%	
Substation No. 3							
Transfer Pump Station	800						
Utility Water Pump Station	600						
Bar Screen							
Percentage (a)	100.00%	38.00%	7.00%	10.00%	10.00%	24.00%	11.00%
Substation No. 4							
Control Building (a)	600	228	42	60	60	144	66
Grit Building	400	400					
Flotation Thickener	600					343	257
Switchboard DP							
Sludge Pump - 5 @ 30 (b)	150	0	41	56	0	30	23
Sludge Pump - 2 @ 30 (b)	60	0	29	22	0	0	9
Electric Heater - 3 @ 30 (a)	90	34	6	9	9	22	10
Sludge Circ Pump - 4 @ 60	240	240					
Gas Compressor - 2 @ 60	120	120					
Heat Exchange - 3 @ 30	90	90					
Filtrate Pump - 4 @ 30 (b)	120	0	58	44	0	0	18
Vacuum Pump - 4 @ 400 (b)	800	0	384	296	0	0	120
Motor Control Center "F" (a)	400	152	28	40	40	96	44
Gas Compressor - 2 @ 30	NA						
Flash Mixer - 2 @ 30	NA						
Lime Slaker	NA						
Primary Sludge Pump Station	200	200					
Existing Pump Station	NA						
Chemical Pump Station	NA						
Subtotal	3,870	1,464	588	527.0	109	635	547
Percentage	100.00%	37.83%	15.19%	13.62%	2.82%	16.41%	14.13%

(a) Allocation based on Personnel allocation factors for Wastewater Treatment Plant, Appendix I-7.1.

(b) Allocation based on Sludge allocation Factors, Appendix I-5.

**Appendix I-9.3
Summary of WWTP Power Costs**

Date	Power Costs								Usage in kwh			
	Substation 1				Substation 2				Substation 3			
	Intermediate Pumping Station	Blower Building	Control Building	Total	Intermediate Pumping Station	Blower Building	Control Building	Total	Transfer P.S. & Utility Water Pumping Station	Blower Building	Control Building	Total
Mar 09	12,535	11,807	1,960	14,127	234,000	238,407	36,200	306,380	348,800	250,019	38,000	314,030
Apr 09	17,944	12,392	2,152	14,380	313,200	220,259	32,600	247,941	299,200	238,592	32,200	247,794
May 09	16,206	11,117	1,855	11,969	280,800	387,965	35,400	266,920	271,600	440,106	32,200	236,991
Jun 09	18,300	14,227	2,186	14,453	252,000	404,332	33,600	235,296	301,600	390,332	36,000	250,559
Jul 09	17,420	21,535	2,329	15,057	310,400	360,454	29,800	247,466	310,400	375,664	34,400	331,067
Aug 09	16,778	24,456	2,186	14,028	339,600	390,203	43,000	434,224	309,200	329,443	38,000	371,286
Sep 09	17,160	24,353	2,437	15,075	3,573,600	4,025,776	421,400	3,489,954	3,573,600	4,025,776	421,400	11,510,730
Oct 09	15,822	17,827	2,041	12,004	602,866.70	173,125.70	28.72%	100.00%	31.05%	34.97%	3.66%	100.00%
Nov 09	16,245	17,195	1,737	12,002	100.00%	28.72%	4.19%	34.08%	33.01%	34.08%	4.19%	100.00%
Dec 09	16,636	17,205	1,971	15,030	33.01%	34.08%	4.19%	34.08%	33.01%	34.08%	4.19%	100.00%
Jan 10	17,582	17,902	2,313	18,509	33.01%	34.08%	4.19%	34.08%	33.01%	34.08%	4.19%	100.00%
Feb 10	16,369	15,467	2,095	16,491	33.01%	34.08%	4.19%	34.08%	33.01%	34.08%	4.19%	100.00%
Total	198,997.10	205,482.50	25,261.40	173,125.70	602,866.70	173,125.70	28.72%	100.00%	31.05%	34.97%	3.66%	100.00%
Percentage	33.01%	34.08%	4.19%	28.72%	100.00%	28.72%	4.19%	34.08%	33.01%	34.97%	3.66%	100.00%

Appendix I-10
Transfer to General Fund Allocation Factors

	Primary			Secondary				
	Total (b) \$	Volume \$	BOD \$	Suspended Solids \$	Volume \$	BOD \$	Suspended Solids \$	SSJSD \$
Transfer to SIMR (a)	373,800	134,568	18,690	44,856	29,904	104,664	29,904	11,214
Transfer to General Fund (a)	<u>347,000</u>	<u>124,920</u>	<u>17,350</u>	<u>41,640</u>	<u>27,760</u>	<u>97,160</u>	<u>27,760</u>	<u>10,410</u>
Total	720,800	259,488	36,040	86,496	57,664	201,824	57,664	21,624
Percent of Total	100%	36%	5%	12%	8%	28%	8%	3%

(a) Allocated on the basis of personnel. Appendix I-7.1.