
Sewer Rate Update

Using a Utility-Basis Revenue Requirement

Prepared for the

City of La Crosse

by Trilogy Consulting, LLC

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INTRODUCTION

The City of La Crosse owns and operates a wastewater collection system, sewer interceptors and lift stations, and a Wastewater Treatment Plant (WWTP) that provides wastewater service to almost 16,000 customers within the City, including several high-strength industrial customers, treatment of hauled waste, and four wholesale municipal customers: the City of Onalaska, the Town of Campbell, the City of La Crescent, MN, and the Town of Shelby Sanitary District No. 2. The City is required to treat for the following loadings at its wastewater treatment plant: organic pollutants (BOD), suspended solids (TSS), phosphorus (P), and ammonia (NH-3).

The Utility is planning significant capital investment in ongoing sewer main replacements, equipment replacement, and major upgrades to the Wastewater Treatment Plant (WWTP) in 2021-2023.

In early 2019, the City hired Trilogy Consulting to conduct a formal Sanitary Sewer Rate Study. The study consisted of determining recommended user rates based on a cash needs revenue requirement and a detailed cost of service study that incorporated the capital improvements and anticipated changes in operation and maintenance expenses associated with the WWTP upgrades. A ten-year projection of user rate increases based on this cash needs methodology and cash flows was also prepared to develop a plan to complete all necessary capital improvement projects and meet all debt requirements while maintaining the financial health of the Utility. That study, based on the cash needs revenue requirement, is documented in a Draft Sewer Rate Study, dated June 2019.

The June 2019 Draft Sewer Rate Study recommended a significant rate increase to fund the utility's ongoing operating expenses and the projected \$64.3 million capital improvement program over the next five years, including \$54.7 million for WWTP upgrades. The rate increase was also recommended to maintain an adequate level of reserve funds available to cover ongoing equipment replacements, unexpected replacement and rehabilitation needs, or unexpected fluctuations in revenues or expenses.

The June 2019 Draft Sewer Rate Study recommended the La Crosse Common Council consider a plan to increase rates over a three-year period. The recommended rate increases were projected to increase the utility's user charge revenues by about \$974,000 in 2020 and by a total of about \$3.8 million per year by 2022.

On September 18, 2019, the La Crosse Common Council approved the first phase of the rate increase described in the June 2019 Draft Sewer Rate Study and directed that the rate increase be implemented starting January 1, 2020. The La Crosse Common Council also directed that additional rate increases be brought back to the Common Council for approval.

After the adoption of the sewer rates for 2020, the final facility plan for the WWTP upgrades was completed. The final facility plan estimates costs of \$68.0 million, including design engineering and construction management, with construction planned to begin in 2021 with final completion in 2023. In addition to the increased cost estimates for the WWTP, the Utility incurred substantial unplanned capital costs and repairs in 2019 and revised its capital improvement program for 2020 through 2025.

The Utility has historically prepared a full user charge study every five years. However, due to the phased approach of the implementation, updated cost estimates for the project, and the need to include planned rate increases with the CWF loan application, the Utility will need to examine the rates more frequently in the interim. For these reasons, the City hired Trilogy Consulting to conduct an updated Sanitary Sewer Rate Study in 2020.

As indicated above, the June 2019 Draft Sewer Rate Study, was based upon a revenue requirement developed using a cash needs methodology. La Crosse's contracts with its wholesale customers provide that user rates would be set based on the methodology (i.e., a cash-based methodology) used by John A. Mayer in his prior rate studies. However, La Crosse's contracts with all its wholesale customers (other than the City of La Crescent, MN) expired at the end of 2019. La Crosse is in the process of re-negotiating the terms of these wholesale contracts, and considering its options going forward if acceptable contract terms cannot be reached.

This updated Sanitary Sewer Rate Study was prepared using the utility basis method to establish the revenue requirement for the study. The utility basis method, used by the Wisconsin Public Service Commission to set water rates and sewer rates for regulated utilities, allows for recovery of depreciation expense and a return on net investment rate base instead of debt service and cash funded capital outlay. Most wastewater utilities use a cash-basis method, but some use the utility basis method, particularly those with wholesale customers. The advantages of the utility basis method include the stability in the amount and allocation of capital costs because the revenue requirements are based on all utility assets rather than current debt service and cash funded capital projects. Another advantage for utilities serving wholesale customers is the opportunity to generate a return on the investment in utility infrastructure. Finally, using a utility basis method can in some cases generate more revenues than a cash basis method depending on the age of the utility's infrastructure and the amount of annual debt service. Appendix C includes more information regarding the use of the utility basis and setting an appropriate rate of return.

STUDY METHODOLOGY

The study is generally organized into three sections:

1. An analysis of historical and forecast conditions including historical revenues, expenses, and usage statistics. One difference from the previous analysis is that this study separates out additional annualized expenses for operation and maintenance of the La Crescent forcemain. These expenses were not separated out in the June 2019 Draft Sewer Rate Study.
2. An analysis of forecast utility plant and depreciation expenses. This section of the study is a new section of the report intended to address the timing of additions and retirements of capital improvements, and the projection of depreciation expense.
3. Establishment of revenue requirement, allocation of costs and detailed rate calculations.

Previous rate studies, including the June 2019 Draft Rate Study, used a cash-based method to determine the Utility's revenue requirements. The cash-based method calculates rates to recover the cost of operating and maintenance expenses, administrative expenses, debt service, capital outlay, and deposits into the equipment replacement fund or other reserve funds. This study uses the utility basis method to determine revenue requirements, which recovers operating and maintenance expenses, administrative expenses, depreciation expense, and a return on investment.

This study calculates projected rates for 2022 and 2023, the years in which the Utility plans to complete major improvements to the WWTP. For 2021, in light of the ongoing Covid-19 pandemic and the impact of further rate increases at this time, it is recommended that the rates adopted in 2020 remain in place for 2021.

SECTION ONE -- HISTORICAL AND FORECAST CONDITIONS

A. HISTORICAL AND FORECAST CUSTOMER DEMANDS

The following tables show the analysis of historical trends in total wastewater treated at the wastewater treatment plant, as well as number of customers, customer volume of wastewater and estimated loadings (BOD, TSS, P, and NH-3) for retail domestic strength customers, wholesale customers, tank truck haulers, and surcharge loadings for high-strength waste.

Wastewater Treatment Plant Influent

The total volume of wastewater treated at the plant has increased steadily from 2015 through 2019. 'Billable' flow, or wastewater generated by customers, has remaining steady during the

Table 1 - Historical and Forecast WWTP Influent and Total Sales

	2015	2016	2017	2018	2019	2020	2021	2022	2023
WWTP Influent	CCF	CCF	CCF	CCF	CCF	CCF	CCF	CCF	CCF
Total Annual WWTP Influent	4,482,401	4,610,568	4,741,094	4,838,571	5,673,427	5,009,907	4,759,908	4,772,680	4,784,845
Total Billable Flow	4,052,523	4,106,053	4,060,156	4,064,191	4,119,028	3,952,125	3,988,793	3,999,497	4,009,691
Billable Flow as % of Inflow	90.4%	89.1%	85.6%	84.0%	72.6%	78.9%	83.8%	83.8%	83.8%
Inflow/Infiltration	429,878	504,516	680,938	774,380	1,554,399	1,057,782	771,115	773,184	775,154
I/I as % of Influent	9.6%	10.9%	14.4%	16.0%	27.4%	21.1%	16.2%	16.2%	16.2%
Maximum Flow per Day	15,829	20,816	23,316	22,366	25,695	17,914	21,065	21,122	21,176
Average Day Flow	12,281	12,597	12,989	13,256	15,544	13,726	13,041	13,076	13,109
Max Day/Average Day Ratio	1.29	1.65	1.79	1.69	1.65	1.31	1.62	1.62	1.62
BOD (mg/l)	385	365	320	320	280	266			
TSS (mg/l)	320	293	306	276	249	226			
P (mg/l)	7.42	5.91	6.30	6.51	5.68	6.19			
NH3 (mg/l)	40	34	39	44	39	41			
BOD (lbs)	10,762,182	10,503,256	9,480,870	9,679,616	9,921,970	8,311,047	9,845,268	9,868,652	9,890,923
TSS (lbs)	8,964,253	8,426,846	9,042,527	8,321,644	8,804,103	7,054,049	9,000,962	9,022,675	9,043,355
P (lbs)	207,525	170,080	186,492	196,743	201,193	193,518	192,295	192,763	193,208
NH3 (lbs)	1,122,975	964,810	1,155,145	1,337,940	1,367,539	1,268,517	1,080,021	1,082,694	1,085,239
Total Sales									
Volume Sold	4,052,523	4,106,053	4,060,156	4,064,191	4,119,028	3,952,125	3,988,793	3,999,497	4,009,691
Estimated BOD (lbs.)	9,648,722	9,930,180	10,051,340	10,080,857	10,074,113	9,765,159	9,845,268	9,868,652	9,890,923
Estimated TSS (lbs.)	8,657,271	8,657,198	8,883,117	9,281,857	9,222,129	8,926,575	9,000,962	9,022,675	9,043,355
Estimated Phos. (lbs.)	185,668	189,041	189,361	192,224	195,018	189,460	192,295	192,763	193,208
Estimated NH-3 (lbs.)	1,027,497	1,051,864	1,047,483	1,069,564	1,099,601	1,070,866	1,080,021	1,082,694	1,085,239

Note: 2020 influent flows and billable sales estimated based on the first 6-9 months of 2020 depending on customer class.

last five years. The remaining volume is clearwater infiltration and inflow (I/I), which has been increasing for the last several years, from 10 percent of wastewater treated to 27 percent of wastewater treated in 2019. Much of this is weather dependent. Wastewater entering the plant is sampled daily for wastestrengths, so the total pounds of BOD, TSS, P, and NH-3 entering the plant per year can be estimated. Total pounds of these constituents have fluctuated from year to year over the last several years. Forecast influent flows and loadings for the study are the sum of forecast billable flows and loadings for each customer class, plus 16.2 percent I/I based on the five-year historical average.

Domestic Wastewater

The total volume of domestic strength waste has fluctuated slightly but has remained steady overall during the last five years. The 2020 sales shown are estimates based on the first 9 months of the year, but they were not used in projecting demand going forward, again because of the anomalous fluctuations related to Covid-19 safety measures. Residential and Commercial demand has continued to decline, while Industrial demand has increased. Billable domestic strength wastewater for 2021 is projected to be about 1 percent higher than 2020 sales based on trend analyses of the number of customers and usage per customer for each customer class.

The estimated pounds of pollutant loadings for domestic strength waste are based on the domestic strength assumptions of 350 mg/l for BOD, 325 mg/l for TSS, 7 mg/l for phosphorus, and 40 mg/l for NH-3, which were revised for 2020.

Table 2 - Historical and Forecast Domestic Strength Sales

	2015	2016	2017	2018	2019	2020	2021	2022	2023
	CCF	CCF	CCF	CCF	CCF	CCF	CCF	CCF	CCF
Customer Demand									
Residential Sewer Usage	845,579	824,050	812,662	795,136	777,255	790,395	762,033	762,204	762,318
Residential Customers	13,356	13,355	13,384	13,308	13,392	13,396	13,369	13,372	13,374
Usage / Customer	63	62	61	60	58	59	57	57	57
Multi-Family Sewer Usage	307,386	321,882	338,778	334,969	333,774	336,825	354,463	357,628	360,341
Multi-Family Customers	740	754	757	762	770	768	784	791	797
Usage / Customer	415	427	448	440	433	439	452	452	452
Commercial Sewer Usage	838,644	793,194	755,647	660,164	610,380	524,163	500,560	500,560	500,560
Commercial Customers	1,457	1,444	1,448	1,428	1,416	1,419	1,400	1,400	1,400
Usage / Customer	576	549	522	462	431	369	358	358	358
Industrial Sewer Usage	780,242	770,018	746,135	996,940	1,038,347	1,078,876	1,090,114	1,101,352	1,112,591
Industrial Customers	86	84	81	94	96	96	97	98	99
Usage / Customer	9,073	9,167	9,212	10,578	10,816	11,238	11,238	11,238	11,238
Public Authority Sewer Usage	245,685	278,285	303,826	182,076	227,152	170,164	195,493	195,493	195,493
Public Authority Customers	181	180	179	187	179	175	183	183	183
Usage / Customer	1,357	1,546	1,697	972	1,269	972	1,068	1,068	1,068
Onalaska	721,389	744,945	741,136	721,163	713,925	698,305	713,028	709,157	705,286
La Crescent	138,156	141,604	134,045	136,879	167,493	146,678	137,671	137,671	137,671
Campbell	105,289	160,326	155,179	163,159	171,163	126,567	155,279	155,279	155,279
Shelby SD#2	66,596	66,640	65,947	65,043	65,043	65,043	65,043	65,043	65,043
Strength									
Total Domestic Strength Usage (mg/l)	4,048,966	4,100,945	4,053,355	4,055,529	4,104,532	3,937,017	3,973,684	3,984,388	3,994,582
Estimated BOD (lbs.)	350	8,845,861	8,959,421	8,855,449	8,860,199	8,967,256	8,601,283	8,681,392	8,727,047
Estimated TSS (lbs.)	325	8,214,014	8,319,462	8,222,917	8,227,328	8,326,738	7,986,905	8,061,292	8,103,686
Estimated Phos. (lbs.)	7	176,917	179,188	177,109	177,204	179,345	172,026	173,628	174,096
Estimated NH-3 (lbs.)	40	1,010,956	1,023,934	1,012,051	1,012,594	1,024,829	983,004	992,159	997,377

Note: 2020 influent flows and billable sales estimated based on the first 9 months of 2020.

Hauled Waste

The WWTP accepts three categories of hauled waste: holding tank waste, septic tank waste, and grease trap waste. Hauled waste is categorized into one of the three categories based on self-reporting or random samples of the actual waste strength. The threshold waste strengths of each category of hauled waste are shown in the table. As shown, the number of loads and gallons of waste of each category treated at the WWTP increased each year from 2015 through 2019. Hauled waste is projected to increase again in 2020 based on the first six months of the year.

Projections for 2021 and beyond are set at the estimated 2020 levels, as these are more difficult to predict on an annual basis.

Category “B” Surcharge Loadings

The Utility has several high-strength industrial customers that discharge waste with higher than domestic strength loadings of some or all the treated constituents. Wastewater from these customers is routinely sampled and the total pounds of loadings in excess of what would be found in domestic strength waste is estimated from the samples. These customers are charged the normal domestic strength rate per hundred cubic feet (CCF) of volume, plus a surcharge per pound for loadings in excess of domestic strength waste.

As shown in the following table, surcharge loadings have generally been increasing from 2015 through 2018, with a decline in 2019 in some categories caused by more pretreatment by the customers. Loadings of all constituents have seen an increase through the first six months of 2020, which mirrors the general trend in higher industrial demand. Projections are generally set at the estimated levels of 2020, based on discussions with Utility staff that those higher levels are expected to continue.

Table 3 - Historical and Forecast Hauled Waste and High-Strength Industrial Sales

		2015	2016	2017	2018	2019	2020	2021	2022	2023
Tank Truck Haulers										
	Strength									
Holding Tank (Low Strength)	(mg/l)	2,187	2,878	3,842	4,067	8,984	10,084	10,084	10,084	10,084
No. Loads		705	817	977	1,073	1,592	1,722	1,722	1,722	1,722
Estimated BOD (lbs.)	600	8,190	10,778	14,388	15,233	33,649	37,766	37,766	37,766	37,766
Estimated TSS (lbs.)	1,800	24,570	32,333	43,164	45,700	100,947	113,299	113,299	113,299	113,299
Estimated Phos. (lbs.)	25	341	449	600	635	1,402	1,574	1,574	1,574	1,574
Estimated NH-3 (lbs.)	50	682	898	1,199	1,269	2,804	3,147	3,147	3,147	3,147

Septic Tank (Medium Strength)		937	1,561	2,075	3,503	3,972	3,716	3,716	3,716	3,716
No. Loads		184	365	567	863	923	944	944	944	944
Estimated BOD (lbs.)	1,800	10,527	17,540	23,316	39,359	44,625	41,747	41,747	41,747	41,747
Estimated TSS (lbs.)	5,500	32,165	53,595	71,243	120,263	136,354	127,559	127,559	127,559	127,559
Estimated Phos. (lbs.)	60	351	585	777	1,312	1,488	1,392	1,392	1,392	1,392
Estimated NH-3 (lbs.)	100	585	974	1,295	2,187	2,479	2,319	2,319	2,319	2,319

Grease Trap (High Strength)		434	669	884	1,091	1,541	1,310	1,310	1,310	1,310
No. Loads		205	252	320	384	501	432	432	432	432
Estimated BOD (lbs.)	7,500	20,300	31,313	41,397	51,094	72,126	61,310	61,310	61,310	61,310
Estimated TSS (lbs.)	15,000	40,599	62,626	82,795	102,187	144,252	122,619	122,619	122,619	122,619
Estimated Phos. (lbs.)	120	325	501	662	817	1,154	981	981	981	981
Estimated NH-3 (lbs.)	200	541	835	1,104	1,362	1,923	1,635	1,635	1,635	1,635

Category "B" Surcharge Loadings										
Estimated BOD (lbs.)		763,845	911,128	1,116,789	1,114,972	956,457	1,023,054	1,023,054	1,023,054	1,023,054
Estimated TSS (lbs.)		345,924	189,181	462,998	786,379	513,838	576,192	576,192	576,192	576,192
Estimated Phos. (lbs.)		7,734	8,318	10,213	12,256	11,629	13,488	14,721	14,721	14,721
Estimated NH-3 (lbs.)		14,733	25,223	31,833	52,151	67,565	80,761	80,761	80,761	80,761

Note: Hauled waste for 2020 estimated based on first 6 months of 2020. Surcharge loadings for 2020 estimated based on the 12 months ending March 2020.

B. FORECAST REVENUES AT PRESENT RATES

The table below shows the forecast 2021 revenues at adopted 2020 rates based on the forecast number of customers and volume of sewer usage. The adopted 2020 rates for each customer class are shown in the table.

Table 4 - Forecast 2021 User Charge Revenues at Present Rates

<u>City of La Crosse (Retail)</u>		Residential	Multi-Family	Commercial	Industrial	Public Authority	Total
Sewer Usage Charges							
Volume	CCF	762,033	354,463	500,560	1,090,114	195,493	2,902,664
Current Rates	\$/CCF	\$1.52	\$1.52	\$1.52	\$1.52	\$1.52	
Revenues		\$1,158,290	\$538,784	\$760,852	\$1,656,973	\$297,149	\$4,412,049
Fixed Charges							
Meter Size		13,369	784	1,400	97	183	15,833
5/8	\$15.00	8,589	164	293	3	4	9,053
3/4	\$15.00	4,634	213	558	13	44	5,462
1	\$24.00	143	314	344	27	31	859
1½	\$39.00	2	25	58	10	17	112
2	\$60.00	1	59	104	13	63	240
3	\$108.00	-	4	23	9	15	51
4	\$174.00	-	4	18	14	9	45
6	\$342.00	-	1	2	6	-	9
8	\$543.00	-	-	-	4	-	4
10	\$813.00	-	-	-	-	-	-
12	\$1,080.00	-	-	-	-	-	-
Revenues		\$807,660	\$76,704	\$143,292	\$38,760	\$36,372	\$1,102,788
Unmetered							
Swr-Flat	\$40.84	-	-	1	1	1	3
Wells	\$40.84	38	-	2	1	2	43
French Is.	\$40.84	-	-	2	-	4	6
Revenues		\$6,208	\$0	\$817	\$327	\$1,144	\$8,495
Wholesale							
		Onalaska	La Crescent	Campbell	Shelby SD#2	Total	
Volume	MG	533.345	102.978	116.149	48.652	801.123	
Rate	\$/ MG	\$1,970	\$2,012	\$1,970	\$1,970		
Revenues	\$	\$1,050,689	\$207,192	\$228,813	\$95,844	\$1,582,538	
Hauled Waste							
		Holding Tank Waste	Septic Tank Waste	Grease Trap Waste	Total		
Volume	1,000 gallons	7,543	2,779	980	11,301		
Rate	\$/ 1,000 gallons	\$7.22	\$18.50	\$51.41			
No. of Loads	Loads	1,722	944	432	3,098		
Rate	\$/ load	\$14.00	\$14.00	\$14.00			
Revenues	\$	\$78,566	\$64,632	\$56,408	\$199,606		
Category "B" Surcharges							
		BOD	TSS	Phosphorus	NH-3	Total	
Excess Loadings	Pounds	1,023,054	576,192	14,721	80,761	1,694,728	
Rate	\$/ Pound	\$0.226	\$0.239	\$4.867	\$0.451		
Revenues	\$	\$231,210	\$137,710	\$71,648	\$36,423	\$476,991	
						Total	\$7,782,467

C. HISTORICAL AND FORECAST OPERATION AND MAINTENANCE EXPENSES

The following table shows the actual operation and maintenance expenses by category for 2015 through 2019, the five-year average, the projected 2020 expenses, the 2021 budget, and projected O&M expenses for 2022-2023. The expenses for 2019 and the projected 2020 expenses were significantly higher than prior years due to higher than usual costs for repairs to sewer mains as well as increased costs for sludge disposal (Recycling Services) and consulting services. Expenses for 2022-2023 were projected based on inflation of one percent per year over 2021 budgeted expenses, except for health insurance and consulting services. In total, operation and maintenance expenses for 2021 through 2023 are expected to be less than 2019-2020 expenses, but substantially higher than expenses for 2015-2018.

The Facility Plan estimated a net reduction of \$98,900 in operating expenses resulting from the improvements to the WWTP, or about 1.6 percent of projected 2021-2023 expenses. However, these changes were not factored into the 2021-2023 expenses since the project will not be completed until late 2023.

Table 5 - Historical and Forecast Operation and Maintenance Expenses

Acct No.	Account Description	2015	2016	2017	2018	2019	Projected		2022	2023	
							5-Year Average	Actual Test Year			
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	
511100	Regular Salaries	787,249	825,318	889,393	196,233	275,127	594,664	1,399,735	319,000	322,190	325,412
511100	Reg Salaries - Other City Depts	187,841	172,738	175,971	206,123	89,849	166,504		100,250	101,253	102,265
511100	Reg Salaries - Industrial PreTrmnt	41,797	2,945	3,912	56,132	57,350	32,427		60,750	61,358	61,971
511100	Reg Salaries - Oper & Mtce	135,684	163,084	90,168	602,880	574,139	313,191		597,400	603,374	609,408
511100	Reg Salaries - Sanitary Collection	41,726	14,894	17,793	190,371	155,725	84,102		182,275	184,098	185,939
511100	Reg Salaries - Mech Sludge Cake	0	0	0	2,436	46,372	9,762		0	0	0
511100	Reg Salaries - Storm Collection	842	434	417	0	0	338		0	0	0
511100	Reg Salaries - Training	9,864	20,536	11,240	16,472	14,578	14,538		16,201	16,363	16,527
511100	Reg Salaries - Leave								0	0	0
511100	Reg Salaries - Sanitary Lift Sta	70,268	74,012	82,111	71,145	110,296	81,567		91,130	92,041	92,962
511101	Limited Term EE Salaries								15,000		
511200	Overtime Wages	16,973	20,165	18,738	236	232	11,269	25,600	250	253	255
511200	Overtime Wages - Other City Depts	509	308	203	89	98	241		250	253	255
511200	Overtime Wages - Industrial PreTrmnt	81	0	41	1,234	182	308		200	202	204
511200	Overtime Wages - Oper & Mtce	485	951	1,639	18,905	18,556	8,107		17,000	17,170	17,342
511200	Overtime Wages - Sanitary Collection	60	62	488	9,117	22,757	6,497		9,000	9,090	9,181
511200	Overtime Wages - Mech Sludge Cake	130	0	205	639	10,846	2,364		0	0	0
513100	Overtime Wages - Training	2,920	3,064	2,997	1,480	5,056	3,104		3,300	3,333	3,366
513000	Benefits Budget Only							594,339	0	0	0
513100	Health Insurance ⁽¹⁾	697,282	537,730	565,238	528,468	491,077	563,959		351,500	358,530	365,701
513200	Life Insurance	5,100	4,430	4,485	4,295	9,606	5,583		9,050	9,141	9,232
513300	Retirement Benefits	77,447	213,642	88,548	80,927	87,180	115,141		90,600	91,506	92,421
513400	Social Security Taxes	99,659	83,868	88,784	89,591	93,589	91,098		96,700	97,667	98,644
519013	Safety Seminar	0	1,381	0	536	0	383		0	0	0
521200	Audit & Accounting Services	2,500	2,500	2,500	2,500	2,500	2,500	2,615	2,742	2,769	2,797
521400	Consulting Services ⁽²⁾	31,472	50,196	21,816	26,273	210,408	68,033	550,000	190,000	40,000	40,400
521402	Sample Tests Sludge	4,433	4,620	4,158	11,147	9,252	6,722	10,000	10,000	10,100	10,201
521403	Sample Tests Plant Water	34,666	20,146	20,144	20,367	22,887	23,642	20,000	25,000	25,250	25,503
521404	Sample Tests Pretreat	9,977	5,367	12,683	8,470	8,831	9,066	10,000	10,000	10,100	10,201
521500	Recruitment	0	0	0	708	637	177	500	500	505	510
521910	Environmental Fees	53,615	47,324	43,508	41,702	41,201	45,470	45,000	45,000	45,450	45,905
521911	Other Prof Svc Tv Inspect	25,183	17,341	26,594	18,507	50,099	27,545	50,000	50,000	50,500	51,005
522100	Telephone	9,866	7,582	4,253	7,366	13,170	8,448	15,000	15,000	15,150	15,302
522200	Electricity	549,716	525,995	498,698	555,066	571,726	540,240	535,000	535,000	540,350	545,754
522300	Water	52,968	66,803	65,558	32,376	38,449	51,231	50,000	40,000	40,400	40,804
522400	Natural Gas	41,001	43,011	31,661	41,970	38,662	39,261	50,000	50,000	50,500	51,005
522500	Sewer	95,146	109,860	128,707	50,703	63,971	89,677	60,000	60,000	60,600	61,206
522501	San. Dist #1 & #2 Payments	6,178	6,149	6,198	6,260	7,398	6,437	8,000	8,000	8,080	8,161
522502	Sewer Pay To Other Munic	59,620	133,066	107,106	114,214	111,543	105,110	115,000	132,250	133,573	134,908
522550	Storm Sewer Fee Payments	8,352	8,988	8,837	8,029	4,235	7,689	10,000	10,000	10,100	10,201
522600	Recycling Services	873,214	816,440	841,630	682,428	1,020,155	846,773	1,300,000	1,200,000	1,212,000	1,224,120
522702	Grit & Screenings Disposal	6,851	7,136	9,302	18,308	11,119	10,543	10,000	20,000	20,200	20,402
524100	Repair/Maint-Grounds	6,396	6,898	6,443	9,130	13,064	7,217	12,000	10,000	10,100	10,201
524200	Repair/Maint-Buildings	11,757	27,349	29,685	15,340	12,079	19,242	18,000	28,000	28,280	28,563
524400	Repair/Maint-Sewer	13,492	11,946	12,042	9,790	24,547	14,363	20,000	20,000	20,200	20,402
524500	Repair/Maint-Vehicles	32,913	13,867	24,088	22,247	30,512	24,725	30,000	30,000	30,300	30,603
524600	Repair/Maint-Equip	293,787	414,130	240,118	313,232	240,289	300,311	300,000	325,000	328,250	331,533
524700	Repair/Maint Commun. Equip	8,437	639	1,157	788	867	2,378	1,500	1,500	1,515	1,530
524800	Repair/Maint Biogas Cogeneration									0	
	Repair/Maint La Crescent FM ⁽³⁾								5,107	5,158	5,209
526100	City Services	263,012	239,135	247,655	242,920	266,715	251,888	191,557	248,103	250,584	253,090
526150	Water Dept Svcs Inventory	198,805	184,389	193,074	277,638	294,146	229,610	300,000	305,000	308,050	311,131
529100	Laundry Services	1,396	1,664	1,869	1,093	1,745	1,553	1,800	1,800	1,818	1,836

City of La Crosse
2020 Sewer Rate Update - Utility Basis

Acct No.	Account Description	2015	2016	2017	2018	2019	5-Year Average	Projected			
								Actual	Test Year	2020	2021
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
531100	Office Supplies	2,531	1,710	2,145	2,035	1,934	2,071	2,000	18,000	2,020	2,040
531110	Supplies Safety Coordinator	11	0	0	0	0	2	0	0	0	0
531200	Postage	1,145	765	768	872	1,286	967	1,500	1,500	1,515	1,530
533100	Gasoline	17,022	17,288	12,770	13,298	15,897	15,255	15,000	15,000	15,150	15,302
533200	Oil	7,953	6,923	5,198	9,053	0	5,825	0	0	0	0
533201	Diesel Fuel	25,192	27,861	24,599	17,046	32,892	25,518	25,000	28,000	28,280	28,563
533300	Grease	97	28	284	0	0	82	0	0	0	0
533500	Dept Supplies	56,780	56,909	60,032	61,167	37,411	54,460	60,000	60,000	60,600	61,206
533532	Chemical Supplies	127,344	132,847	143,695	171,870	181,237	151,399	180,000	185,000	186,850	188,719
533539	Safety Equipment	2,213	6,957	1,552	2,794	9,290	4,561	15,000	10,000	10,100	10,201
533541	Pretreatment Supplies	119	816	328	100	255	323	1,000	1,000	1,010	1,020
533600	Small Tools	1,667	1,569	2,564	1,543	4,379	2,345	0	0	0	0
533610	Lab Equipment	241	0	0	0	28,272	5,703	30,000	30,000	30,300	30,603
535100	Equipment Rental	0	0	0	1,220	1,762	596	1,000	1,000	1,010	1,020
535210	Contracted Sewer Repair	69,357	55,771	64,044	85,004	341,506	123,137	100,000	125,000	126,250	127,513
535211	Foundary Supplies - Sewer	22,725	23,345	31,254	39,810	51,074	33,642	50,000	50,000	50,500	51,005
535212	Concrete Supplies - Sewer	6,357	3,511	17,766	24,581	2,268	10,897	15,000	15,000	15,150	15,302
535409	Contracted Flatwork	0	0	0	0	54,629	10,926	25,000	25,000	25,250	25,503
536000	Travel	1,979	5,229	2,847	4,551	4,426	3,806	5,000	5,000	5,050	5,101
536001	Travel - Safety Coordinator	0	90	0	0	0	18	0	0	0	0
539000	Miscellaneous	3,911	6,798	8,507	6,919	3,738	5,975	7,000	7,000	7,070	7,141
551001	Property Insurance	59,106	55,340	57,481	56,042	56,118	56,817	65,000	69,000	69,690	70,387
551005	Worker Compensation Insur	47,060	52,957	54,153	61,659	59,982	55,162	58,000	66,000	66,660	67,327
551016	Liability Insurance	66,445	41,637	26,312	23,980	25,534	36,782	27,000	29,700	29,997	30,297
586035	COVID - Operating Supplies							4,500	10,000	0	0
599998	Flood Damage	0	0	6,297	0	0	1,259	0	0	0	0
591100	Bad Debt Expense	1,094	1,131	2,831	73	504	1,126	2,000	2,000	2,020	2,040
592299	Transfer to Budget Carryover	0	0	0	0	13,422	2,684	0	0	0	0
593002	Adj. for OPEB	(173,111)	(247,176)	(280,260)	(137,077)	0	(167,525)	0	0	0	0
599900	Prior Expense	(23,537)	0	21,740	0	(17)	(363)	0	0	0	0
TOTAL OPERATION & MAINTENANCE		5,194,374	5,164,407	4,898,762	5,062,416	6,100,623	5,288,447	6,424,646	6,091,058	5,962,173	6,025,380

Notes:

All expenses inflated by 1 percent per year, except for the following noted.

(1) Expenses for 2022 and 2023 based on inflation of 2 percent per year.

(2) Expenses for 2022 and 2023 based on discussion with Utility staff.

(3) Estimated annualized cost of repairs and maintenance to the La Crescent forcemain. Per the agreement with La Crescent, 85% of this cost is to be paid by La Crescent, and 15% by La Crosse.

SECTION TWO -- FORECAST UTILITY PLANT AND DEPRECIATION EXPENSE

Between 2014 and 2019, the Utility capitalized \$8.9 million, or an average of \$1,482,000 per year, in routine capital improvements and equipment replacement.

The Utility's Capital Improvement Program for 2020 through 2023 includes \$9.8 million of routine capital improvements and equipment, in addition to an estimated \$68.0 million in WWTP improvements planned for 2021-2023. Based on this increase in utility plant (less retirements), annual depreciation expense is forecast to increase from \$1.2 million per year to \$1.3 million per year by 2022 and to over \$3.5 million in 2023 following the completion of the

WWTP improvements. For some categories of assets, depreciation is projected to decrease between 2020 and 2023 because some assets will be fully depreciated. Projected utility plant and depreciation are shown in the following charts, followed by detailed tables. It should be noted that these figures are estimates based on the Utility’s capital improvement program and the facility plan for the WWTP. The amount of WWTP costs included each year are based on the projected start and completion dates for the project. Costs for construction management are included in WWTP Non-Specific. Actual amounts capitalized each year, and the classification of assets may vary from the figures shown.

Figure 1 - Existing and Projected Utility Plant, 2019-2023

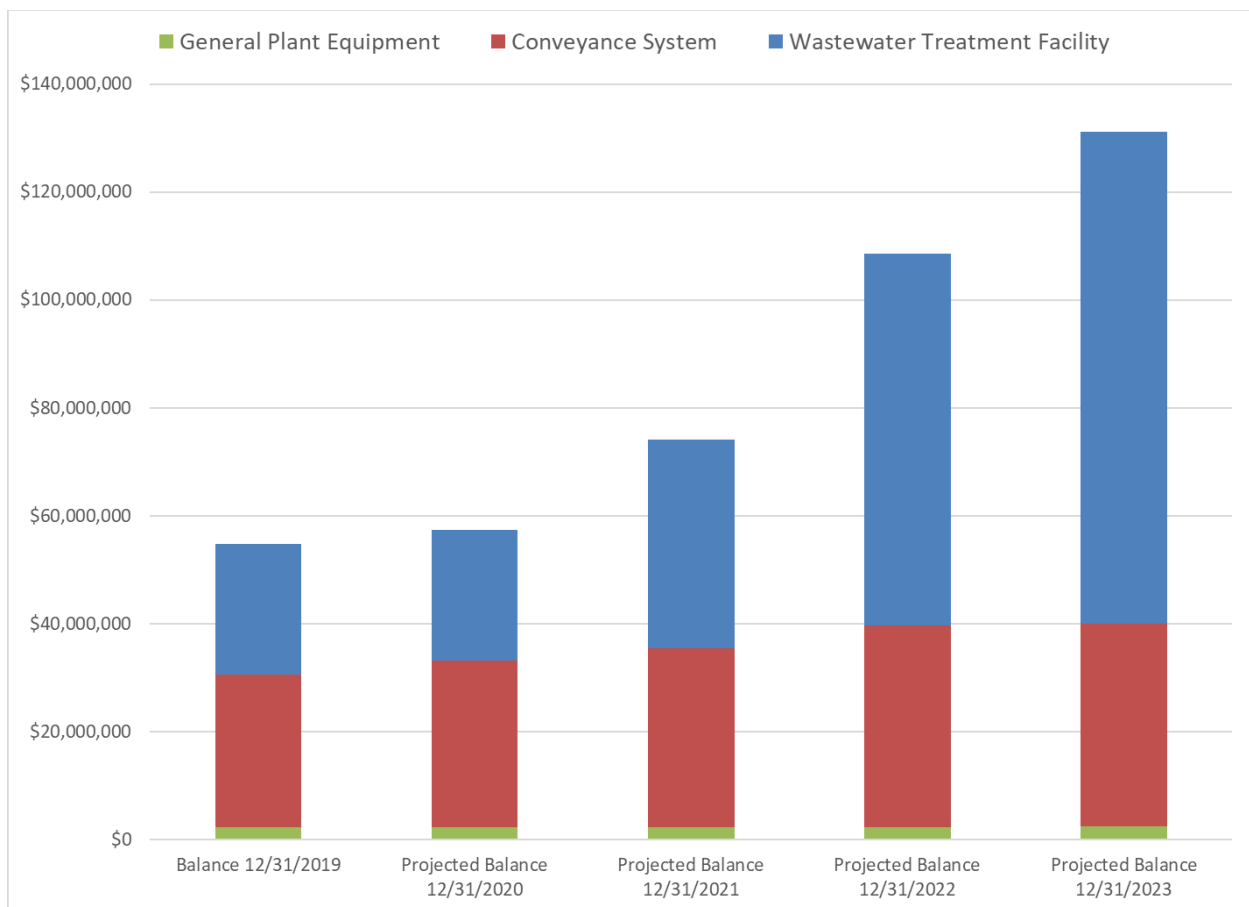


Figure 2 - Existing and Projected Depreciation Expense, 2020-2023

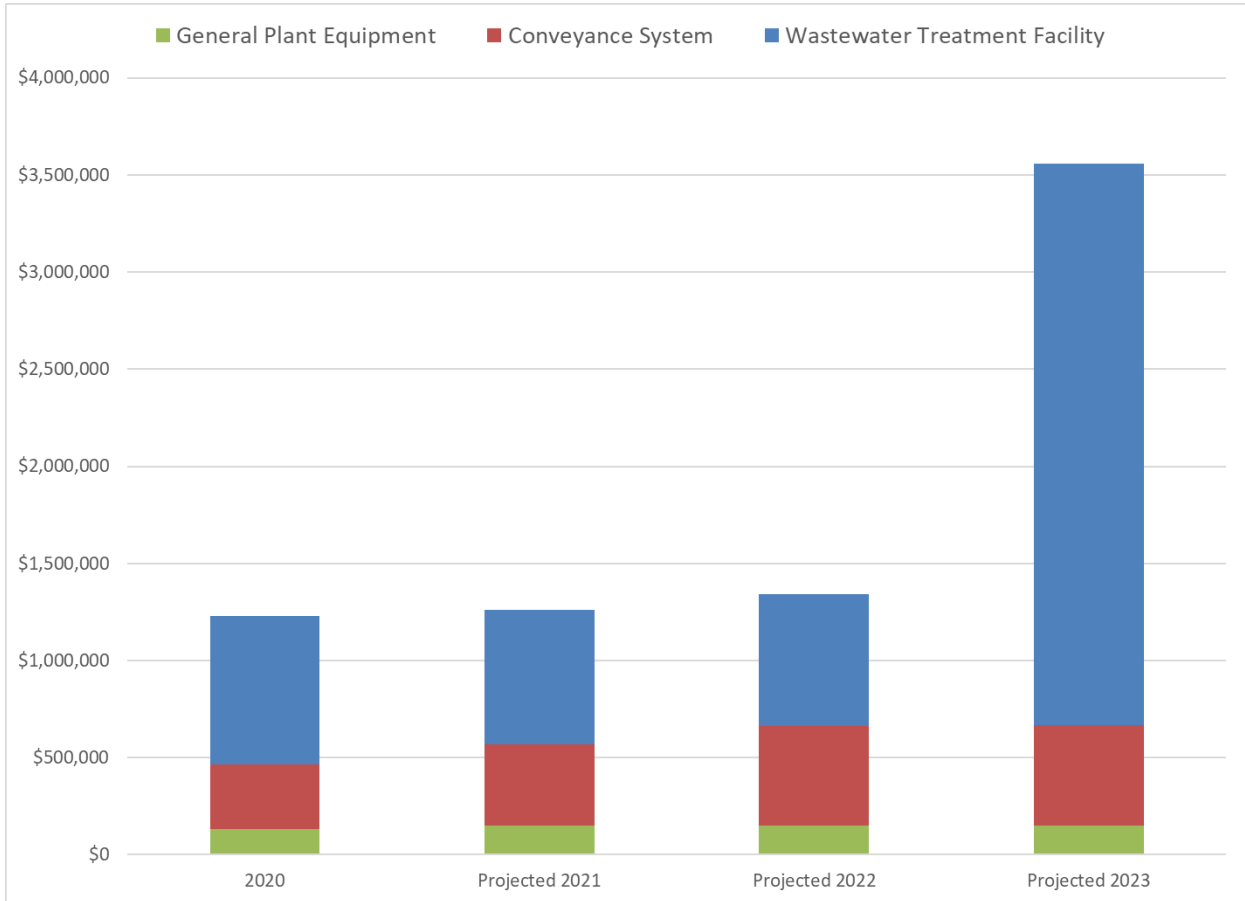


Table 6 - Existing and Projected Utility Plant

	Balance 12/31/2019	Projected Balance 12/31/2020	Projected Balance 12/31/2021	Projected Balance 12/31/2022	Projected Balance 12/31/2023	Change: 2019-2023	% Change
Wastewater Treatment Facility							
Prelim.- Raw Sewage Pumping	\$890,991	\$890,991	\$890,991	\$890,991	\$890,991	\$0	0%
Prelim.- Bar Screening / Communion	\$1,030,279	\$1,030,279	\$1,030,279	\$1,030,279	\$999,981	(\$30,299)	-3%
Prelim.- Grit Removal	\$700,526	\$706,264	\$706,264	\$706,264	\$706,264	\$5,738	1%
Prelim.- Septage Receiving	\$0	\$0	\$0	\$1,016,512	\$1,778,896	\$1,778,896	
Primary Treatment	\$713,874	\$713,874	\$713,874	\$713,874	\$713,874	\$0	0%
Primary Clarifier	\$1,906,132	\$1,906,132	\$1,917,657	\$1,940,707	\$1,957,995	\$51,864	3%
Secondary - Activated Sludge	\$1,657,019	\$1,657,019	\$2,646,448	\$4,625,304	\$5,988,231	\$4,331,212	261%
Secondary - Phosphorus	\$1,925,461	\$1,925,461	\$3,376,497	\$6,278,569	\$8,455,123	\$6,529,662	339%
Secondary - NH ₃ -N	\$24,023	\$24,023	\$24,023	\$24,023	\$24,023	\$0	0%
Secondary - Final Clarifier	\$223,995	\$223,995	\$223,995	\$223,995	\$223,995	\$0	0%
Biosolids Trmnt & Disposal	\$10,461,525	\$10,461,525	\$18,459,358	\$34,455,022	\$46,129,003	\$35,667,478	341%
Disinfection	\$1,121,728	\$1,121,728	\$1,121,728	\$1,121,728	\$1,121,728	\$0	0%
Plant Site Piping & Pumps	\$1,070,138	\$1,070,138	\$1,070,138	\$1,070,138	\$1,070,138	\$0	0%
Laboratory & Monitoring	\$65,372	\$69,418	\$69,418	\$69,418	\$69,418	\$4,046	6%
Flow Monitoring Eqmt.	\$61,196	\$61,196	\$61,196	\$61,196	\$61,196	\$0	0%
Safety Equipment	\$7,094	\$7,094	\$7,094	\$7,094	\$7,094	\$0	0%
Electrical	\$861,194	\$876,194	\$4,179,637	\$10,786,522	\$15,741,686	\$14,880,492	1728%
WWTP Non-Specific	\$1,448,942	\$1,448,942	\$2,299,920	\$4,001,875	\$5,278,342	\$3,829,400	264%
Subtotal Wastewater Treatment Facility	\$24,169,489	\$24,194,273	\$38,798,515	\$69,023,511	\$91,217,977	\$67,048,488	277%
Conveyance System							
Interceptor Mains	\$7,195,961	\$7,245,961	\$8,132,961	\$8,484,961	\$8,484,961	\$1,289,000	18%
Interceptor Lift Stations	\$2,414,523	\$3,219,023	\$3,219,023	\$3,219,023	\$3,219,023	\$804,500	33%
Collection Mains / Other Eqmt.	\$16,762,872	\$18,255,181	\$19,197,181	\$20,717,181	\$21,082,181	\$4,319,309	26%
Collection Lift Stations (All)	\$760,194	\$760,194	\$1,138,194	\$3,138,194	\$3,138,194	\$2,378,000	313%
Other Conveyance System - Non Specific	\$1,179,989	\$1,364,989	\$1,364,989	\$1,734,989	\$1,734,989	\$555,000	47%
Subtotal Conveyance System	\$28,313,539	\$30,845,348	\$33,052,348	\$37,294,348	\$37,659,348	\$9,345,809	33%
General Plant Equipment							
Office Furn. & Eqmt.- EDP	\$54,489	\$54,489	\$54,489	\$54,489	\$54,489	\$0	0%
Transport. Eqmt.	\$2,012,335	\$2,036,680	\$2,052,680	\$2,052,680	\$2,100,180	\$87,846	4%
Communications Eqmt.	\$5,699	\$5,699	\$5,699	\$5,699	\$5,699	\$0	0%
Tools, Shop & Misc.	\$64,261	\$64,261	\$64,261	\$64,261	\$64,261	\$0	0%
Other Genrl. Eqmt.	\$124,303	\$124,303	\$124,303	\$124,303	\$124,303	\$0	0%
Subtotal General Plant Equipment	\$2,261,086	\$2,285,432	\$2,301,432	\$2,301,432	\$2,348,932	\$87,846	4%
Total Utility Plant	\$54,744,114	\$57,325,053	\$74,152,295	\$108,619,292	\$131,226,257	\$76,482,143	140%

Table 7 - Existing and Projected Depreciation Expense, 2020-2023

	2020	Projected 2021	Projected 2022	Projected 2023	Change: 2020-2023	% Change
Wastewater Treatment Facility						
Prelim.- Raw Sewage Pumping	\$18,719	\$18,719	\$18,719	\$18,719	\$0	0%
Prelim.- Bar Screening / Communion	\$25,000	\$25,000	\$25,000	\$25,000	\$0	0%
Prelim.- Grit Removal	\$27,943	\$29,143	\$29,143	\$29,143	\$1,200	4%
Prelim.- Septage Receiving	\$0	\$0	\$0	\$45,743	\$45,743	
Primary Treatment	\$3,236	\$750	\$750	\$750	(\$2,486)	-77%
Primary Clarifier	\$94,765	\$90,958	\$90,958	\$92,686	(\$2,078)	-2%
Secondary - Activated Sludge	\$83,195	\$69,513	\$63,452	\$211,866	\$128,671	155%
Secondary - Phosphorus	\$65,941	\$65,941	\$65,941	\$283,056	\$217,115	329%
Secondary - NH ₃ -N	\$2,402	\$0	\$0	\$0	(\$2,402)	-100%
Secondary - Return Sludge Pumping	\$0	\$0	\$0	\$0	\$0	
Secondary - Final Clarifier	\$4,507	\$4,507	\$4,507	\$3,153	(\$1,354)	-30%
Biosolids Trmnt & Disposal	\$279,400	\$259,941	\$256,965	\$1,435,723	\$1,156,323	414%
Disinfection	\$63,067	\$29,511	\$29,511	\$29,511	(\$33,555)	-53%
Plant Site Piping & Pumps	\$28,856	\$28,856	\$28,856	\$28,856	\$0	0%
Laboratory & Monitoring	\$3,845	\$4,395	\$4,395	\$4,395	\$550	14%
Flow Monitoring Eqmt.	\$2,007	\$2,007	\$2,007	\$2,007	\$0	0%
Electrical	\$12,640	\$12,790	\$12,790	\$581,343	\$568,703	4499%
WWTP Non-Specific	\$48,698	\$47,431	\$45,804	\$99,408	\$50,710	104%
Subtotal Wastewater Treatment Facility	\$764,220	\$689,461	\$678,796	\$2,891,360	\$2,127,140	278%
Conveyance System						
Interceptor Mains	\$69,485	\$82,375	\$82,375	\$82,375	\$12,890	19%
Interceptor Lift Stations	\$57,355	\$83,621	\$83,621	\$83,430	\$26,074	45%
Collection Mains / Other Eqmt.	\$161,718	\$187,835	\$202,156	\$206,511	\$44,793	28%
Collection Lift Stations (All)	\$6,934	\$16,569	\$83,089	\$83,089	\$76,155	1098%
Other Conveyance System - Non Specific	\$37,625	\$48,472	\$60,806	\$60,806	\$23,181	62%
Subtotal Conveyance System	\$333,117	\$418,872	\$512,046	\$516,210	\$183,093	55%
General Plant Equipment						
Office Furn. & Eqmt.- EDP	\$3,796	\$3,796	\$3,796	\$1,106	(\$2,690)	-71%
Transport. Eqmt.	\$121,449	\$141,056	\$141,056	\$142,748	\$21,299	18%
Communications Eqmt.	\$570	\$570	\$570	\$570	\$0	0%
Other Genrl. Eqmt.	\$5,897	\$5,897	\$5,897	\$5,664	(\$233)	-4%
Subtotal General Plant Equipment	\$131,713	\$151,319	\$151,319	\$150,088	\$18,375	14%
Total Depreciation Expense	\$1,229,049	\$1,259,652	\$1,342,162	\$3,557,658	\$2,328,609	189%

SECTION THREE -- REVENUE REQUIREMENTS, COST-OF-SERVICE ANALYSIS AND RATE DESIGN

The process of determining user charge rates involves three basic steps:

- Revenue Requirements – In the first step, the amount of revenues that the Utility needs to recover from user charge rates is determined.
- Cost of Service Analysis – In the second step, each category of costs within the revenue requirements is allocated to various utility functions, and then to each customer class.
- Rate Design – In the third step, rates per unit of service are calculated to recover the total amount needed and the appropriate amount from each customer class.

The tables attached to this report as an appendix show the detailed revenue requirements, the cost of service analysis, the rate calculations, and the estimated revenues at the projected rates for 2021-2023.

A. REVENUE REQUIREMENT

Under the utility-basis method, utility revenue requirements include operation and maintenance expense, depreciation expense, and a return on investment. For purposes of this study, revenue requirements were calculated for 2021 assuming that there will be no change in rates. Revenue requirements were estimated for 2022 and 2023 based on the assumption that construction of the WWTP will occur evenly over 9 quarters, beginning in third-quarter 2021 and ending in third-quarter 2023.

The revenue requirements for 2022 include projected O&M expenses with inflationary increases, estimated depreciation expense for capital improvements planned for 2020-2022, including WWTP improvements, and return on investment on the projected average net investment rate base for 2022, including WWTP improvements completed in 2021 and 2022.

The 2023 revenue requirements include projected O&M expenses with inflationary increases, estimated depreciation expense for capital improvements planned for 2020-2023, including the WWTP improvements to be completed in 2023, and return on investment on the estimated average net investment rate base for 2023.

Other operating revenues, including late payment fees, sewer deduct meter charges, and pretreatment charges, were deducted from revenue requirements for O&M expenses.

The following table summarizes the revenue requirements for 2021-2023. As shown, the revenue requirements for 2021 include \$1.2 million of depreciation expense and \$720,000 of return on

investment, equal to a 1.65 percent rate of return on net investment rate base. Revenue requirements for 2022 include \$1.3 million of depreciation expense and \$2.1 million return on investment, equal to a 3.34 percent average rate of return on net investment rate base. The 2023 revenue requirements include \$3.6 million of depreciation expense and \$1.6 million of return on investment, equal to 1.87 percent average rate of return on investment. The rate of return for each year was evaluated to determine if it would provide sufficient revenues to cover the Utility's cash needs for debt service and capital outlay, as described in Section Four. The current benchmark rate of return used by the PSC to establish water rates is 4.90 percent, so the Utility could generate additional revenues by increasing the rate of return.

Revenue requirements for 2023 are based on the Utility paying for the entire cost of the loan used to fund the WWTP improvements. If an entity other than the Utility or City does pay for a portion of the improvements, then it would be considered contributed plant and would not be included as a part of the net investment rate base. This would decrease the total net investment rate base by the amount contributed by other parties. This could occur due to either: one or more customers paying for a share of the capital costs upfront; or the Utility receiving some principal forgiveness through the Clean Water Fund loan program. Either of these occurring would reduce the total amount required to be borrowed and paid back by the Utility, and the rate base and rates would be revised to reflect the lower costs accordingly.

Table 8 - Projected Revenue Requirements, 2021-2023

	Projected 2021 - Utility Basis	Projected 2022 - Utility Basis	Projected 2023 - Utility Basis
Operation and Maintenance	\$6,091,058	\$6,054,214	\$6,037,277
Equipment Replacement Fund (ERF)	\$0	\$0	\$0
Subtotal O&M&R	\$6,091,058	\$6,054,214	\$6,037,277
Depreciation Expense	\$1,259,652	\$1,342,162	\$3,557,658
Return on Investment	\$720,535	\$2,100,698	\$1,589,641
Subtotal Capital	\$1,980,187	\$3,442,860	\$5,147,299
Total Revenue Requirements	\$8,071,244	\$9,497,075	\$11,184,576
Less: Shelby SD#1 Revenues	(\$59,399)	(\$65,027)	(\$78,244)
Less: Other Income	(\$229,378)	(\$228,208)	(\$203,055)
Net Revenue Requirements	\$7,782,467	\$9,203,840	\$10,903,277
User Charge Revenues Before Increase	\$7,782,467	\$7,799,864	\$9,240,176
Required Increase in Revenues	\$0	\$1,403,976	\$1,663,101
Percentage Increase in User Charge Revenues	0.0%	18.0%	18.0%

Overall, no rate increase is recommended for 2021. A rate increase of 18.0 percent over adopted 2020 rates is recommended to cover the 2022 net revenue requirements of \$9,203,840. Another 18.0 percent increase will be needed to cover 2023 net revenue requirements of \$10,903,277.

Revenue requirements for 2022 are comprised of 64 percent for operation and maintenance, 14 percent for depreciation, and 22 percent for return on investment. For 2023, O&M expenses are projected to comprise 54 percent of revenue requirements, depreciation expense 32 percent, and return on investment the remaining 14 percent.

Figure 3 - 2022 Revenue Requirements

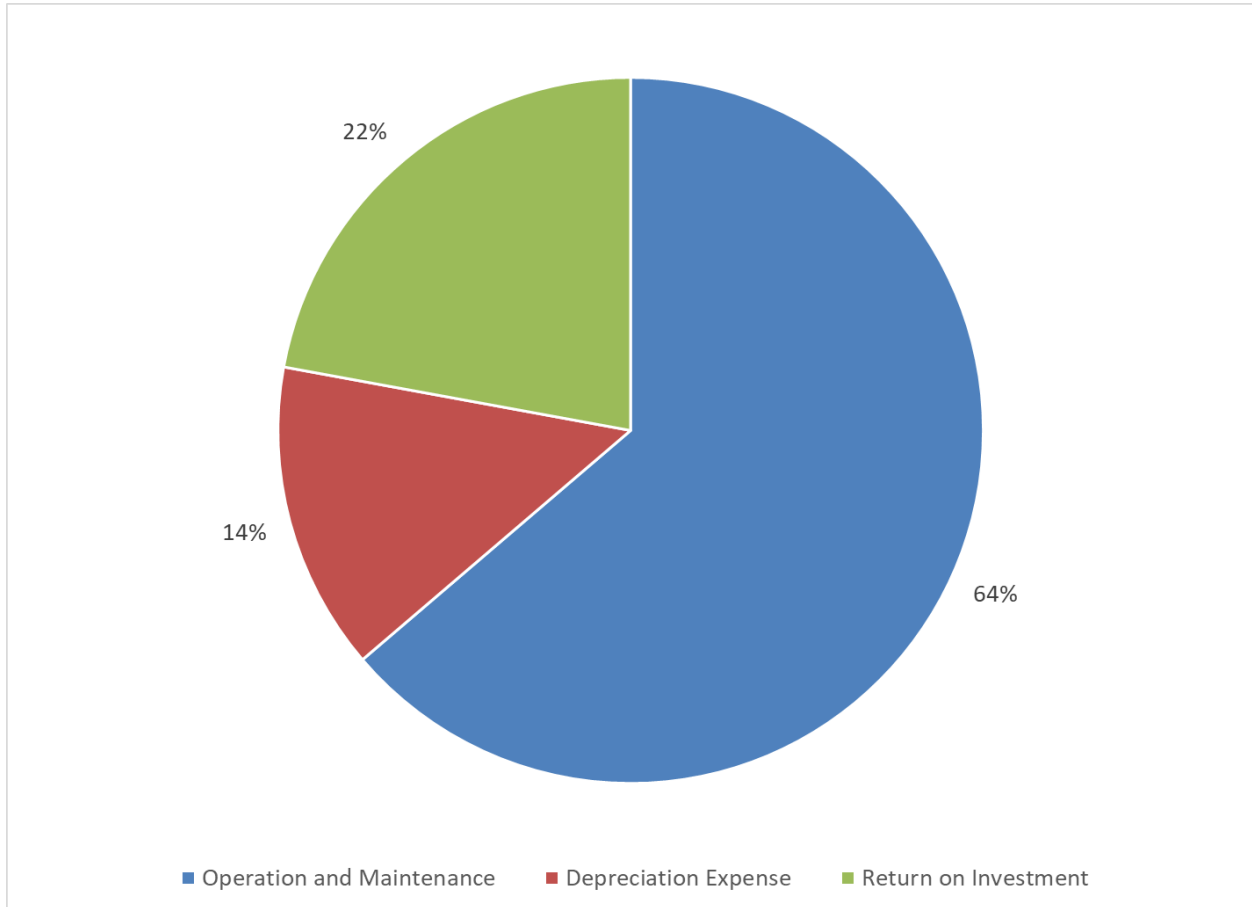
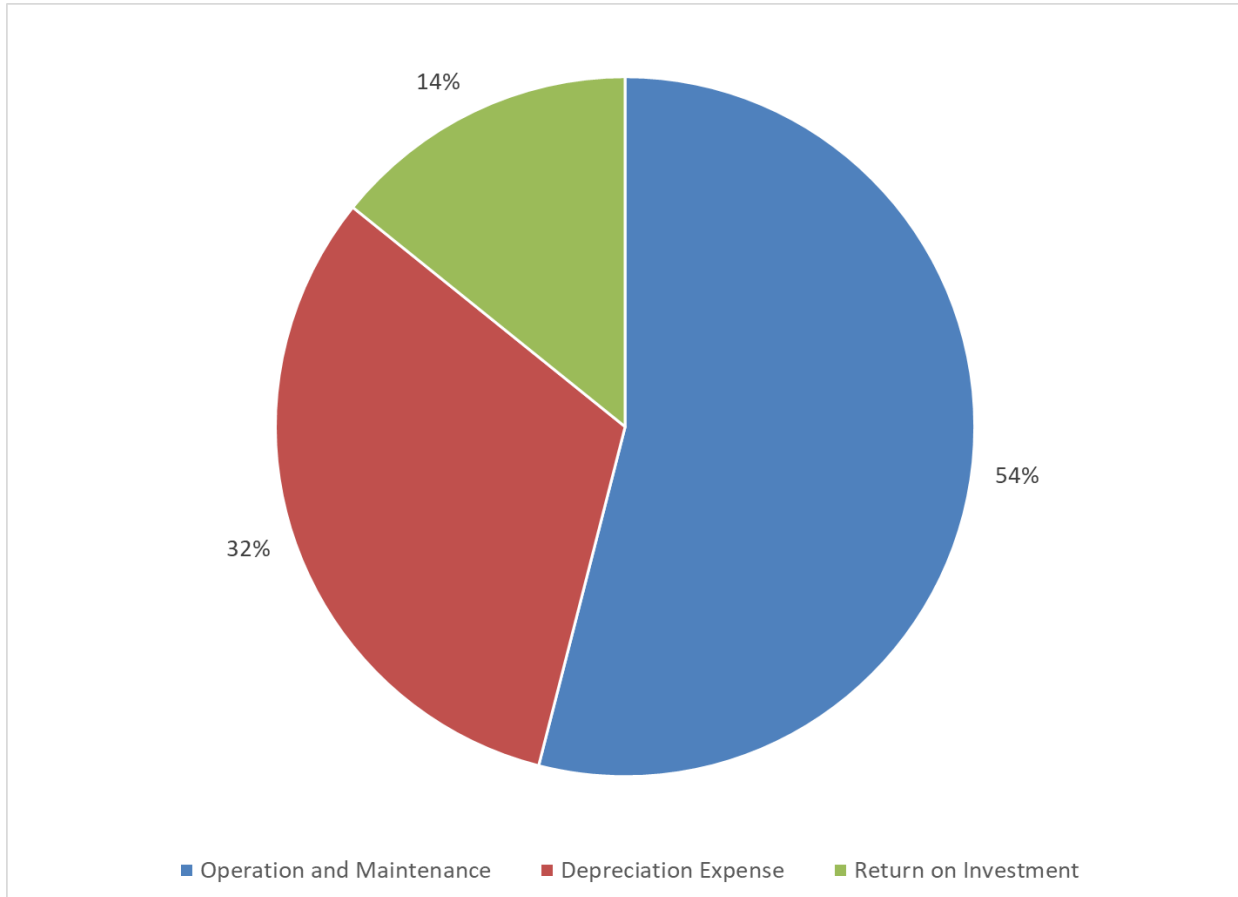


Figure 4 - 2023 Revenue Requirements



B. COST OF SERVICE ANALYSIS

Costs were first allocated to the functions served by the utility. Each category of the utility's costs was split between costs to provide collector and interceptor sewer conveyance, wastewater treatment for average daily volume, costs to treat pollutant loadings (BOD, TSS, P, and NH-3), billing costs, connection costs that are relatively fixed per customer or meter, costs for the Utility's industrial pretreatment program, and costs specifically to receive hauled waste.

Most costs were allocated to utility functions using the methodology and formulas developed by John A. Mayer in prior rate studies. However, certain adjustments to the formulas and methods were made based on more detailed information available or changing conditions such as the planned improvements to the WWTP and the change to the utility basis for determining revenue requirements. Several adjustments to the cost allocation were described in the June 2019 Draft

Sewer Rate Study. Additional adjustments were made to the June 2019 Draft Sewer Rate Study in this study, as described below.

Utility Plant

The percentage of Utility Plant allocated to each utility function is used to allocate return on investment to each utility function (collection system, interceptor system, flow, BOD, TSS, Phosphorus, NH-3, billing, meters/connections, hauled waste) under this method.

Depreciation Expense

Depreciation expense is a new category of revenue requirements that was not used in past rate studies. Depreciation expense for each category of assets was allocated to each utility function using the same percentages as the allocation of utility plant.

Return on Net Investment Rate Base

- Return on investment is a new category of revenue requirements that was not used in past rate studies. Return on investment is calculated as a rate of return applied to the Utility's net investment rate base. Net investment rate base is the total original cost of utility assets in service, net of accumulated depreciation. Net investment rate base was estimated based on the projected amount of average utility plant for each year.
- Return on investment was calculated separately for collection system assets and other system assets since the wholesale customers do not share in costs related to the collection system.
- For all non-collection system assets, a rate of return of 4.90 percent was used for determining the return on investment for wholesale customers. This rate is equal to the current benchmark rate of return used by the Wisconsin Public Service Commission for municipal water utilities. The PSC benchmark rate of return, as adjusted from time to time, is a reasonable rate of return to charge wholesale customers on the investment that the City and the Utility have made in the infrastructure needed to serve Utility customers.
- For retail customers, the rate of return used for non-collection system assets was 1.51 percent for 2021 rates, 4.18 percent for the projected 2022 rates, and 1.57 percent for the projected 2023 rates. For collection system assets, return on investment was included in retail rates. As the Utility (or any utility) is not obligated to collect the full benchmark rate of return, this rate can be adjusted as needed to generate sufficient revenues while also providing retail customers some benefit from being residents and property owners of the City that owns the wastewater infrastructure.
- Return on investment was allocated between the various utility functions using the same allocation percentages as those developed for utility plant.

Costs for Operation and Maintenance of the La Crescent Forcemain

La Crosse and La Crescent jointly paid for the construction of a forcemain to carry La Crescent sewage and La Crosse sewage from Barron Island, Pettibone Park, and South Pettibone Drive under the Mississippi River to a connection point in Riverside Park ('La Crescent Forcemain'). La Crosse paid for 15 percent of the construction cost and La Crescent paid for 85 percent. The La Crescent Forcemain is owned and maintained by the City of La Crosse. The Agreement for the Design, Construction and Maintenance of Sanitary Sewer Forcemains Between the City of La Crosse, WI and the City of La Crescent, MN, dated February 8, 2007, states that the costs of repairing and maintaining the forcemain shall be included in the wholesale rates charged to La Crescent.

To date, the Utility has not charged La Crescent for repairs and maintenance to the forcemain. However, the Utility incurred substantial costs in 2019 to repair manholes and anticipates significant costs for 'pigging' the line every 5 years, in addition to annual maintenance inspections. The costs for pigging and intermittent repairs were annualized based on the expected frequency of such costs and were added to the annual maintenance inspection costs to determine an average annual cost for repairing and maintaining the La Crescent Forcemain. 'La Crescent Forcemain' was added as a new utility function so that these costs could be allocated between La Crosse and La Crescent only.

Revenues and expenses related to the La Crescent Forcemain rate will be accounted for separately and La Crescent will be directly billed for their portion of the costs, with the La Crosse portion collected through the retail rates.

The following tables shows the summary of the allocation of costs to utility functions for 2022 and 2023.

Table 9 - Summary of Allocation of Revenue Requirements to Utility Functions, 2022

Retail Rate of Return - Collection System	CONVEYANCE		WASTE TREATMENT				CUSTOMER COSTS		HAULED WASTE			
	Operating Cost	Total (\$)	Collection System (\$)	Interceptor System (\$)	Flow (\$)	BOD (\$)	TSS (\$)	P (\$)		NH-3 (\$)	Billing (\$)	Meter / Connection (\$)
Retail Rate of Return - Non-Collection		0.00%										
NIRB - Collection System	14,844,592	4.18%	1,098,453	709,362	715,552	1,114,577	1,219,283	462,312	231,158	(18,539)	279,649	9,042
NIRB - Non-Collection	48,124,821		261,394	212,299	192,687	198,055	246,467	109,819	18,023	38,782	64,637	0
Return on NIRB - Collection System	0		0	0	0	0	0	0	0	0	0	0
Return on NIRB - Non-Collection	2,010,681		0	369,249	252,881	492,224	588,533	245,045	46,150	0	0	16,599
Total	9,178,850		1,359,847	1,290,909	1,161,121	1,804,856	2,054,282	817,177	295,330	20,243	344,286	25,641
Wholesale ROR - Collection System		0.00%										
Wholesale ROR - Non-Collection		4.90%										
NIRB - Collection System	14,844,592		1,098,453	709,362	715,552	1,114,577	1,219,283	462,312	231,158	(18,539)	279,649	9,042
NIRB - Non-Collection	48,124,821		261,394	212,299	192,687	198,055	246,467	109,819	18,023	38,782	64,637	0
Return on NIRB - Collection System	0		0	0	0	0	0	0	0	0	0	0
Return on NIRB - Non-Collection	2,358,116		0	433,053	296,578	577,278	690,228	287,388	54,124	0	0	19,467
Total	9,526,285		1,359,847	1,354,713	1,204,817	1,889,910	2,155,978	859,519	303,305	20,243	344,286	28,509
Overall Rate of Return		3.34%										
NIRB - Collection System	14,844,592		1,098,453	709,362	715,552	1,114,577	1,219,283	462,312	231,158	(18,539)	279,649	9,042
NIRB - Non-Collection	48,124,821		261,394	212,299	192,687	198,055	246,467	109,819	18,023	38,782	64,637	0
Return on NIRB - Combined	2,100,698		0	383,560	262,790	513,532	617,030	256,154	48,165	0	0	19,467
Total	9,268,867		1,359,847	1,305,221	1,171,029	1,826,163	2,082,780	828,286	297,345	20,243	344,286	28,509

Table 10 - Summary of Allocation of Revenue Requirements to Utility Functions, 2023

Retail Rate of Return - Collection System	CONVEYANCE		WASTE TREATMENT				CUSTOMER COSTS		HAULED WASTE		
	Operating Cost	Total	Collection System	Interceptor System	Flow	BOD	TSS	P		NH-3	Billing
	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Retail Rate of Return - Collection System											
Retail Rate of Return - Non-Collection											
NIRB - Collection System	16,799,702										
NIRB - Non-Collection	64,778,166										
Total											
Operation and Maintenance	5,834,222	956,442	5,261	665,715	622,344	1,144,113	1,273,618	675,381	208,856	(17,582)	285,381
Depreciation	3,557,658	244,968		196,220	379,040	945,774	1,049,799	492,573	103,768	36,659	61,099
Return on NIRB - Collection System	0	0	0	0	0	0	0	0	0	0	0
Return on NIRB - Non-Collection	1,016,882	0	129,612	129,612	112,393	275,113	318,315	138,782	27,190	0	0
Total	10,408,762	1,201,410	5,261	991,547	1,113,776	2,365,000	2,641,733	1,306,736	339,814	19,077	346,479
Wholesale ROR - Collection System											
Wholesale ROR - Non-Collection											
NIRB - Collection System	16,799,702										
NIRB - Non-Collection	64,778,166										
Total											
Operation and Maintenance	5,834,222	956,442	5,261	665,715	622,344	1,144,113	1,273,618	675,381	208,856	(17,582)	285,381
Depreciation	3,557,658	244,968		196,220	379,040	945,774	1,049,799	492,573	103,768	36,659	61,099
Return on NIRB - Collection System	0	0	0	0	0	0	0	0	0	0	0
Return on NIRB - Non-Collection	3,174,130	0	404,575	404,575	350,826	858,746	993,600	433,198	84,870	0	0
Total	12,566,010	1,201,410	5,261	1,266,510	1,352,209	2,948,633	3,317,018	1,601,152	397,495	19,077	346,479
Overall Rate of Return											
Overall Rate of Return											
NIRB - Collection System	16,799,702										
NIRB - Non-Collection	64,778,166										
Total											
Operation and Maintenance	5,834,222	956,442	5,261	665,715	622,344	1,144,113	1,273,618	675,381	208,856	(17,582)	285,381
Depreciation	3,557,658	244,968		196,220	379,040	945,774	1,049,799	492,573	103,768	36,659	61,099
Return on NIRB - Combined	1,589,641	0	190,907	190,907	166,130	420,493	506,528	215,591	41,677	0	0
Total	10,981,521	1,201,410	5,261	1,052,842	1,167,513	2,510,381	2,829,945	1,383,545	354,302	19,077	346,479

As shown in the following charts, treatment costs for loadings such as BOD, TSS and Phosphorus are expected to be a larger share of the Utility's costs in 2023 as compared to 2022. As the WWTP project is completed, a larger share of the Utility's assets will be related to providing treatment, and depreciation expense and return on investment related to treatment will increase correspondingly.

Figure 5 - Percentage of Costs by Utility Function, 2022

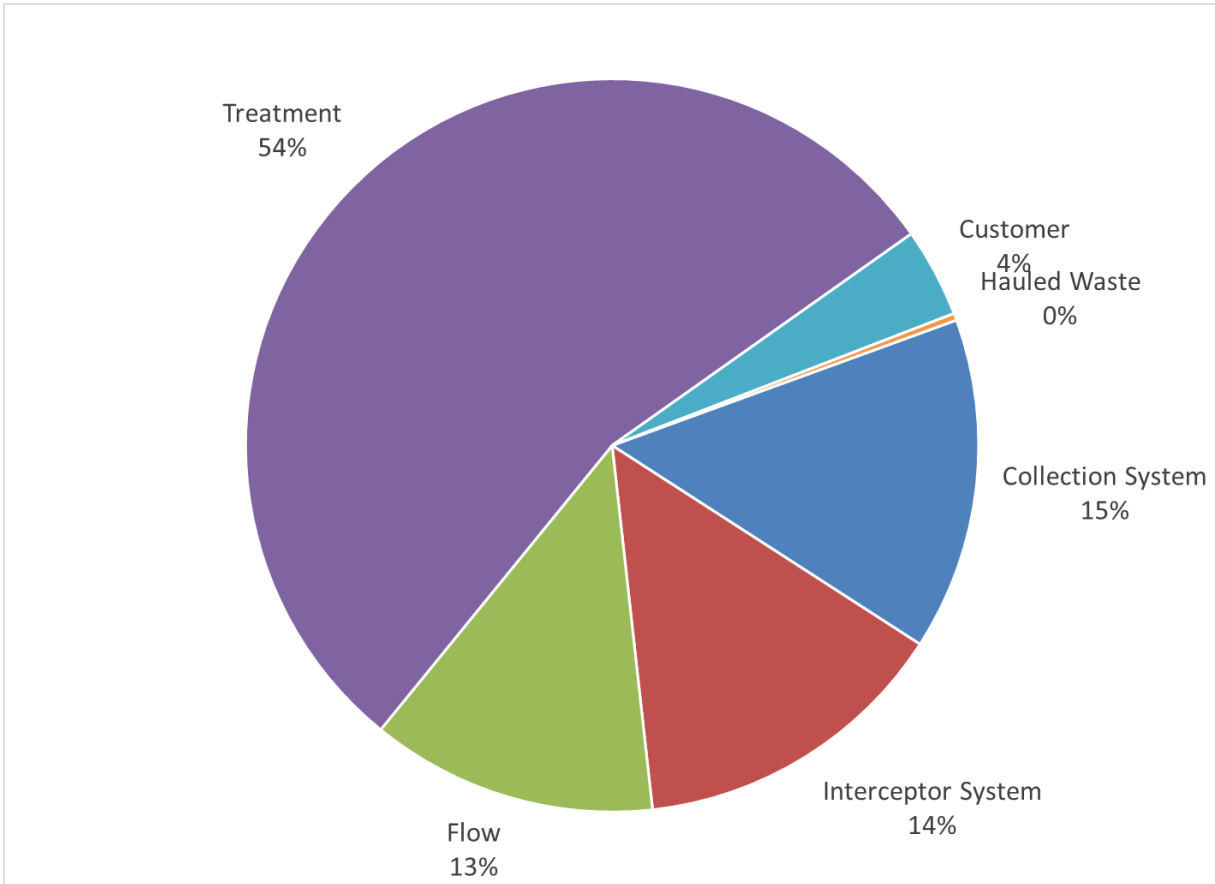
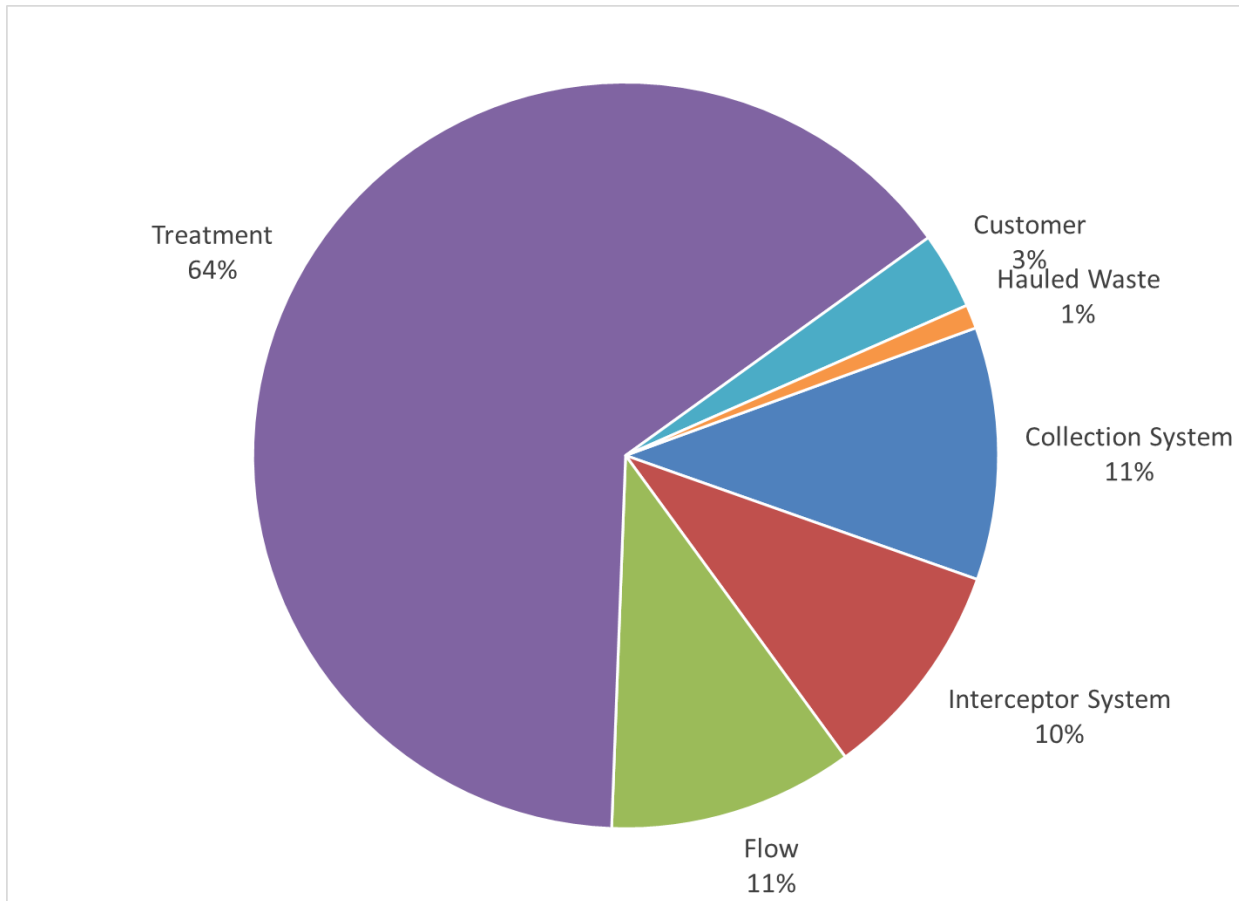


Figure 6 - Percentage of Costs by Utility Function, 2023



Costs for each utility function were next allocated to each customer class (residential, multi-family, commercial, industrial, public authority, wholesale customers, hauled waste, and surcharge loadings) based on the demand characteristics of each customer class. A portion of the conveyance system and WWTP flow costs were allocated to infiltration and inflow (I/I) based on forecast percentage of I/I on an average day basis.

The following adjustments were made to the allocation to customer classes from the June 2019 Draft Sewer Rate Study:

- In the June 2019 Draft Sewer Rate Study, rates for wholesale customers included a component labeled “Additional City Compensation.” The amount of this compensation had an upper limit of 15 percent of the costs shared by wholesale customers and a floor of 10 percent of the costs shared by wholesale customers. The total amount of the compensation was divided by total WWTP influent to arrive at a rate per million gallons for the wholesale customers. The amounts charged to retail customers were reduced by the amount of the additional revenue generated from wholesale customers. In this rate

model, the Additional City Compensation is eliminated. The rationale underlying the Additional City Compensation is now addressed by the differential rate of return applied to wholesale customers in this study.

- In the June 2019 Draft Sewer Rate Study, I/I costs were allocated entirely to retail customers. In this current study, I/I costs were allocated to both retail domestic strength customers and wholesale customers on the basis of the diameter-feet of collection system main and interceptor system main and the volume of sales to retail and wholesale customers.
- The June 2019 Draft Sewer Rate Study did not include the charges for La Crescent Forcemain repair and maintenance. The 85 percent La Crescent share to be directly billed was subtracted from the total cost allocation, and the remaining 15 percent was allocated between La Crosse retail customer classes.

The following table shows the summary of the allocation of costs to each customer class and the projected amount of revenues from each class at the proposed rates for 2022 and 2023. The amount of 'Revenues at Present Rates' shown in each table is the projected revenues at rates established for the prior year. For 2022, the revenues at present rates are based on the adopted 2020 rates (which are recommended to remain in place for 2021), so the percentage increase or decrease in cost of service compared to the revenues at present rates represents the increase over 2020 rates. For 2023, the revenues at present rates are based on the projected 2022 rates, so the increase or decrease shown represents the changes versus projected 2022 rates.

Statement on Meeting Statutory Requirements

When utilizing the Wisconsin DNR's Clean Water Fund loan program, there are certain statutory requirements that must be met regarding the recipient's user charge system¹. Each of these are shown below, along with a discussion of how this study and proposed rate structure address the requirements.

- *Require that each user or user class pays its proportionate share of operation and maintenance costs, including replacement costs, of the treatment works or BMP within the recipient's service area.*²
 - This study, as in previous studies, prepared a detailed analysis of operation and maintenance costs using established methodology for allocating costs among user classes. Rates were calculated to recover each user class's proportionate share of costs, according to the detailed cost allocation.

¹ Wisconsin Administrative Code NR 162.08

² Wisconsin Administrative Code NR 162.08(3)(a)

- *Provide that the costs of operation and maintenance for all flow not directly attributable to users be distributed proportionally among all users of the recipient's treatment works or BMP.*³
 - This study specifically establishes an allocation for indirect flow, or inflow and infiltration, by distributing it to user classes based on proportional flow in each type of facility (collection, interceptor, treatment plant) that each user class contributes. This study's methodology adheres to a more fair approach than is required by using separate allocations of costs of indirect flows within the collection and interceptor networks.
- *Require that the charges for users or user classes generate sufficient revenue to pay costs identified in par. (e) 2. and 3.*⁴
 - As shown in Tables 11 and 12, the study has calculated rates to generate revenues at 100 percent of the revenue requirements and 100 percent of the cost allocation of each user class. The revenue requirements include operation and maintenance costs, plus annual depreciation expense and a return on investment that is sufficient to maintain the required equipment replacement fund balance and provide the required debt coverage.
- *Require that the recipient establish an equipment replacement fund, maintain the equipment replacement fund as a separate fund of the municipality, and make deposits to this fund on an annual basis or maintain a balance acceptable to the department.*⁵
 - The Utility currently maintains an equipment replacement fund based on existing assets. Historically, it has made annual deposits to this fund; however, this study recommends changing the method of funding to a minimum balance approach as this will minimize the annual revenue requirements for the Utility and its user classes. The equipment replacement fund will remain a restricted fund that can only be used for specified uses. The required minimum balance is currently estimated at \$3.0 million. The cash flow forecast shown in Table 17 on page 40 of this study shows the projected Equipment Replacement Fund balance.
- *Require that each user that discharges any toxic pollutants or high strength wastes to a wastewater treatment works pay for any increased costs associated with the discharge.*⁶
 - The study used a similar methodology to allocate costs among the various pollutants as previous studies. As shown in Tables 11 and 12, "Category B" high strength waste industrial customers generate revenue of at least 100 percent of

³ Wisconsin Administrative Code NR 162.08(3)(b)

⁴ Wisconsin Administrative Code NR 162.08(3)(c)

⁵ Wisconsin Administrative Code NR 162.08(3)(d)

⁶ Wisconsin Administrative Code NR 162.08(3)(g)

their allocated costs, which reflects the increases in rates for high strength waste discharges.

- *Be based on actual or estimated use except as provided for under s. 281.58 (14) (b) 7., Stats.⁷*
 - Rates were calculated using either the most recent 12 months of actual use or estimated use based on recent trends in use by user class. Actual and forecast use by customer class are detailed in Tables 2 and 3, on pages 7 and 8 of this report.

Table 11 - Comparison of Revenues at Present Rates, Cost of Service, and Proposed Rates, 2022

Customer Class	Revenue at 2021 Rates	Cost of Service		Proposed Rates		Percent of Cost of Service
		Revenue Required	Increase Over 2021 Rates	Revenue	Increase Over 2021 Rates	
Retail						
Residential	\$1,972,598	\$2,040,869	3.5%	\$2,263,217	14.7%	110.9%
Multi-Family	\$620,971	\$792,773	27.7%	\$756,869	21.9%	95.5%
Commercial	\$904,960	\$1,133,323	25.2%	\$1,095,302	21.0%	96.6%
Industrial	\$1,713,238	\$2,320,074	35.4%	\$2,131,804	24.4%	91.9%
Public Authority	\$334,665	\$431,959	29.1%	\$409,133	22.3%	94.7%
Subtotal Retail	\$5,546,432	\$6,718,998	21.1%	\$6,656,326	20.0%	99.1%
Wholesale						
Onalaska	\$1,044,985	\$1,273,259	21.8%	\$1,254,513	20.1%	98.5%
La Crescent	\$207,192	\$251,535	21.4%	\$247,971	19.7%	98.6%
Campbell	\$228,813	\$278,796	21.8%	\$274,691	20.1%	98.5%
Shelby SD#2	\$95,844	\$116,781	21.8%	\$115,062	20.1%	98.5%
Subtotal Wholesale	\$1,576,834	\$1,920,372	21.8%	\$1,892,237	20.0%	98.5%
Hauled Waste						
Holding Tank Waste	\$78,566	\$60,171	-23.4%	\$78,566	0.0%	130.6%
Septic Tank Waste	\$64,632	\$54,569	-15.6%	\$64,632	0.0%	118.4%
Grease Trap Waste	\$56,408	\$49,827	-11.7%	\$56,408	0.0%	113.2%
Subtotal Hauled Waste	\$199,606	\$164,567	-17.6%	\$199,606	0.0%	121.3%
"Category B" Industrial Waste	\$476,991	\$399,903	-16.2%	\$471,338	-1.2%	117.9%
Total	\$7,799,864	\$9,203,840	18.0%	\$9,219,508	18.2%	100.2%

⁷ Wisconsin Administrative Code NR 162.08(3)(i)

Table 12 - Comparison of Revenue at Present Rates, Cost of Service, and Proposed Rates, 2023

Customer Class	Cost of Service			Proposed Rates		Percent of Cost of Service
	Revenue at 2022 Rates	Revenue Required	Increase Over 2022 Rates	Revenue	Increase Over 2022 Rates	
Retail						
Residential	\$2,263,554	\$2,194,190	-3.1%	\$2,454,779	8.4%	111.9%
Multi-Family	\$762,600	\$881,667	15.6%	\$852,685	11.8%	96.7%
Commercial	\$1,095,302	\$1,247,643	13.9%	\$1,220,528	11.4%	97.8%
Industrial	\$2,153,253	\$2,604,733	21.0%	\$2,431,434	12.9%	93.3%
Public Authority	\$409,133	\$477,287	16.7%	\$458,126	12.0%	96.0%
Subtotal Retail	\$6,683,842	\$7,405,520	10.8%	\$7,417,552	11.0%	100.2%
Wholesale						
Onalaska	\$1,247,665	\$1,748,517	40.1%	\$1,748,842	40.2%	100.0%
La Crescent	\$247,971	\$345,749	39.4%	\$345,800	39.5%	100.0%
Campbell	\$274,691	\$384,961	40.1%	\$385,033	40.2%	100.0%
Shelby SD#2	\$115,062	\$161,251	40.1%	\$161,281	40.2%	100.0%
Subtotal Wholesale	\$1,885,390	\$2,640,479	40.0%	\$2,640,955	40.1%	100.0%
Hauled Waste						
Holding Tank Waste	\$78,566	\$130,491	66.1%	\$130,414	66.0%	99.9%
Septic Tank Waste	\$64,632	\$105,658	63.5%	\$105,563	63.3%	99.9%
Grease Trap Waste	\$56,408	\$87,171	54.5%	\$87,108	54.4%	99.9%
Subtotal Hauled Waste	\$199,606	\$323,320	62.0%	\$323,085	61.9%	99.9%
"Category B" Industrial Waste	\$471,338	\$533,958	13.3%	\$533,703	13.2%	100.0%
Total	\$9,240,176	\$10,903,277	18.0%	\$10,915,295	18.1%	100.1%

C. PROJECTED RATE SCHEDULE

Rate increases for specific types of charges vary from the overall rate increase, as shown in the following detailed schedule of projected rates. The rates for 2020 were adopted by the City Council on September 18, 2019 based on the Draft Sewer Rate Study, dated June 2019. This revised study recommends no change in rates for 2021. The projected rate increases for 2022 and 2023 are based on the assumptions described in preceding sections of this report and should be re-evaluated in 2021 in conjunction with the City's closing on a Clean Water Fund loan for the WWTP project as more detailed plans and refined cost estimates become available.

Table 13 - Current and Proposed Rates

**Billing Cycle - Quarterly
Billing Units - CCF**

Flat Charges	Connection Size	2020 Charge	Proposed Charge - 2021	Proposed Charge - 2022	Proposed Charge - 2023
	5/8	\$15.00	\$15.00	\$15.00	\$15.00
	3/4	\$15.00	\$15.00	\$15.00	\$15.00
	1	\$24.00	\$24.00	\$24.00	\$24.00
	1 1/2	\$39.00	\$39.00	\$39.00	\$39.00
	2	\$60.00	\$60.00	\$60.00	\$60.00
	3	\$108.00	\$108.00	\$108.00	\$108.00
	4	\$174.00	\$174.00	\$174.00	\$174.00
	6	\$342.00	\$342.00	\$342.00	\$342.00
	8	\$543.00	\$543.00	\$543.00	\$543.00
	10	\$813.00	\$813.00	\$813.00	\$813.00
	12	\$1,080.00	\$1,080.00	\$1,080.00	\$1,080.00

Usage Charges	Units	2020 Rate	Proposed Rate - 2021	Proposed Rate - 2022	Proposed Rate - 2023
Domestic Sewage	\$/CCF	\$1.52	\$1.52	\$1.90	\$2.15
Unmetered	Per Quarter	\$40.84	\$40.84	\$47.30	\$51.55
Surcharge Rates					
BOD	\$/pound	\$0.226	\$0.226	\$0.226	\$0.237
TSS	\$/pound	\$0.239	\$0.239	\$0.239	\$0.289
Phosphorus	\$/pound	\$4.867	\$4.867	\$4.867	\$6.755
NH-3	\$/pound	\$0.451	\$0.451	\$0.381	\$0.313
Holding Tank Waste	\$/ 1,000 gal.	\$7.22	\$7.22	\$7.22	\$13.82
Septic Tank Waste	\$/ 1,000 gal.	\$18.50	\$18.50	\$18.50	\$32.82
Grease Trap Waste	\$/ 1,000 gal.	\$51.41	\$51.41	\$51.41	\$82.22
Admin. Charge	\$/ load	\$14.00	\$14.00	\$14.00	\$15.20
Wholesale Rates with Contract:					
La Crescent Force Main	\$/ CCF		\$0.03	\$0.03	\$0.03
La Crescent Force Main	\$/ MG		\$42.00	\$43.00	\$43.00
Standard Wholesale	\$/ CCF	\$1.47	\$1.47	\$1.77	\$2.48
Standard Wholesale	\$/ MG	\$1,970.00	\$1,970.00	\$2,365.00	\$3,315.00
Wholesale Rates without Contract: ⁽¹⁾					
Rate per CCF	\$/ CCF		NA	\$1.98	\$2.77
Rate per MG	\$/ MG		NA	\$2,650.00	\$3,698.00

(1) Non-contract rates were calculated using the same cost allocation methods and percentages, and with a 6.9% rate of return on net investment rate base. For an explanation of the basis for the non-contract rate of return, see Appendix C.

The following table shows the projected increase in monthly sewer bills for example customers of various sizes in each of the La Crosse retail customer classes. As shown, the average residential customer may experience an increase of about \$9.45 per quarter between 2020 and 2023. Customers with higher usage will experience larger increases due to the increase in the volumetric rates.

Table 14 - Comparison of Quarterly Bills for City of La Crosse Customers at Current and 2023 Projected Rates

Billing Units - CCF Billing Cycle - Quarterly				Customer Bill		
Customer Class	Customer Size	Meter Size (Inches)	Billed Volume	Bill at 2020 Rates	Bill at 2023 Rates	Change
Residential	Small	5/8	10	\$30.20	\$36.50	\$6.30
Residential	Average	5/8	15	\$37.80	\$47.25	\$9.45
Residential	Large	5/8	30	\$60.60	\$79.50	\$18.90
Residential	Very Large	1	150	\$252.00	\$346.50	\$94.50
Multi-Family	Small	5/8	200	\$319.00	\$445.00	\$126.00
Multi-Family	Average	1	450	\$708.00	\$991.50	\$283.50
Multi-Family	Large	2	800	\$1,276.00	\$1,780.00	\$504.00
Multi-Family	Very Large	4	2,000	\$3,214.00	\$4,474.00	\$1,260.00
Commercial	Small	5/8	50	\$91.00	\$122.50	\$31.50
Commercial	Average	3/4	460	\$714.20	\$1,004.00	\$289.80
Commercial	Large	3	1,500	\$2,388.00	\$3,333.00	\$945.00
Commercial	Very Large	6	2,500	\$4,142.00	\$5,717.00	\$1,575.00
Industrial	Small	1	1,000	\$1,544.00	\$2,174.00	\$630.00
Industrial	Average	2	10,500	\$16,020.00	\$22,635.00	\$6,615.00
Industrial	Large	4	20,000	\$30,574.00	\$43,174.00	\$12,600.00
Industrial	Very Large	8	150,000	\$228,543.00	\$323,043.00	\$94,500.00
Public Authority	Small	3/4	500	\$775.00	\$1,090.00	\$315.00
Public Authority	Average	1	1,100	\$1,696.00	\$2,389.00	\$693.00
Public Authority	Large	2	2,000	\$3,100.00	\$4,360.00	\$1,260.00
Public Authority	Very Large	4	4,000	\$6,254.00	\$8,774.00	\$2,520.00

D. COMMUNITY RATE COMPARISON

To provide context for the proposed rates for La Crosse, a comparison with the sewer user rates charged by other communities in the region and peer communities around the state was prepared. The basis of the charges, and the estimated total annual bill for a residential customer for each community are shown in the following tables. As shown, for a residential City of La Crosse customer using 44,880 gallons or 6,000 cubic feet of water per year, the estimated annual sewer bill under the adopted rates for 2020 would be \$151.20. The rates are proposed to remain the same for 2021. The projected rates for 2022 would result in an annual bill of \$171.00, or an increase of \$4.95 per quarter over current rates. The projected rates for 2023 would increase the average annual bill to \$181.20 or an increase of \$7.50 per month over current rates. Even with the increase, the average bill would remain well below the average or median bill for the other regional communities.

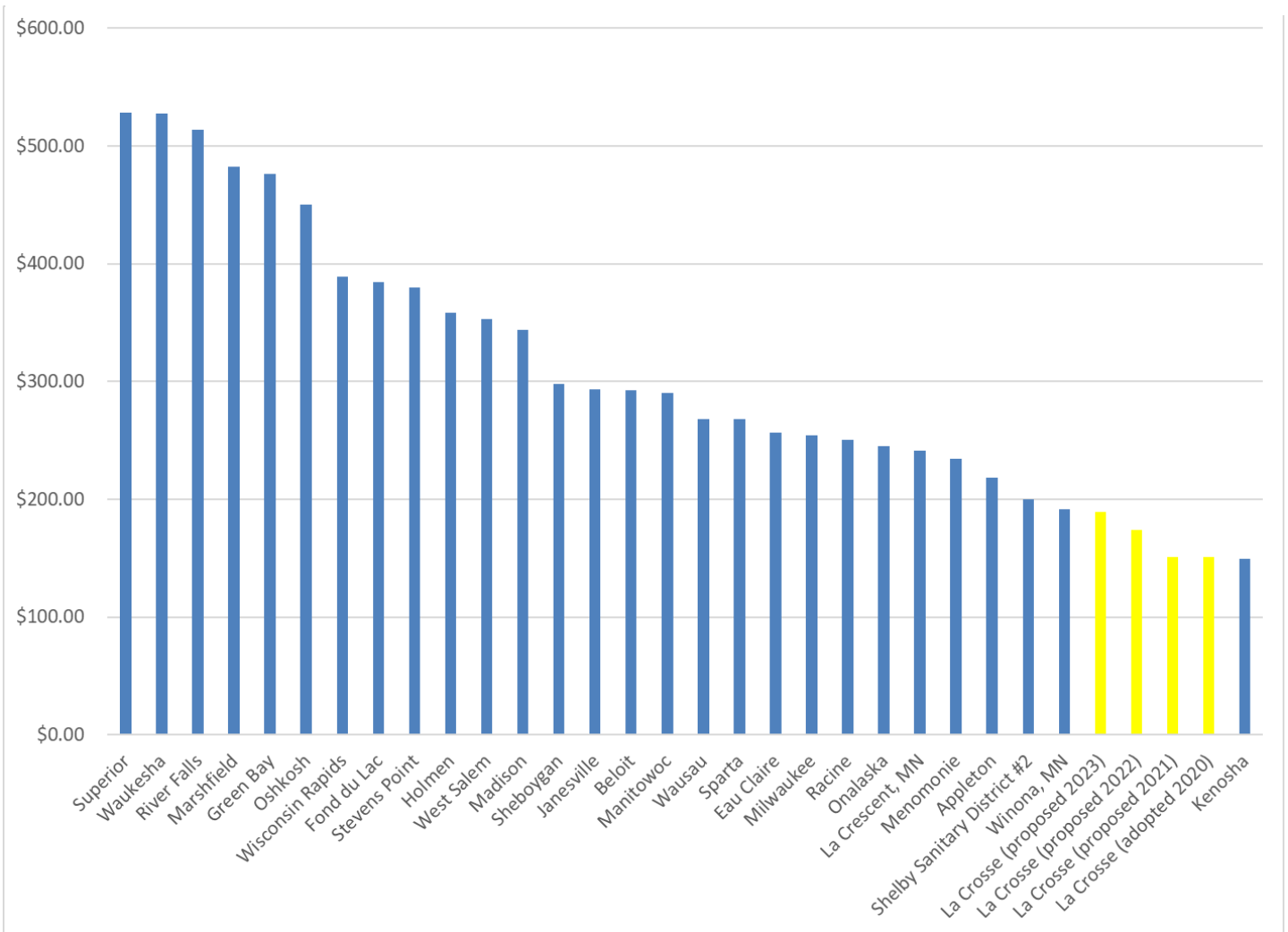
Table 15 - Comparison of Average Annual Residential Bills with UW Communities

Community	Fixed Charge	Bills per Year	Volume Rate	Annual Usage	Units	Annual Bill
Whitewater	\$9.00	12	\$10.65	44,880	gallons	\$585.97
River Falls	\$16.50	12	\$7.04	44,880	gallons	\$513.96
Green Bay	\$14.50	12	\$5.04	6,000	ft ³	\$476.40
Platteville	\$15.45	12	\$4.75	6,000	ft ³	\$470.40
Oshkosh	\$29.00	4	\$5.22	6,000	ft ³	\$429.20
Fond du Lac	\$37.50	4	\$3.91	6,000	ft ³	\$384.60
Stevens Point	\$34.00	4	\$3.82	6,000	ft ³	\$365.20
Madison	\$14.26	12	\$3.37	44,880	gallons	\$322.37
Superior	\$2.00	12	\$4.96	6,000	ft ³	\$321.60
Eau Claire	\$7.01	4	\$3.81	6,000	ft ³	\$256.64
Milwaukee	\$15.84	4	\$3.18	6,000	ft ³	\$254.16
Menomonie	\$16.00	4	\$2.60	6,000	ft ³	\$220.00
La Crosse (proposed 2023)	\$15.00	4	\$2.15	6,000	ft³	\$189.00
La Crosse (proposed 2022)	\$15.00	4	\$1.90	6,000	ft³	\$174.00
La Crosse (proposed 2021)	\$15.00	4	\$1.52	6,000	ft³	\$151.20
La Crosse (adopted 2020)	\$15.00	4	\$1.52	6,000	ft³	\$151.20
Average w/o La Crosse						\$383.37
Median w/o La Crosse						\$374.90

Table 16 - Comparison of Average Annual Residential Bills with Regional and Peer Communities

Community	Fixed Charge	Bills per Year	Volume Rate	Annual Usage	Units	Annual Bill
Superior	\$5.50	12	\$7.71	6,000	ft ³	\$528.60
Waukesha	\$17.43	4	\$10.21	44,880	gallons	\$527.94
River Falls	\$16.50	12	\$7.04	44,880	gallons	\$513.96
Marshfield	\$18.90	12	\$4.26	6,000	ft ³	\$482.40
Green Bay	\$14.50	12	\$5.04	6,000	ft ³	\$476.40
Oshkosh	\$31.26	4	\$5.42	6,000	ft ³	\$450.24
Wisconsin Rapids	\$14.39	12	\$3.60	6,000	ft ³	\$388.68
Fond du Lac	\$37.50	4	\$3.91	6,000	ft ³	\$384.60
Stevens Point	\$35.36	4	\$3.97	6,000	ft ³	\$379.64
Holmen	\$15.50	4	\$6.60	44,880	gallons	\$358.21
West Salem	\$61.34	4	\$2.40	44,880	gallons	\$353.07
Madison	\$14.43	12	\$3.81	44,880	gallons	\$344.15
Sheboygan	\$49.00	4	\$1.70	6,000	ft ³	\$298.00
Janesville	\$43.10	4	\$2.01	6,000	ft ³	\$293.00
Beloit	\$7.30	12	\$3.42	6,000	ft ³	\$292.80
Manitowoc	\$10.77	12	\$2.68	6,000	ft ³	\$290.04
Wausau	\$20.40	4	\$3.11	6,000	ft ³	\$268.20
Sparta	\$21.00	4	\$3.07	6,000	ft ³	\$268.20
Eau Claire	\$7.01	4	\$3.81	6,000	ft ³	\$256.64
Milwaukee	\$15.84	4	\$3.18	6,000	ft ³	\$254.16
Racine	\$21.10	4	\$2.77	6,000	ft ³	\$250.60
Onalaska	\$6.50	4	\$3.65	6,000	ft ³	\$245.00
La Crescent, MN	\$60.37	4				\$241.48
Menomonie	\$18.00	4	\$2.70	6,000	ft ³	\$234.00
Appleton	\$13.60	4	\$2.73	6,000	ft ³	\$218.20
Shelby Sanitary District #2	\$50.00	4				\$200.00
Winona, MN	\$18.03	4	\$1.99	6,000	ft ³	\$191.52
La Crosse (proposed 2023)	\$15.00	4	\$2.15	6,000	ft³	\$189.00
La Crosse (proposed 2022)	\$15.00	4	\$1.90	6,000	ft³	\$174.00
La Crosse (proposed 2021)	\$15.00	4	\$1.52	6,000	ft³	\$151.20
La Crosse (adopted 2020)	\$15.00	4	\$1.52	6,000	ft³	\$151.20
Kenosha	\$2.48	12	\$1.99	6,000	ft ³	\$149.16
Average w/o La Crosse						\$326.39
Median w/o La Crosse						\$292.90

Figure 7 - Comparison of Average Annual Residential Bills with Regional and Peer Communities



SECTION FOUR – CASH FLOW FORECASTS

Cash flows were projected for the next 10 years based on the proposed rates for 2021-2023. The following criteria were used to evaluate the adequacy of cash flows with the proposed rate increases:

- Increase operating revenues to levels sufficient to cover operation and maintenance costs, debt service, and debt coverage equal to at least 10 percent of annual revenue debt service payments.
- Increase revenues to allow the Utility to obtain a \$65.0 million CWF loan in 2021 for the WWTP upgrades planned for 2021-2023 – In order to obtain CWF financing, the Utility

will have to demonstrate, prior to loan closing, that it has or will have user charge rates in place by the time full debt service payments begin that are sufficient to cover operation and maintenance costs, replacement fund deposits, debt service, and debt coverage equal to at least 10 percent of annual debt service payments. Full debt service for the project is expected to begin in 2024.

- Fund routine capital improvements and equipment replacements from current revenues or reserves.
- Increase reserves to at least 250 days of operating expenses.
- Avoid or mitigate rate spikes to the extent possible.

		2021	2022	2023
Debt coverage – Clean Water Fund program	Operating revenues less O&M less Equipment Replacement Fund deposit $\geq 1.10x$ revenue debt service	N/A	N/A	1.34x
Funding for routine capital outlay	Cash funding for all routine capital replacements and outlay	Met	Met	Met
Cash reserves	Maintain cash unrestricted reserves ≥ 250 days operating expenses	171	25*	181
Rate spikes	Mitigate to the extent possible	No rate increase in 2021	18.0% is the minimum required to cash fund routine capital	18.0% is the minimum required to cash fund routine capital

* 2022 CIP includes \$4.2 million of cash funded routine capital (including a portion of the \$3.0 million of construction management for the WWTP)

The cash flow forecasts were based on the following assumptions:

- The forecast flows and loadings, O&M expenses, utility plant additions, and depreciation expense forecasts shown in Section 1 of this report;
- Net reduction in annual O&M expenses of \$98,900 following construction of the WWTP upgrades;
- Inflation of future O&M expenses by 1 percent year except as noted in Section 1 of this report;

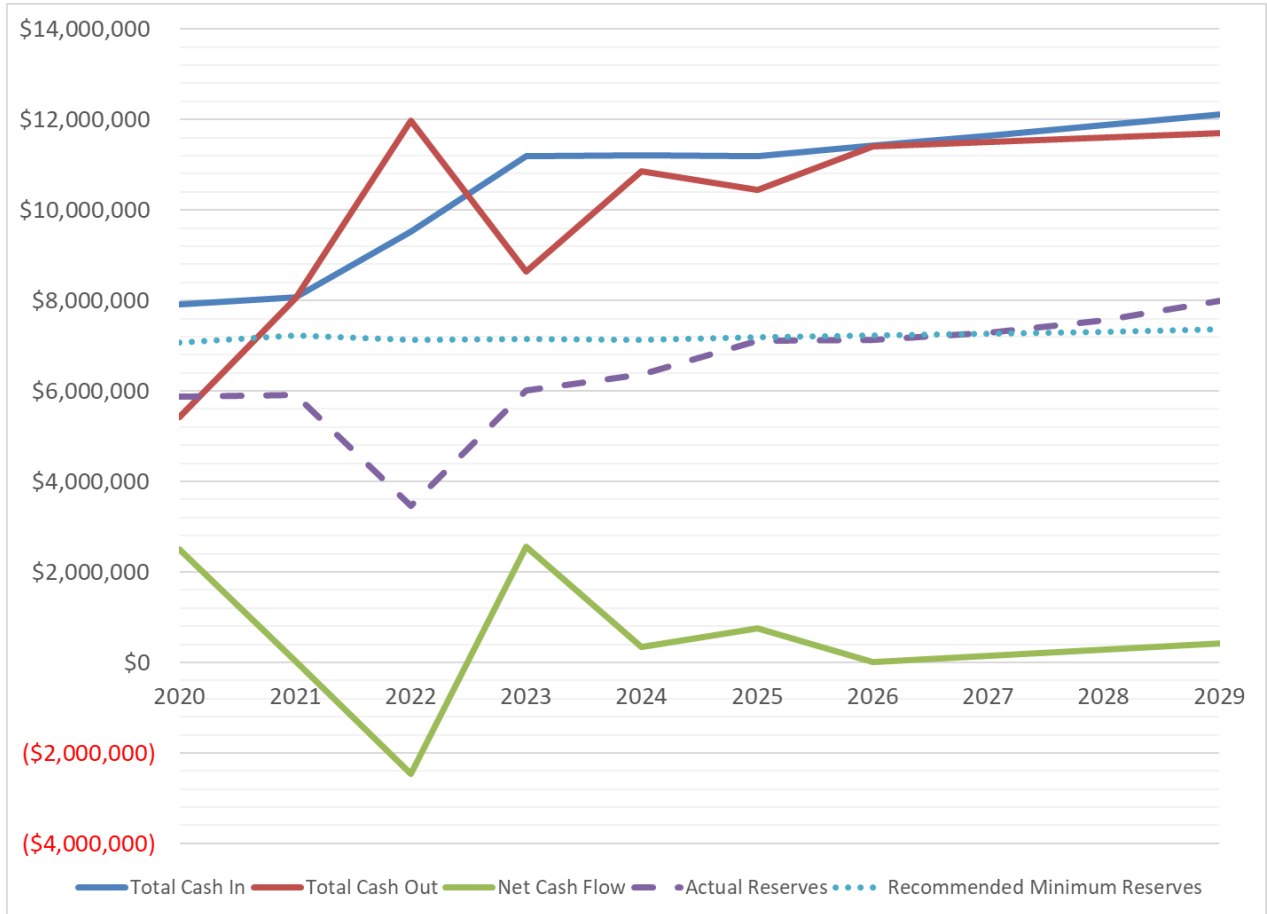
- Other operating revenues based on the average of the previous five years and an increase the costs allocated to pretreatment charges in this study;
- Investment income based on earning 0.15 percent interest on restricted and unrestricted reserves;
- No revenues from any potential future connection fees (which will most likely not be counted towards proving CWF debt coverage);
- Capital outlay of just under \$80.0 million for 2020-2025, based on the Utility's CIP including carryover projects from 2018-2019, comprised of \$68.0 million for the WWTP upgrade and \$12.0 million, or \$2.0 million per year for routine capital projects and equipment replacement;
- Projected capital improvements of \$1.0 million per year, increased by 3 percent per year, for 2026-2029;
- Future routine capital improvements will be funded through current utility revenues;
- The City borrowed \$2.5 million as General Obligation debt on behalf of the Utility at an interest rate of 2.00 percent through the Wisconsin State Trust Fund Loan Program in 2020. This borrowing will be repaid in 2020 and 2021;
- The Utility plans to borrow an additional \$5.0 million in 2020 to fund capital improvements in 2020 (including 2018-2019 carryover projects). The interest rate and payment schedule for this borrowing is not known at this time. An interest rate of 2.25 percent and level annual payments were used for planning purposes;
- The Utility will obtain a revenue-bond backed CWF loan in 2021 for the WWTP upgrade. An interest rate of 1.65 percent was used based on current program rates and a 100 percent parallel cost ratio;
- Recommended minimum reserve levels include the following:
 - Operating reserve equal to 3 months of annual operating expenses;
 - Additional unrestricted capital reserves in an amount to provide the Utility with a total of 250 days cash on hand in unrestricted reserves; and
 - Restricted ERF funds in amounts required by the WDNR. The current estimate is that the Utility will be required to maintain a minimum balance of approximately \$3.0 million.

The following table and chart show the cash flows, total reserves, and projected minimum recommended reserves for 2020 through 2029 with the projected rate increases for 2022 and 2023. These forecasts are based on numerous assumptions as described in this report. The Utility should review actual performance at least annually to determine if additional rate adjustments are needed to maintain adequate debt coverage and reserve levels or to fund additional capital improvements.

Table 17 - Forecast Cash Flow with Proposed Rate Increases for 2022 and 2023

	2020		2021		2022		2023		2024		2025		2026		2027		2028		2029		
	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
Projected Rate Increase	10.6%		0.0%		18.2%		18.1%		0.0%		0.0%		2.0%		2.0%		2.0%		2.0%		
Months of Rate Increase in Effect	12		12		12		12		12		12		12		12		12		12		
Revenues																					
User Charge Revenues	\$7,717,212	\$7,782,467	\$9,219,508	\$10,915,295	\$10,915,295	\$10,915,295	\$10,915,295	\$10,915,295	\$10,915,295	\$10,915,295	\$10,915,295	\$10,915,295	\$11,133,601	\$11,356,273	\$11,583,399	\$11,815,067					
User Charge Revenues - Shelby SD#1	\$56,037	\$56,037	\$66,236	\$78,244	\$78,244	\$78,244	\$78,244	\$78,244	\$78,244	\$78,244	\$78,244	\$78,244	\$79,809	\$81,405	\$83,033	\$84,694					
Other Operating Revenues	\$136,036	\$221,159	\$222,708	\$197,555	\$197,555	\$222,708	\$197,555	\$198,895	\$198,895	\$198,895	\$198,895	\$198,895	\$199,225	\$200,546	\$202,042	\$203,206					
Non-Operating Revenues	\$74	\$8,825	\$8,865	\$5,186	\$5,186	\$8,865	\$5,186	\$9,019	\$9,019	\$9,019	\$9,542	\$9,542	\$10,678	\$10,706	\$10,928	\$11,351					
Total Cash In	\$7,909,359	\$8,068,489	\$9,517,317	\$11,196,280	\$11,196,280	\$11,201,454	\$11,197,294	\$11,423,312	\$11,648,929	\$11,879,402	\$12,114,318										
Expenses																					
Subtotal O&M	\$5,832,346	\$6,091,058	\$5,962,173	\$6,025,380	\$6,025,380	\$6,037,277	\$6,101,380	\$6,166,199	\$6,231,742	\$6,298,018	\$6,365,035										
Debt Service	\$0	\$1,741,745	\$2,039,691	\$1,200,895	\$4,238,633	\$4,238,633	\$4,238,633	\$4,238,633	\$4,238,633	\$4,238,633	\$4,238,633										
Capital Outlay	7,006,559	\$16,757,720	\$33,311,441	\$22,214,581	\$577,000	\$100,000	\$1,000,000	\$1,000,000	\$1,030,000	\$1,060,900	\$1,092,727										
Less: Contributed Capital	\$0	\$82,000	\$1,610,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
Debt Premium / (Discount)	\$7,500,000	\$16,466,667	\$27,733,333	\$20,800,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
Less: New Borrowing	\$75,000																				
Bond Issuance Expense																					
Total Cash Out	\$5,413,905	\$8,041,857	\$11,969,971	\$8,640,856	\$10,852,910	\$10,440,013	\$11,404,832	\$11,500,375	\$11,597,551	\$11,696,395											
Net Cash Flow	\$2,495,453	\$26,632	(\$2,452,655)	\$2,555,425	\$348,543	\$757,280	\$18,480	\$148,555	\$281,852	\$417,922											
Operating Fund																					
Ending Balance	\$2,812,669	\$2,855,301	\$402,646	\$2,985,571	\$3,361,114	\$4,118,395	\$4,136,875	\$4,285,430	\$4,567,282	\$4,985,204											
Days Cash on Hand	176	171	25	181	203	246	245	251	265	286											
Equipment Replacement Fund																					
Ending Balance	\$3,070,655	\$3,054,655	\$3,054,655	\$3,027,155	\$3,000,155	\$3,000,155	\$3,000,155	\$3,000,155	\$3,000,155	\$3,000,155	\$3,000,155										
Total Beginning Balance	\$3,328,062	\$5,883,324	\$5,909,956	\$3,457,301	\$6,012,726	\$6,361,269	\$7,118,549	\$7,137,030	\$7,285,585	\$7,567,437											
Net Change	\$2,555,261	\$26,632	(\$2,452,655)	\$2,555,425	\$348,543	\$757,280	\$18,480	\$148,555	\$281,852	\$417,922											
Total Ending Balance	\$5,883,324	\$5,909,956	\$3,457,301	\$6,012,726	\$6,361,269	\$7,118,549	\$7,137,030	\$7,285,585	\$7,567,437	\$7,985,359											
Projected CWF Debt Coverage Ratio	-9.7%	51.5%	92.5%	134.6%	134.4%	132.6%	136.8%	141.0%	145.3%	149.6%											

Figure 8 - Forecast Cash Flow and Reserves with Proposed Rate Increases for 2022 and 2023



**APPENDIX A – SEWER UTILITY COST OF SERVICE STUDY AND PROPOSED RATE
DESIGN FOR 2022**

Historical and Forecast Operation and Maintenance Expenses

Acct No.	Account Description	2015	2016	2017	2018	2019	5-Year Average	Original	Projected	Test Year	
								Budget	Actual	2020	2021
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
511100	Regular Salaries	787,249	825,318	889,393	196,233	275,127	594,664	1,399,735	1,399,735	319,000	322,190
511100	Reg Salaries - Other City Depts	187,841	172,738	175,971	206,123	89,849	166,504			100,250	101,253
511100	Reg Salaries - Industrial PreTrmnt	41,797	2,945	3,912	56,132	57,350	32,427			60,750	61,358
511100	Reg Salaries - Oper & Mtce	135,684	163,084	90,168	602,880	574,139	313,191			597,400	603,374
511100	Reg Salaries - Sanitary Collection	41,726	14,894	17,793	190,371	155,725	84,102			182,275	184,098
511100	Reg Salaries - Mech Sludge Cake	0	0	0	2,436	46,372	9,762			0	0
511100	Reg Salaries - Storm Collection	842	434	417	0	0	338			0	0
511100	Reg Salaries - Training	9,864	20,536	11,240	16,472	14,578	14,538			16,201	16,363
511100	Reg Salaries - Leave									0	0
511100	Reg Salaries - Sanitary Lift Sta	70,268	74,012	82,111	71,145	110,296	81,567			91,130	92,041
511101	Limited Term EE Salaries									15,000	
511200	Overtime Wages	16,973	20,165	18,738	236	232	11,269	25,600	25,600	250	253
511200	Overtime Wages - Other City Depts	509	308	203	89	98	241			250	253
511200	Overtime Wages - Industrial PreTrmnt	81	0	41	1,234	182	308			200	202
511200	Overtime Wages - Oper & Mtce	485	951	1,639	18,905	18,556	8,107			17,000	17,170
511200	Overtime Wages - Sanitary Collection	60	62	488	9,117	22,757	6,497			9,000	9,090
511200	Overtime Wages - Mech Sludge Cake	130	0	205	639	10,846	2,364			0	0
513100	Overtime Wages - Training	2,920	3,064	2,997	1,480	5,056	3,104			3,300	3,333
513000	Benefits Budget Only							594,339	594,339	0	0
513100	Health Insurance	697,282	537,730	565,238	528,468	491,077	563,959			351,500	358,530
513200	Life Insurance	5,100	4,430	4,485	4,295	9,606	5,583			9,050	9,141
513300	Retirement Benefits	77,447	213,642	88,548	80,927	87,180	115,141			90,600	91,506
513400	Social Security Taxes	99,659	83,868	88,784	89,591	93,589	91,098			96,700	97,667
519013	Safety Seminar	0	1,381	0	536	0	383			0	0
519900	Chgs In Sick & Vac Liability	21,054	5,486	(4,711)	11,702	2,500	7,206				
521200	Audit & Accounting Services	2,500	2,500	2,500	2,500	210,408	44,082	2,615	2,615	2,742	2,769
521400	Consulting Services	31,472	50,196	21,816	26,273	9,252	27,802	550,000	550,000	190,000	40,000
521402	Sample Tests Sludge	4,433	4,620	4,158	11,147	22,887	9,449	10,000	10,000	10,000	10,100
521403	Sample Tests Plant Water	34,666	20,146	20,144	20,367	8,831	20,831	20,000	20,000	25,000	25,250
521404	Sample Tests Pretreat	9,977	5,367	12,683	8,470	637	7,427	10,000	10,000	10,000	10,100
521500	Recruitment	0	0	0	708	41,201	177	500	500	500	505
521910	Environmental Fees	53,615	47,324	43,508	41,702	50,099	47,250	45,000	45,000	45,000	45,450

Acct No.	Account Description	2015	2016	2017	2018	2019	5-Year Average	2020	2020	2021	2022
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
521911	Other Prof Svc Tv Inspect	25,183	17,341	26,594	18,507	13,170	20,159	35,000	50,000	50,000	50,500
522100	Telephone	9,866	7,582	4,253	7,366	571,726	120,159	10,000	15,000	15,000	15,150
522200	Electricity	549,716	525,995	498,698	555,066	38,449	433,585	525,000	535,000	535,000	540,350
522300	Water	52,968	66,803	65,558	32,376	38,662	51,274	35,000	50,000	40,000	40,400
522400	Natural Gas	41,001	43,011	31,661	41,970	63,971	44,323	50,000	50,000	50,000	50,500
522500	Sewer	95,146	109,860	128,707	50,703	7,398	78,363	55,000	60,000	60,000	60,600
522501	San. Dist #1 & #2 Payments	6,178	6,149	6,198	6,260	111,543	27,266	8,000	8,000	8,000	8,080
522502	Sewer Pay To Other Munic	59,620	133,066	107,106	114,214	4,235	83,648	115,000	115,000	132,250	133,573
522550	Storm Sewer Fee Payments	8,352	8,988	8,837	8,029	1,020,155	210,872	10,000	10,000	10,000	10,100
522600	Recycling Services	873,214	816,440	841,630	682,428	11,119	644,966	825,000	1,300,000	1,200,000	1,212,000
522702	Grit & Screenings Disposal	6,851	7,136	9,302	18,308	13,064	10,932	10,000	10,000	20,000	20,200
524100	Repair/Maint-Grounds	6,396	6,898	6,443	9,130	12,079	7,217	10,000	12,000	10,000	10,100
524200	Repair/Maint-Buildings	11,757	27,349	29,685	15,340	24,547	21,736	18,000	18,000	28,000	28,280
524400	Repair/Maint-Sewer	13,492	11,946	12,042	9,790	30,512	15,556	20,000	20,000	20,000	20,200
524500	Repair/Maint-Vehicles	32,913	13,867	24,088	22,247	240,289	66,681	30,000	30,000	30,000	30,300
524600	Repair/Maint-Equip	293,787	414,130	240,118	313,232	867	252,427	250,000	300,000	325,000	328,250
524700	Repair/Maint Commun. Equip	8,437	639	1,157	788		2,755	1,500	1,500	1,500	1,515
524800	Repair/Maint Biogas Cogeneration										0
	Repair/Maint La Crescent FM ⁽¹⁾									5,107	5,158
526100	City Services	263,012	239,135	247,655	242,920	266,715	251,888	191,557	191,557	248,103	250,584
526150	Water Dept Svcs Inventory	198,805	184,389	193,074	277,638	294,146	229,610	300,000	300,000	305,000	308,050
529100	Laundry Services	1,396	1,664	1,869	1,093	1,745	1,553	1,500	1,800	1,800	1,818
531100	Office Supplies	2,531	1,710	2,145	2,035	1,934	2,071	2,000	2,000	18,000	2,020
531110	Supplies Safety Coordinator	11	0	0	0	0	2			0	0
531200	Postage	1,145	765	768	872	1,286	967	1,000	1,500	1,500	1,515
533100	Gasoline	17,022	17,288	12,770	13,298	15,897	15,255	20,000	15,000	15,000	15,150
533200	Oil	7,953	6,923	5,198	9,053	0	5,825			0	0
533201	Diesel Fuel	25,192	27,861	24,599	17,046	32,892	25,518	28,000	25,000	28,000	28,280
533300	Grease	97	28	284	0	0	82			0	0
533500	Dept Supplies	56,780	56,909	60,032	61,167	37,411	54,460	60,000	60,000	60,000	60,600
533532	Chemical Supplies	127,344	132,847	143,695	171,870	181,237	151,399	180,000	180,000	185,000	186,850
533539	Safety Equipment	2,213	6,957	1,552	2,794	9,290	4,561	10,000	15,000	10,000	10,100
533541	Pretreatment Supplies	119	816	328	100	255	323	500	1,000	1,000	1,010
533600	Small Tools	1,667	1,569	2,564	1,543	4,379	2,345				0
533610	Lab Equipment	241	0	0	0	28,272	5,703	25,000	30,000	30,000	30,300
535100	Equipment Rental	0	0	0	1,220	1,762	596	1,000	1,000	1,000	1,010
535210	Contracted Sewer Repair	69,357	55,771	64,044	85,004	341,506	123,137	100,000	100,000	125,000	126,250

Acct No.	Account Description	2015	2016	2017	2018	2019	5-Year Average	2020	2020	2021	2022
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
535211	Foundary Supplies - Sewer	22,725	23,345	31,254	39,810	51,074	33,642	50,000	50,000	50,000	50,500
535212	Concrete Supplies - Sewer	6,357	3,511	17,766	24,581	2,268	10,897	5,000	15,000	15,000	15,150
535409	Contracted Flatwork	0	0	0	0	54,629	10,926	25,000	25,000	25,000	25,250
536000	Travel	1,979	5,229	2,847	4,551	4,426	3,806	7,500	5,000	5,000	5,050
536001	Travel - Safety Coordinator	0	90	0	0	0	18			0	0
539000	Miscellaneous	3,911	6,798	8,507	6,919	3,738	5,975	7,000	7,000	7,000	7,070
551001	Property Insurance	59,106	55,340	57,481	56,042	56,118	56,817	65,000	65,000	69,000	69,690
551005	Worker Compensation Insur	47,060	52,957	54,153	61,659	59,982	55,162	58,000	58,000	66,000	66,660
551016	Liability Insurance	66,445	41,637	26,312	23,980	25,534	36,782	27,000	27,000	29,700	29,997
586035	COVID - Operating Supplies								4,500	10,000	
599998	Flood Damage	0	0	6,297	0	0	1,259			0	0
591100	Bad Debt Expense	1,094	1,131	2,831	73	504	1,126	2,000	2,000	2,000	2,020
592299	Transfer to Budget Carryover	0	0	0	0	13,422	2,684				0
593002	Adj. for OPEB	(173,111)	(247,176)	(280,260)	(137,077)	0	(167,525)				0
599900	Prior Expense	(23,537)	0	21,740	0	(17)	(363)			0	0
TOTAL OPERATION & MAINTENANCE		5,215,428	5,169,893	4,894,051	5,074,118	6,100,623	5,287,789	5,832,346	6,424,646	6,091,058	5,962,173

Allocation of Collector and Interceptor Mains

Function	Size (Inches)	Quantity (Feet)	Gravity Mains			Quantity (Feet)	Force Mains		
			Total	Collector	Interceptor		Total	Collector	Interceptor
C	1.5		-	-	-	237	356	356	-
C	2		-	-	-	410	820	820	-
C	2.5		-	-	-	1,000	2,500	2,500	-
C	3		-	-	-	3,700	11,100	11,100	-
C	4	481	1,924	1,924	-	2,390	9,560	9,560	-
C	6	2,471	14,826	14,826	-	3,824	22,944	22,944	-
C	8	441,093	3,528,742	3,528,742	-	3,377	27,016	27,016	-
C	10	117,061	1,170,605	1,170,605	-	430	4,300	4,300	-
C	12	219,470	2,633,638	2,633,638	-	10,052	120,624	120,624	-
C	14		-	-	-	17,374	243,236	243,236	-
C	15	62,437	936,552	936,552	-	-	-	-	-
C	16	234	3,742	3,742	-	16,810	268,960	268,960	-
I	18	60,459	1,088,267	-	1,088,267	6,634	119,412	-	119,412
I	20	16,937	338,730	-	338,730	-	-	-	-
I	21	5,113	107,365	-	107,365	-	-	-	-
I	24	24,577	589,855	-	589,855	6,290	150,960	-	150,960
I	27	1,721	46,464	-	46,464	-	-	-	-
I	30	19,356	580,686	-	580,686	-	-	-	-
I	33	1,058	-	-	-	-	-	-	-
I	36	9,931	-	-	-	-	-	-	-
I	39	1,565	61,035	-	61,035	-	-	-	-
I	42	527	22,134	-	22,134	-	-	-	-
I	48	4,217	-	-	-	-	-	-	-
I	50	16,523	826,150	-	826,150	-	-	-	-
		1,005,229	11,950,716	8,290,029	3,660,687	72,528	981,788	711,416	270,372
				69.37%	30.63%			72.46%	27.54%

Less: La Crescent Forcemain

C	10	150
C	12	3,350
Net		69,028

		Combined Gravity and Force Mains	1,077,757	12,932,503	9,001,445	3,931,059
Use for Allocation					69.60%	30.40%
	O&M	UF Plant / Dep	Total Plant			
Interceptor Mains	16.28%	30.40%	30.40%			
Collector Mains	83.72%	69.60%	69.60%			

Labor, Power, Chemical Cost Allocation Factor Development

Process Code	Allocation Percents									Collection System	Interceptor System	Treatment Plant					Customer			
	Coll	Intr	Flow	BOD	TSS	P	NH ₃	Cst	Cnn			Total	Flow	B.O.D.	T.S.S.	Phos.	NH ₃ -N	Billing	Meter/Conn	
Labor Allocation																				
2			30%	10%	55%	5%	0%	0%	0%	35.75%	0.00%	0.00%	10.73%	3.58%	19.67%	1.79%	0.00%	0.00%		
3			20%	45%	10%	5%	20%	0%	0%	32.90%	0.00%	0.00%	6.58%	14.80%	3.29%	1.64%	6.58%	0.00%	0.00%	
5			0%	40%	55%	5%	0%	0%	0%	20.91%	0.00%	0.00%	0.00%	8.36%	11.50%	1.05%	0.00%	0.00%	0.00%	
8			25%	35%	20%	10%	10%	0%	0%	10.44%	0.00%	0.00%	2.61%	3.65%	2.09%	1.04%	1.04%	0.00%	0.00%	
Total Labor Expense			20%	30%	37%	6%	8%	0%	0%	100.00%	0.00%	0.00%	19.92%	30.40%	36.54%	5.52%	7.62%	0.00%	0.00%	
Electric Power Allocation																				
1.1			100%	0%	0%	0%	0%	0%	0%	812,208	0	0	812,208	0	0	0	0	0	0	0
1.2			70%	0%	30%	0%	0%	0%	0%	39	0	0	27	0	12	0	0	0	0	0
1.3			70%	0%	30%	0%	0%	0%	0%	29,416	0	0	20,591	0	8,825	0	0	0	0	0
2.1			50%	20%	28%	3%	0%	0%	0%	61,318	0	0	30,659	12,264	16,863	1,533	0	0	0	0
3.1			20%	45%	10%	5%	20%	0%	0%	5,420,845	0	0	1,084,169	2,439,380	542,085	271,042	1,084,169	0	0	0
3.6			0%	0%	0%	100%	0%	0%	0%	1,276,456	0	0	0	0	0	1,276,456	0	0	0	0
3.9			20%	32%	44%	4%	0%	0%	0%	12,446	0	0	2,489	3,983	5,476	498	0	0	0	0
5			0%	40%	55%	5%	0%	0%	0%	2,843,883	0	0	0	1,137,553	1,564,136	142,194	0	0	0	0
6			100%	0%	0%	0%	0%	0%	0%	1,541,437	0	0	1,541,437	0	0	0	0	0	0	0
8.1			100%	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0
9			29%	30%	18%	14%	9%	0%	0%	-1,992,200	0	0	-579,755	-596,625	-354,901	-280,900	-180,019	0	0	0
10			29%	30%	18%	14%	9%	0%	0%	162,915	0	0	47,410	48,790	29,023	22,971	14,721	0	0	0
Total Electric Power			29%	30%	18%	14%	9%	0%	0%	10,168,763	0	0	2,959,236	3,045,345	1,811,517	1,433,795	918,871	0	0	
% of Total											0%	0%	29%	30%	18%	14%	9%	0%	0%	
Chemical Allocation																				
70.3			0%	40%	55%	5%	0%	0%	0%	56.59%	0.00%	0.00%	0.00%	22.63%	31.12%	2.83%	0.00%	0.00%	0.00%	
70.4			0%	0%	0%	100%	0%	0%	0%	43.00%	0.00%	0.00%	0.00%	0.00%	43.00%	0.00%	0.00%	0.00%	0.00%	
70			16%	30%	36%	15%	3%	0%	0%	0.42%	0.00%	0.00%	0.07%	0.13%	0.15%	0.06%	0.01%	0.00%	0.00%	
Total Chemicals			0%	23%	31%	46%	0%	0%	0%	100.00%	0.00%	0.00%	0.07%	22.76%	31.27%	45.89%	0.01%	0.00%	0.00%	
Natural Gas Allocation																				
66.1			20%	30%	37%	6%	8%	0%	0%	70.00%	0.00%	0.00%	13.94%	21.28%	25.58%	3.87%	5.34%	0.00%	0.00%	
66.2			0%	40%	55%	5%	0%	0%	0%	30.00%	0.00%	0.00%	0.00%	12.00%	16.50%	1.50%	0.00%	0.00%	0.00%	
Total Natural Gas			14%	33%	42%	5%	5%	0%	0%	100.00%	0.00%	0.00%	13.94%	33.28%	42.08%	5.37%	5.34%	0.00%	0.00%	

Allocation of Operation and Maintenance Expenses to Service Cost Functions

Alloc. Acct No.	Method	Account Description	Coll System		Int System		WWTP		Cust Costs		COLLECTION SYSTEM				INTERCEPTOR SYSTEM				WASTEWATER TREATMENT PLANT				CUSTOMER COSTS									
			Coll Main	Coll LS	La Crescent		Int Main	Int Flow	Infl	BOD	TSS	Phos	NH-3	Billing	Conn	Ind. Pre-Treat	Hauled Waste	Total	Mains	Lift Stations	La Crescent Forecman	Mains	Lift Stations	Flow	BOD	TSS	P	NH-3	Billing	Meter / Connection	Pretreatment	Hauled Waste
					%	%																										
511100	Labor	Regular Salaries	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	322,190	48,594	15,078	0	21,222	19,603	39,984	61,024	73,361	11,086	15,305	0	0	0	16,933	0	
511100	Labor	Reg Salaries - Other City Depts	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	101,253	15,271	4,738	0	6,669	6,161	12,565	19,177	23,055	3,484	4,810	0	0	5,321	0		
511100	Labor	Reg Salaries - Industrial PreTrmnt	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	61,358	9,254	2,871	0	4,041	3,733	7,614	11,621	13,971	2,111	2,915	0	0	3,225	0		
511100	Labor	Reg Salaries - Oper & Mtce	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	603,374	91,004	28,237	0	39,743	36,712	74,879	114,280	137,385	20,761	28,662	0	0	31,711	0		
511100	Labor	Reg Salaries - Sanitary Collection	83.7%	0.0%	16.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	184,098	154,124	0	0	29,974	0	0	0	0	0	0	0	0	0	0	0	
511100	Labor	Reg Salaries - Mech Sludge Cake	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
511100	Labor	Reg Salaries - Storm Collection	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
511100	Labor	Reg Salaries - Training	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	16,363	2,468	766	0	1,078	996	2,031	3,099	3,726	563	777	0	0	860	0		
511100	Labor	Reg Salaries - Sanitary Lift Sta	0.0%	43.5%	0.0%	56.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92,041	0	40,016	0	52,026	0	0	0	0	0	0	0	0	0	0	0	
511101	Labor	Limited Term EE Salaries	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	92,041	13,882	4,307	0	6,063	5,600	11,422	17,433	20,957	3,167	4,372	0	0	4,837	0		
511200	Labor	Overtime Wages	0.0%	11.7%	0.0%	15.3%	13.9%	21.3%	25.6%	3.9%	5.3%	0.0%	0.0%	3.0%	0.0%	253	0	30	0	39	35	54	65	10	13	0	0	8	0	0		
511200	Labor	Overtime Wages - Other City Depts	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	253	38	12	0	17	15	31	48	57	9	12	0	0	13	0		
511200	Labor	Overtime Wages - Industrial PreTrmnt	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	202	30	9	0	13	12	25	38	46	7	10	0	0	11	0		
511200	Labor	Overtime Wages - Oper & Mtce	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	17,170	2,590	804	0	1,131	1,045	2,131	3,252	3,910	591	816	0	0	902	0		
511200	Labor	Overtime Wages - Sanitary Collection	83.7%	0.0%	16.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9,090	7,610	0	0	1,480	0	0	0	0	0	0	0	0	0	0		
511200	Labor	Overtime Wages - Mech Sludge Cake	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
511200	Labor	Overtime Wages - Sanitary Collection	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	3,333	503	156	0	220	203	414	631	759	115	158	0	0	175	0		
513000	Labor	Benefits Budget Only	23.0%	6.5%	7.4%	8.4%	10.1%	15.3%	18.4%	2.8%	3.8%	0.0%	0.0%	4.3%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
513100	Labor	Health Insurance	23.0%	6.5%	7.4%	8.4%	10.1%	15.3%	18.4%	2.8%	3.8%	0.0%	0.0%	4.3%	0.0%	358,530	82,384	23,144	0	26,633	30,900	36,051	55,021	66,145	9,996	13,800	0	0	15,266	0		
513200	Labor	Life Insurance	23.0%	6.5%	7.4%	8.4%	10.1%	15.3%	18.4%	2.8%	3.8%	0.0%	0.0%	4.3%	0.0%	9,141	2,100	590	0	679	767	919	1,403	1,686	255	352	0	0	389	0		
513300	Labor	Retirement Benefits	23.0%	6.5%	7.4%	8.4%	10.1%	15.3%	18.4%	2.8%	3.8%	0.0%	0.0%	4.3%	0.0%	91,506	21,027	5,907	0	6,797	7,680	9,201	14,043	16,882	2,551	3,522	0	0	3,896	0		
513400	Labor	Social Security Taxes	23.0%	6.5%	7.4%	8.4%	10.1%	15.3%	18.4%	2.8%	3.8%	0.0%	0.0%	4.3%	0.0%	97,667	22,442	6,305	0	7,255	8,197	9,821	14,988	18,019	2,723	3,759	0	0	4,159	0		
519013	Labor	Safety Seminar	23.0%	6.5%	7.4%	8.4%	10.1%	15.3%	18.4%	2.8%	3.8%	0.0%	0.0%	4.3%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
519900	Labor	Chgs In Sick & Vac Liability	23.0%	6.5%	7.4%	8.4%	10.1%	15.3%	18.4%	2.8%	3.8%	0.0%	0.0%	4.3%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
521200	Labor	Audit & Accounting Services	23.0%	6.5%	7.4%	8.4%	10.1%	15.3%	18.4%	2.8%	3.8%	0.0%	0.0%	4.3%	0.0%	2,769	636	179	0	206	232	278	425	511	77	107	0	0	118	0		
521400	Labor	Consulting Services	13.5%	5.6%	4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	40,000	5,408	2,245	0	1,801	3,141	5,013	7,820	8,560	3,248	1,616	0	0	1,083	65		
521402	Labor	Sample Tests Sludge	13.5%	5.6%	4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	10,100	1,366	567	0	455	793	1,266	1,975	2,161	820	408	0	0	273	16		
521403	Labor	Sample Tests Plant Water	13.5%	5.6%	4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	25,250	3,414	1,417	0	1,137	1,983	4,936	5,403	2,050	1,020	408	0	0	683	41		
521404	Labor	Sample Tests Pretreat	13.5%	5.6%	4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	10,100	1,366	567	0	455	793	1,266	1,975	2,161	820	408	0	0	273	16		
521500	Labor	Recruitment	13.5%	5.6%	4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	505	68	28	0	23	40	63	99	108	41	20	0	0	14	1		
521910	Plant	Environmental Fees	0.0%	0.0%	0.0%	0.0%	15.4%	30.0%	35.9%	14.9%	2.8%	0.0%	0.0%	0.0%	1.0%	45,450	0	0	0	0	0	7,002	13,629	16,296	6,785	1,278	0	0	0	460		
521911	Plant	Other Prof Svc Tv Inspect	13.5%	5.6%	4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	50,500	6,828	2,834	0	2,274	3,966	6,329	9,873	10,807	4,101	2,040	0	0	1,367	82		
522100	Plant	Telephone	13.5%	5.6%	4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	15,150	2,048	850	0	682	1,190	1,899	2,962	3,242	1,230	612	0	0	410	25		
522200	Elec	Electricity	0.0%	1.8%	0.0%	6.6%	16.7%	27.4%	16.3%	12.9%	8.3%	0.0%	0.0%	0.0%	0.0%	540,355	0	9,489	0	0	35,613	144,123	148,317	88,226	69,830	44,752	0	0	0	0		
522300	Elec	Water	0.0%	1.3%	0.0%	1.7%	14.9%	28.9%	34.6%	14.4%	2.7%	0.0%	0.0%	0.5%	1.0%	40,400	0	527	0	0	685	6,006	11,691	13,978	5,820	1,096	0	0	202	394		
522400	Elec	Natural Gas	0.0%	0.3%	0.0%	9.6%	11.3%	27.0%	34.1%	4.3%	4.3%	0.0%	0.0%	0.0%	0.0%	50,500	0	4,710	0	0	4,862	5,706	13,620	17,222	2,196	2,184	0	0	0	0		
522500	Elec	Sewer	0.0%	1.1%	0.0%	1.4%	14.9%	29.1%	34.8%	14.5%	2.7%	0.0%	0.0%	0.5%	1.0%	60,600	0	659	0	0	856	9,076	17,627	21,076	8,775	1,653	0	0	303	594		
522501	Elec	San. Dist #1 & #2 Payments	13.5%	5.6%	4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	8,080	1,093	453	0	364	635	1,013	1,580	1,729	656	326	0	0	219	13		
522502	Plant	Sewer Pay To Other Munic	0.0%	0.0%	0.0%	0.0%	15.4%	30.0%	35.9%	14.9%	2.8%	0.0%	0.0%	0.0%	1.0%	133,573	0	0	0	0	0	20,578	40,055	47,892	19,941	3,755	0	0	0	1,351		
522505	Plant	Storm Sewer Fee Payments	13.5%	5.6%	4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	10,100	1,366	567	0	455	793											

Acct No.	Alloc. Method	Account Description	Coll System		Int System		WWTP				Cust Costs				COLLECTION SYSTEM				INTERCEPTOR SYSTEM				WASTEWATER TREATMENT PLANT				CUSTOMER COSTS						
			Coll Main	Coll LS	La Crescent		Flow	BOD	TSS	Phos	NH-3	Billing	Conn	Ind. Pre-Treat	Hauled Waste	Total	La Crescent			Mains	Lift Stations	Flow	BOD	TSS	P	NH-3	Billing	Meter / Connection	Industrial Pretreatme	Hauled Waste			
					Int Main	Int LS											Mains	Lift Stations	Forcemain												Mains	Lift Stations	Flow
533610		Lab Equipment	13.5%	5.6%			4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	30,300	4,097	1,701	0	1,364	2,380	3,798	5,924	6,484	2,460	1,224	0	0	0	820	49
535100		Equipment Rental	13.5%	5.6%			4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	1,010	137	57	0	45	79	127	197	216	82	41	0	0	0	27	2
535210		Contracted Sewer Repair	13.5%	5.6%			4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	126,250	17,070	7,085	0	5,685	9,915	15,823	24,681	27,017	10,252	5,099	0	0	3,417	205	
535211		Foundary Supplies - Sewer	13.5%	5.6%			4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	50,500	6,828	2,834	0	2,274	3,966	6,329	9,873	10,807	4,101	2,040	0	0	1,367	82	
535212		Concrete Supplies - Sewer	13.5%	5.6%			4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	15,150	2,048	850	0	682	1,190	1,899	2,962	3,242	1,230	612	0	0	410	25	
535409		Contracted Flatwork	13.5%	5.6%			4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	25,250	3,414	1,417	0	1,137	1,983	3,165	4,936	5,403	2,050	1,020	0	0	683	41	
536000		Travel	13.5%	5.6%			4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	5,050	683	283	0	227	397	633	987	1,081	410	204	0	0	137	8	
536001		Travel - Safety Coordinator	13.5%	5.6%			4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
539000		Miscellaneous	13.5%	5.6%			4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	7,070	956	397	0	318	555	886	1,382	1,513	574	286	0	0	191	11	
551001		Property Insurance	0.0%	6.5%			0.0%	8.5%	13.1%	25.5%	30.5%	12.7%	2.4%	0.0%	0.0%	0.0%	0.9%	69,690	0	4,545	0	0	5,909	9,126	17,764	21,239	8,843	1,665	0	0	0	599	
551005	Labor	Worker Compensation Insur	23.0%	6.5%			7.4%	8.4%	10.1%	15.3%	18.4%	2.8%	3.8%	0.0%	0.0%	4.3%	0.0%	66,660	15,317	4,303	0	4,952	5,595	6,703	10,230	12,298	1,858	2,566	0	0	2,838	0	
551016		Liability Insurance	0.0%	21.7%			0.0%	28.3%	10.0%	15.2%	18.3%	2.8%	3.8%	0.0%	0.0%	0.0%	0.0%	29,997	0	6,521	0	0	8,478	2,987	4,559	5,481	828	1,143	0	0	0	0	
599998		Flood Damage	13.5%	5.6%			4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
591100		Bad Debt Expense	13.5%	5.6%			4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	2,020	273	113	0	91	159	253	395	432	164	82	0	0	55	3	
593002		Adj. for OPEB	13.5%	5.6%			4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
599900		Prior Expense	13.5%	5.6%			4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total			13.5%	5.6%			4.5%	7.9%	12.5%	19.5%	21.4%	8.1%	4.0%	0.0%	0.0%	2.7%	0.2%	6,054,214	776,252	322,201	5,158	258,510	450,852	719,540	1,122,338	1,228,563	466,176	231,885	22,901	285,149	155,385	9,304	
		Less: Non-Sewer Deduct Charges																(5,500)	0	0	0	0	0	0	0	0	0	0	(5,500)	0	0		
		Less: Late Payment Charges																(41,439)	0	0	0	0	0	0	0	0	0	(41,439)	0	0	0	0	
		Less: All Other Revenues							15.4%	30.0%	35.9%	14.9%	2.8%			1.0%		(25,883)	0	0	0	0	0	(3,988)	(7,762)	(9,280)	(3,864)	(728)	0	0	0	(262)	
		Less: Pre-Treatment Charges																(155,385)	0	0	0	0	0	0	0	0	0	0	0	(155,385)	0		
Net O&M			13.3%	5.5%	0.1%		4.4%	7.7%	12.3%	19.1%	20.9%	7.9%	4.0%	-0.3%	4.8%	0.0%	0.2%	5,826,007	776,252	322,201	5,158	258,510	450,852	715,552	1,114,577	1,219,283	462,312	231,158	(18,539)	279,649	0	9,042	

Allocation of Utility-Financed Plant to Service Cost Functions

Acct No.	Account Description	Ave. Balance 2022 (\$)	Allocation Percents										CONVEYANCE		TREATMENT PLANT					CUSTOMER COSTS		HAULED WASTE
			Coll	Int	Flow	BOD	TSS	P	NH-3	Cust	Conn	HW	Collection System	Interceptor System	Flow	BOD	TSS	P	NH-3	Billing	Meter / Conn	(\$)
			(\$)										(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
WASTEWATER TREATMENT FACILITY:																						
1.1	Prelim.- Raw Sewage Pumping	890,991	0%	0%	100%	0%	0%	0%	0%	0%	0%	0	0	890,991	0	0	0	0	0	0	0	
1.2	Prelim.- Bar Screening / Communion	1,030,279	0%	0%	70%	0%	30%	0%	0%	0%	0	0	721,195	0	309,084	0	0	0	0	0	0	
1.3	Prelim.- Grit Removal	706,264	0%	0%	70%	0%	30%	0%	0%	0%	0	0	494,385	0	211,879	0	0	0	0	0	0	
1.4	Prelim.- Septage Receiving	508,256	0%	0%	0%	0%	0%	0%	0%	100%	0	0	0	0	0	0	0	0	0	0	508,256	
2	Primary Treatment	713,874	0%	0%	30%	10%	55%	5%	0%	0%	0	0	214,162	71,387	392,631	35,694	0	0	0	0	0	
2.1	Primary Clarifier	1,926,301	0%	0%	50%	20%	28%	3%	0%	0%	0	0	963,150	385,260	529,733	48,158	0	0	0	0	0	
3	Secondary Treatment	0	0%	0%	20%	45%	10%	5%	20%	0%	0	0	0	0	0	0	0	0	0	0	0	
3.1	Secondary - Activated Sludge	3,388,519	0%	0%	20%	45%	10%	5%	20%	0%	0	0	677,704	1,524,833	338,852	169,426	677,704	0	0	0	0	
3.6	Secondary - Phosphorus	4,464,774	0%	0%	0%	0%	100%	0%	0%	0%	0	0	0	0	0	4,464,774	0	0	0	0	0	
3.7	Secondary - NH ₃ -N	24,023	0%	0%	0%	0%	0%	100%	0%	0%	0	0	0	0	0	0	24,023	0	0	0	0	
3.8	Secondary - Return Sludge Pumping	0	0%	0%	20%	32%	44%	4%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	
3.9	Secondary - Final Clarifier	223,995	0%	0%	20%	32%	44%	4%	0%	0%	0	0	44,799	71,678	98,558	8,960	0	0	0	0	0	
4	Advanced Treatment	0	0%	0%	30%	30%	30%	10%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	
5	Biosolids Trmnt & Disposal	24,457,732	0%	0%	0%	40%	55%	5%	0%	0%	0	0	0	9,783,093	13,451,752	1,222,887	0	0	0	0	0	
6	Disinfection	1,121,728	0%	0%	100%	0%	0%	0%	0%	0%	0	0	1,121,728	0	0	0	0	0	0	0	0	
7	Plant Site Piping & Pumps	1,070,138	0%	0%	13%	30%	39%	15%	2%	0%	0	0	140,899	325,210	421,271	163,478	19,280	0	0	0	0	
8	Laboratory & Monitoring	69,418	0%	0%	25%	35%	20%	10%	10%	0%	0	0	17,355	24,296	13,884	6,942	6,942	0	0	0	0	
8.1	Flow Monitoring Eqmt.	61,196	0%	0%	100%	0%	0%	0%	0%	0%	0	0	61,196	0	0	0	0	0	0	0	0	
8.2	Safety Equipment	7,094	0%	0%	13%	30%	39%	15%	2%	0%	0	0	934	2,156	2,793	1,084	128	0	0	0	0	
9	Electrical	6,657,219	0%	0%	29%	30%	18%	14%	9%	0%	0	0	1,937,333	1,993,706	1,185,952	938,667	601,560	0	0	0	0	
10	WWTP Non-Specific	2,938,153	0%	0%	16%	30%	36%	15%	3%	0%	0	0	457,280	890,079	1,064,232	443,110	83,452	0	0	0	0	
	SUBTOTAL	50,259,953	0%	0%	15%	30%	36%	15%	3%	0%	1%	0	0	7,743,110	15,071,700	18,020,620	7,503,178	1,413,089	0	0	508,256	
	PERCENTAGE											0.00%	0.00%	15.41%	29.99%	35.85%	14.93%	2.81%	0.00%	0.00%	1.01%	
CONVEYANCE SYSTEM:																						
15	Interceptor Mains	8,087,211	0%	100%	0%	0%	0%	0%	0%	0%	0	8,087,211	0	0	0	0	0	0	0	0	0	
16	Interceptor Lift Stations	3,219,023	0%	100%	0%	0%	0%	0%	0%	0%	0	3,219,023	0	0	0	0	0	0	0	0	0	
17	Force Mains	0	0%	100%	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	
20	Collection Mains / Other Eqmt.	19,721,681	60%	0%	0%	0%	0%	0%	15%	25%	11,833,009	0	0	0	0	0	0	2,958,252	4,930,420	0	0	
21	Collection Lift Stations (All)	2,043,694	100%	0%	0%	0%	0%	0%	0%	0%	2,043,694	0	0	0	0	0	0	0	0	0	0	
25	Service Connections / Laterals	0	0%	0%	0%	0%	0%	0%	0%	100%	0	0	0	0	0	0	0	0	0	0	0	
26	Other Conveyance System - Non Specific	1,549,989	42%	34%	0%	0%	0%	0%	9%	15%	650,369	529,897	0	0	0	0	0	138,646	231,077	0	0	
	SUBTOTAL	34,621,598	42%	34%	0%	0%	0%	0%	9%	15%	14,527,071	11,836,131	0	0	0	0	0	3,096,899	5,161,498	0	0	
	PERCENTAGE										41.96%	34.19%	0.00%	0.00%	0.00%	0.00%	0.00%	8.94%	14.91%	0.00%	0.00%	
	SUBTOTAL WWTP AND INTERCEPTORS										0	11,306,234	7,743,110	15,071,700	18,020,620	7,503,178	1,413,089	0	0	508,256		
											0.00%	18.36%	12.58%	24.48%	29.27%	12.19%	2.30%	0.00%	0.00%	0.83%		
	SUBTOTAL WWTP AND CONVEYANCE	84,881,551	17%	14%	9%	18%	21%	9%	2%	4%	6%	1%	14,527,071	11,836,131	7,743,110	15,071,700	18,020,620	7,503,178	1,413,089	3,096,899	5,161,498	508,256
													17.11%	13.94%	9.12%	17.76%	21.23%	8.84%	1.66%	3.65%	6.08%	0.60%

Acct No.	Account Description	Ave. Balance 2022 (\$)	Allocation Percents										CONVEYANCE			TREATMENT PLANT				CUSTOMER COSTS		HAULED WASTE
			Coll	Int	Flow	BOD	TSS	P	NH-3	Cust	Conn	HW	Collection System	Interceptor System	Flow	BOD	TSS	P	NH-3	Billing	Meter / Conn	(\$)
GENERAL PLANT EQUIPMENT:																						
28.1	Land & Land Rights	0	17%	14%	9%	18%	21%	9%	2%	4%	6%	1%	0	0	0	0	0	0	0	0	0	0
28.2	Struct. & Improv.	0	17%	14%	9%	18%	21%	9%	2%	4%	6%	1%	0	0	0	0	0	0	0	0	0	0
28.3	Office Furn. & Eqmt.	0	17%	14%	9%	18%	21%	9%	2%	4%	6%	1%	0	0	0	0	0	0	0	0	0	0
28.4	Office Furn. & Eqmt.- EDP	54,489	17%	14%	9%	18%	21%	9%	2%	4%	6%	1%	9,326	7,598	4,971	9,675	11,568	4,817	907	1,988	3,313	326
28.5	Transport. Eqmt.	2,048,680	17%	14%	9%	18%	21%	9%	2%	4%	6%	1%	350,622	285,674	186,886	363,767	434,941	181,095	34,106	74,746	124,577	12,267
28.6	Communications Eqmt.	5,699	17%	14%	9%	18%	21%	9%	2%	4%	6%	1%	975	795	520	1,012	1,210	504	95	208	347	34
28.7	Tools, Shop & Misc.	64,261	17%	14%	9%	18%	21%	9%	2%	4%	6%	1%	10,998	8,961	5,862	11,410	13,643	5,680	1,070	2,345	3,908	385
28.8	Safety Eqmt.	0	17%	14%	9%	18%	21%	9%	2%	4%	6%	1%	0	0	0	0	0	0	0	0	0	0
28.9	Other Genrl. Eqmt.	124,303	17%	14%	9%	18%	21%	9%	2%	4%	6%	1%	21,274	17,333	11,339	22,071	26,390	10,988	2,069	4,535	7,559	744
	SUBTOTAL	2,297,432	17%	14%	9%	18%	21%	9%	2%	4%	6%	1%	393,195	320,361	209,578	407,936	487,752	203,083	38,247	83,822	139,703	13,757
	TOTAL	87,178,983											14,920,266	12,156,491	7,952,687	15,479,635	18,508,372	7,706,262	1,451,336	3,180,720	5,301,200	522,013
													17.1%	13.9%	9.1%	17.8%	21.2%	8.8%	1.7%	3.6%	6.1%	0.6%

Allocation of Utility-Financed Plant to Service Cost Functions

Acct No.	Account Description	2022		2022		Allocation Percents										CONVEYANCE		TREATMENT PLANT					CUSTOMER COSTS		HAULED WASTE			
		Forecast Depr on Existing Assets	Depreciation on 2020 Additions	Depreciation on 2021 Additions	Depreciation on 2022 Additions	Total Projected Depreciation	Coll	Int	Flow	BOD	TSS	P	NH-3	Cust	Conn	HW	Collection System	Interceptor System	Flow	BOD	TSS	P	NH-3	Billing	Meter / Conn			
		(\$)	(\$)	(\$)	(\$)	(\$)											(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	
WASTEWATER TREATMENT FACILITY:																												
1.1	Prelim.- Raw Sewage Pumping	18,719	0	0	0	18,719	0%	0%	100%	0%	0%	0%	0%	0%	0%	0	0	18,719	0	0	0	0	0	0	0	0	0	0
1.2	Prelim.- Bar Screening / Communiton	25,000	0	0	0	25,000	0%	0%	70%	0%	30%	0%	0%	0%	0%	0	0	17,500	0	7,500	0	0	0	0	0	0	0	
1.3	Prelim.- Grit Removal	27,943	1,200	0	0	29,143	0%	0%	70%	0%	30%	0%	0%	0%	0%	0	0	20,400	0	8,743	0	0	0	0	0	0	0	
1.4	Prelim.- Septage Receiving	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Primary Treatment	750	0	0	0	750	0%	0%	30%	10%	55%	5%	0%	0%	0%	0	0	225	75	413	38	0	0	0	0	0	0	
2.1	Primary Clarifier	90,958	0	0	0	90,958	0%	0%	50%	20%	28%	3%	0%	0%	0%	0	0	45,479	18,192	25,013	2,274	0	0	0	0	0	0	
3	Secondary Treatment	0	0	0	0	0	0%	0%	20%	45%	10%	5%	20%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	
3.1	Secondary - Activated Sludge	63,452	0	0	0	63,452	0%	0%	20%	45%	10%	5%	20%	0%	0%	0	0	12,690	28,553	6,345	3,173	12,690	0	0	0	0	0	
3.6	Secondary - Phosphorus	65,941	0	0	0	65,941	0%	0%	0%	0%	0%	100%	0%	0%	0%	0	0	0	0	0	65,941	0	0	0	0	0	0	
3.7	Secondary - NH ₃ -N	0	0	0	0	0	0%	0%	0%	0%	0%	0%	100%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	
3.8	Secondary - Return Sludge Pumping	0	0	0	0	0	0%	0%	20%	32%	44%	4%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	
3.9	Secondary - Final Clarifier	4,507	0	0	0	4,507	0%	0%	20%	32%	44%	4%	0%	0%	0%	0	0	901	1,442	1,983	180	0	0	0	0	0	0	
4	Advanced Treatment	0	0	0	0	0	0%	0%	30%	30%	30%	10%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	
5	Biosolids Trmnt & Disposal	256,965	0	0	0	256,965	0%	0%	40%	55%	5%	0%	0%	0%	0%	0	0	0	102,786	141,331	12,848	0	0	0	0	0	0	
6	Disinfection	29,511	0	0	0	29,511	0%	0%	100%	0%	0%	0%	0%	0%	0%	0	0	29,511	0	0	0	0	0	0	0	0	0	
7	Plant Site Piping & Pumps	28,856	0	0	0	28,856	0%	0%	25%	26%	33%	14%	2%	0%	0%	0	0	7,174	7,451	9,438	4,166	626	0	0	0	0	0	
8	Laboratory & Monitoring	3,845	550	0	0	4,395	0%	0%	25%	35%	20%	10%	10%	0%	0%	0	0	1,099	1,538	879	440	440	0	0	0	0	0	
8.1	Flow Monitoring Eqmt.	2,007	0	0	0	2,007	0%	0%	100%	0%	0%	0%	0%	0%	0%	0	0	2,007	0	0	0	0	0	0	0	0	0	
8.2	Safety Equipment	0	0	0	0	0	0%	0%	25%	26%	33%	14%	2%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	
9	Electrical	12,640	150	0	0	12,790	0%	0%	29%	30%	18%	14%	9%	0%	0%	0	0	3,722	3,830	2,278	1,803	1,156	0	0	0	0	0	
10	WWTP Non-Specific	45,804	0	0	0	45,804	0%	0%	25%	26%	32%	14%	2%	0%	0%	0	0	11,536	11,858	14,756	6,575	1,079	0	0	0	0	0	
	SUBTOTAL	676,896	1,900	0	0	678,796	0%	0%	25%	26%	32%	14%	2%	0%	0%	0	0	170,963	175,726	218,679	97,438	15,991	0	0	0	0	0	
	PERCENTAGE															0.00%	0.00%	25.19%	25.89%	32.22%	14.35%	2.36%	0.00%	0.00%	0.00%	0.00%		
CONVEYANCE SYSTEM:																												
15	Interceptor Mains	69,485	500	12,390	0	82,375	0%	0%	100%	0%	0%	0%	0%	0%	0	82,375	0	0	0	0	0	0	0	0	0	0	0	0
16	Interceptor Lift Stations	48,663	34,958	0	0	83,621	0%	0%	100%	0%	0%	0%	0%	0%	0	83,621	0	0	0	0	0	0	0	0	0	0	0	0
17	Force Mains	0	0	0	0	0	0%	0%	100%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	
20	Collection Mains / Other Eqmt.	160,613	16,123	10,790	14,630	202,156	60%	0%	0%	0%	0%	0%	15%	25%	121,294	0	0	0	0	0	0	0	30,323	50,539	0	0	0	
21	Collection Lift Stations (All)	3,822	0	12,600	66,667	83,089	100%	0%	0%	0%	0%	0%	0%	0%	83,089	0	0	0	0	0	0	0	0	0	0	0	0	
25	Service Connections / Laterals	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	
26	Other Conveyance System - Non Specific	36,139	12,333	0	12,333	60,806	45%	37%	0%	0%	0%	0%	0%	7%	11%	27,541	22,368	0	0	0	0	0	4,086	6,810	0	0	0	
	SUBTOTAL	318,722	63,915	35,780	93,630	512,046	45%	37%	0%	0%	0%	0%	7%	11%	231,924	188,364	0	0	0	0	0	0	34,410	57,349	0	0	0	
	PERCENTAGE														45.29%	36.79%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.72%	11.20%	0.00%	0.00%		
	SUBTOTAL WWTP AND INTERCEPTORS														0	165,995	170,963	175,726	218,679	97,438	15,991	0	0	0	0	0	0	
	PERCENTAGE														0.00%	19.65%	20.24%	20.80%	25.89%	11.53%	1.89%	0.00%	0.00%	0.00%	0.00%	0.00%		
	SUBTOTAL WWTP AND CONVEYANCE	995,618	65,815	35,780	93,630	1,190,843	19%	16%	14%	15%	18%	8%	1%	3%	5%	231,924	188,364	170,963	175,726	218,679	97,438	15,991	34,410	57,349	0	0		
	PERCENTAGE														19.48%	15.82%	14.36%	14.76%	18.36%	8.18%	1.34%	2.89%	4.82%	0.00%	0.00%	0.00%		

Acct No.	Account Description	2022				Allocation Percents											CONVEYANCE		TREATMENT PLANT				CUSTOMER COSTS		HAULED WASTE	
		Forecast Depr on Existing Assets	Depreciation on 2020 Additions	Depreciation on 2021 Additions	Depreciation on 2022 Additions	Total Projected Depreciation	Coll	Int	Flow	BOD	TSS	P	NH-3	Cust	Conn	HW	Collection System	Interceptor System	Flow	BOD	TSS	P	NH-3	Billing	Meter / Conn	
		(\$)	(\$)	(\$)	(\$)	(\$)																				
GENERAL PLANT EQUIPMENT:																										
28.1	Land & Land Rights	0	0	0	0	0	19%	16%	14%	15%	18%	8%	1%	3%	5%	0%	0	0	0	0	0	0	0	0	0	0
28.2	Struct. & Improv.	0	0	0	0	0	19%	16%	14%	15%	18%	8%	1%	3%	5%	0%	0	0	0	0	0	0	0	0	0	
28.3	Office Furn. & Eqmt.	0	0	0	0	0	19%	16%	14%	15%	18%	8%	1%	3%	5%	0%	0	0	0	0	0	0	0	0	0	
28.4	Office Furn. & Eqmt. - EDP	3,796	0	0	0	3,796	19%	16%	14%	15%	18%	8%	1%	3%	5%	0%	739	600	545	560	697	311	51	110	183	
28.5	Transport. Eqmt.	120,656	19,333	1,067	0	141,056	19%	16%	14%	15%	18%	8%	1%	3%	5%	0%	27,472	22,312	20,251	20,815	25,903	11,542	1,894	4,076	6,793	
28.6	Communications Eqmt.	570	0	0	0	570	19%	16%	14%	15%	18%	8%	1%	3%	5%	0%	111	90	82	84	105	47	8	16	27	
28.7	Tools, Shop & Misc.	0	0	0	0	0	19%	16%	14%	15%	18%	8%	1%	3%	5%	0%	0	0	0	0	0	0	0	0	0	
28.8	Safety Eqmt.	0	0	0	0	0	19%	16%	14%	15%	18%	8%	1%	3%	5%	0%	0	0	0	0	0	0	0	0	0	
28.9	Other Genrl. Eqmt.	5,897	0	0	0	5,897	19%	16%	14%	15%	18%	8%	1%	3%	5%	0%	1,149	933	847	870	1,083	483	79	170	284	
	SUBTOTAL	130,919	19,333	1,067	0	151,319	19%	16%	14%	15%	18%	8%	1%	3%	5%	0%	29,470	23,935	21,724	22,329	27,787	12,381	2,032	4,372	7,287	0
	TOTAL	1,126,537	85,148	36,847	93,630	1,342,162											261,394	212,299	192,687	198,055	246,467	109,819	18,023	38,782	64,637	0

Summary of Allocation of Operating Costs to Service Cost Functions - 2022

Retail Rate of Return - Collection System	0.00%											
Retail Rate of Return - Non-Collection	4.18%											
NIRB - Collection System	14,844,592											
NIRB - Non-Collection	48,124,821											
		<u>CONVEYANCE</u>			<u>WASTE TREATMENT</u>					<u>CUSTOMER COSTS</u>		<u>HAULED WASTE</u>
<u>Operating Cost</u>	<u>Total</u>	<u>Collection System</u>	<u>La Crescent F.M.</u>	<u>Interceptor System</u>	<u>Flow</u>	<u>BOD</u>	<u>TSS</u>	<u>P</u>	<u>NH-3</u>	<u>Billing</u>	<u>Meter / Connection</u>	<u>(\$)</u>
	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Operation and Maintenance	5,826,007	1,098,453	5,158	709,362	715,552	1,114,577	1,219,283	462,312	231,158	(18,539)	279,649	9,042
Depreciation	1,342,162	261,394		212,299	192,687	198,055	246,467	109,819	18,023	38,782	64,637	0
Return on NIRB - Collection System	0	0		0	0	0	0	0	0	0	0	0
Return on NIRB - Non-Collection	2,010,681	0		369,249	252,881	492,224	588,533	245,045	46,150	0	0	16,599
Total	9,178,850	1,359,847	5,158	1,290,909	1,161,121	1,804,856	2,054,282	817,177	295,330	20,243	344,286	25,641

Wholesale ROR - Collection System	0.00%											
Wholesale ROR - Non-Collection	4.90%											
NIRB - Collection System	14,844,592											
NIRB - Non-Collection	48,124,821											
		<u>CONVEYANCE</u>			<u>WASTE TREATMENT</u>					<u>CUSTOMER COSTS</u>		<u>HAULED WASTE</u>
<u>Operating Cost</u>	<u>Total</u>	<u>Collection System</u>	<u>La Crescent F.M.</u>	<u>Interceptor System</u>	<u>Flow</u>	<u>BOD</u>	<u>TSS</u>	<u>P</u>	<u>NH-3</u>	<u>Billing</u>	<u>Meter / Connection</u>	<u>(\$)</u>
	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Operation and Maintenance	5,826,007	1,098,453	5,158	709,362	715,552	1,114,577	1,219,283	462,312	231,158	(18,539)	279,649	9,042
Depreciation	1,342,162	261,394		212,299	192,687	198,055	246,467	109,819	18,023	38,782	64,637	0
Return on NIRB - Collection System	0	0		0	0	0	0	0	0	0	0	0
Return on NIRB - Non-Collection	2,358,116	0		433,053	296,578	577,278	690,228	287,388	54,124	0	0	19,467
Total	9,526,285	1,359,847	5,158	1,354,713	1,204,817	1,889,910	2,155,978	859,519	303,305	20,243	344,286	28,509

Overall Rate of Return	3.34%											
NIRB - Collection System	14,844,592											
NIRB - Non-Collection	48,124,821											
		<u>CONVEYANCE</u>			<u>WASTE TREATMENT</u>					<u>CUSTOMER COSTS</u>		<u>HAULED WASTE</u>
<u>Operating Cost</u>	<u>Total</u>	<u>Collection System</u>	<u>La Crescent F.M.</u>	<u>Interceptor System</u>	<u>Flow</u>	<u>BOD</u>	<u>TSS</u>	<u>P</u>	<u>NH-3</u>	<u>Billing</u>	<u>Meter / Connection</u>	<u>(\$)</u>
	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Operation and Maintenance	5,826,007	1,098,453	5,158	709,362	715,552	1,114,577	1,219,283	462,312	231,158	(18,539)	279,649	9,042
Depreciation	1,342,162	261,394		212,299	192,687	198,055	246,467	109,819	18,023	38,782	64,637	0
Return on NIRB - Combined	2,100,698	0		383,560	262,790	513,532	617,030	256,154	48,165	0	0	19,467
Total	9,268,867	1,359,847	5,158	1,305,221	1,171,029	1,826,163	2,082,780	828,286	297,345	20,243	344,286	28,509

Customer Class Demand Allocation

Customer Class	Billing Units - CCF							BASE DEMAND				EXTRA-CAPACITY MAX DAY DEMAND				BOD				TSS				P				NH3			
	Annual Volume (CCF)	Average Day Volume (CF)	System Percent (%)	Collection Percent (%)	Interceptor Percent (%)	Retail Percent (%)	Extra Capacity Ratio	Extra Capacity Volume Rate Per Day	System Adjust. Percentage (%)	Coll. Adjust. Percentage (%)	Waste Strength (mg/l)	Loadings (lbs)	Percent (%)	Retail Percent (%)	Waste Strength (mg/l)	Loadings (lbs)	Percent (%)	Retail Percent (%)	Waste Strength (mg/l)	Loadings (lbs)	Percent (%)	Retail Percent (%)	Waste Strength (mg/l)	Loadings (lbs)	Percent (%)	Retail Percent (%)	Waste Strength (mg/l)	Loadings (lbs)	Percent (%)	Retail Percent (%)	
	Residential	762,204.0	208,823	15.97%	20.65%	16.02%	20.57%	0.62	128,494	15.97%	20.65%	350	1,665,203	16.87%	22.09%	325	1,546,260	17.14%	22.55%	7.0	33,304	17.28%	22.79%	40.0	190,309	17.58%	23.32%	40.0	190,309	17.58%	23.32%
Multi-Family	357,628.1	97,980	7.49%	9.69%	7.52%	9.65%	0.62	60,290	7.49%	9.69%	350	781,318	7.92%	10.37%	325	725,509	8.04%	10.58%	7.0	15,626	8.11%	10.69%	40.0	89,293	8.25%	10.94%	40.0	89,293	8.25%	10.94%	
Commercial	500,560.3	137,140	10.49%	13.56%	10.52%	13.51%	0.62	84,386	10.49%	13.56%	350	1,093,585	11.08%	14.51%	325	1,015,471	11.25%	14.81%	7.0	21,872	11.35%	14.97%	40.0	124,981	11.54%	15.31%	40.0	124,981	11.54%	15.31%	
Industrial	1,101,352.4	301,740	23.08%	29.84%	23.15%	29.72%	0.62	185,668	23.08%	29.84%	350	2,406,148	24.38%	31.92%	325	2,234,280	24.76%	32.58%	7.0	48,123	24.96%	32.93%	40.0	274,988	25.40%	33.69%	40.0	274,988	25.40%	33.69%	
Public Authority	195,493.1	53,560	4.10%	5.30%	4.11%	5.28%	0.62	32,957	4.10%	5.30%	350	427,098	4.33%	5.67%	325	396,591	4.40%	5.78%	7.0	8,542	4.43%	5.85%	40.0	48,811	4.51%	5.98%	40.0	48,811	4.51%	5.98%	
Onalaska	709,157.0	194,290	14.86%	0.00%	14.91%	0.00%	0.62	119,551	14.86%	0.00%	350	1,549,310	15.70%	0.00%	325	1,438,645	15.94%	0.00%	7.0	30,986	16.07%	0.00%	40.0	177,064	16.35%	0.00%	40.0	177,064	16.35%	0.00%	
La Crescent	137,671.1	37,718	2.88%	0.00%	2.89%	0.00%	0.62	23,209	2.88%	0.00%	350	300,773	3.05%	0.00%	325	279,289	3.10%	0.00%	7.0	6,015	3.12%	0.00%	40.0	34,374	3.17%	0.00%	40.0	34,374	3.17%	0.00%	
Campbell	155,278.8	42,542	3.25%	0.00%	3.26%	0.00%	0.62	26,177	3.25%	0.00%	350	339,241	3.44%	0.00%	325	315,009	3.49%	0.00%	7.0	6,785	3.52%	0.00%	40.0	38,770	3.58%	0.00%	40.0	38,770	3.58%	0.00%	
Shelby SD#2	65,042.8	17,820	1.36%	0.00%	1.37%	0.00%	0.62	10,965	1.36%	0.00%	350	142,100	1.44%	0.00%	325	131,950	1.46%	0.00%	7.0	2,842	1.47%	0.00%	40.0	16,240	1.50%	0.00%	40.0	16,240	1.50%	0.00%	
Holding Tank Waste	10,083.8	2,763	0.21%	0.00%	0.00%	0.27%	0.62	1,700	0.21%	0.00%	600	37,766	0.38%	0.50%	1,800	113,299	1.26%	1.65%	25.0	1,574	0.82%	1.08%	50.0	3,147	0.29%	0.39%	50.0	3,147	0.29%	0.39%	
Septic Tank Waste	3,715.5	1,018	0.08%	0.00%	0.00%	0.10%	0.62	626	0.08%	0.00%	1,800	41,747	0.42%	0.55%	5,500	127,559	1.41%	1.86%	60.0	1,392	0.72%	0.95%	100.0	2,319	0.21%	0.28%	100.0	2,319	0.21%	0.28%	
Grease Trap Waste	1,309.6	359	0.03%	0.00%	0.04%	0.00%	0.62	221	0.03%	0.00%	7,500	61,310	0.62%	0.81%	15,000	122,619	1.36%	1.79%	120.0	981	0.51%	0.67%	200.0	1,635	0.15%	0.20%	200.0	1,635	0.15%	0.20%	
Category "B" Surcharge Loadings	-	-	0.00%	0.00%	0.00%	0.00%	0.00	-	0.00%	0.00%	-	1,023,054	10.37%	13.57%	-	576,192	6.39%	8.40%	-	14,721	7.64%	10.07%	-	80,761	7.46%	9.89%	-	80,761	7.46%	9.89%	
Inflow / Infiltration	773,183.7	211,831	16.20%	20.95%	16.25%	20.87%	0.62	130,345	16.20%	20.95%	-	-	0.00%	0.00%	-	-	0.00%	0.00%	-	-	0.00%	0.00%	-	-	0.00%	0.00%	-	-	0.00%	0.00%	
Total	4,772,680.2	1,307,584	100.0%	100.0%	100.0%	100.0%		804,589	100.0%	100.0%		9,868,652	100.0%	100.0%		9,022,675	100.0%	100.0%		192,763	100.0%	100.0%		1,082,694	100.0%	100.0%		1,082,694	100.0%	100.0%	

Consumer Costs Allocation Factors

Customer Class	Number of Meters												Total Meters	Percent Total	
	5/8	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10	12			
Residential	8,630	4,634	143		2	1								13,410	84.36%
Multi-Family	164	213	321		25	59	4	4						790	4.97%
Commercial	298	558	344		58	104	23	18	2					1,405	8.84%
Industrial	5	13	28		10	13	9	14	6	4				102	0.64%
Public Authority	11	44	31		17	63	15	9						190	1.20%
Total	9,108	5,462	867	0	112	240	51	45	8	4	0	0	15,897		

Allocation factor:	Equivalent Meters												Total Meters	Percent Total
	Meter Size (Inches):	5/8	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10		
Equiv. Meters Ratio:	1	1.0	2.5	3.7	5	8	15	25	50	80	120	160		

Customer Class	5/8	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10	12	Total	Percent
Residential	8,630	4,634	358	-	10	8	-	-	-	-	-	-	13,640	62.49%
Multi-Family	164	213	803	-	125	472	60	100	-	-	-	-	1,937	8.87%
Commercial	298	558	860	-	290	832	345	450	100	-	-	-	3,733	17.10%
Industrial	5	13	70	-	50	104	135	350	300	320	-	-	1,347	6.17%
Public Authority	11	44	78	-	85	504	225	225	-	-	-	-	1,172	5.37%
Total	9,108	5,462	2,168	0	560	1,920	765	1,125	400	320	0	0	21,828	100.00%

Allocation factor:	Equivalent Services												Total Services	Percent Total
	Meter Size (Inches):	5/8	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10		
Equiv. Services Ratio:	1	1.0	1.3	1.7	2	3	4	5	6	7	8	9		

Customer Class	5/8	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10	12	Total	Percent
Residential	8,630	4,634	186	-	4	3	-	-	-	-	-	-	13,457	78.48%
Multi-Family	164	213	417	-	50	177	16	20	-	-	-	-	1,057	6.17%
Commercial	298	558	447	-	116	312	92	90	12	-	-	-	1,925	11.23%
Industrial	5	13	36	-	20	39	36	70	36	28	-	-	283	1.65%
Public Authority	11	44	40	-	34	189	60	45	-	-	-	-	423	2.47%
Total	9,108	5,462	1,127	0	224	720	204	225	48	28	0	0	17,146	100.00%

Allocation of Service Cost Functions to Customer Classes

	Retail	Wholesale	Hauled Waste	Industrial Surcharges	Infiltration / Inflow	Total
CONVEYANCE COSTS:						
Collection	1,074,944	0	0	0	284,903	1,359,847
Interceptor	791,557	303,870	0	0	209,794	1,305,221
FLOW COSTS:						
Flow	709,720	269,392	3,814	0	188,104	1,171,029
TREATMENT COSTS:						
BOD	1,165,608	446,483	26,968	187,104	0	1,826,163
TSS	1,347,435	517,304	86,853	131,187	0	2,082,780
P	540,369	207,914	17,595	62,407	0	828,286
NH-3	198,684	74,643	1,989	22,029	0	297,345
CUSTOMER COSTS:						
Billing	20,243	0	0	0	0	20,243
Equivalent Meters	344,286	0	0	0	0	344,286
HAULED WASTE	0	0	28,509	0	0	28,509
SUBTOTAL COST before I/I	6,193,458	1,823,988	165,730	402,728	682,963	9,268,867
I/I Adjustment	573,011	109,951	0	0	(682,963)	0
SUBTOTAL COST after I/I	6,766,469	1,933,940	165,730	402,728	0	9,268,867
COST OF SERVICES	6,718,998	1,920,372	164,567	399,903	0	9,203,840
REVENUE AT PRESENT RATES	5,546,432	1,576,834	199,606	476,991	0	7,799,864
DIFFERENCE	1,172,566	343,538	(35,039)	(77,089)	0	1,403,976
PERCENT INCREASE/DECREASE	21.1%	21.8%	-17.6%	-16.2%	0.0%	18.0%

**APPENDIX B – SEWER UTILITY COST OF SERVICE STUDY AND PROPOSED RATE
DESIGN FOR 2023**

Historical and Forecast Operation and Maintenance Expenses

Acct No.	Account Description	2015	2016	2017	2018	2019	Projected		2022	2023	2024	
							5-Year	Test Year				
		(\$)	(\$)	(\$)	(\$)	(\$)	Average	Actual	(\$)	(\$)	(\$)	
511100	Regular Salaries	787,249	825,318	889,393	196,233	275,127	594,664	1,399,735	319,000	322,190	325,412	328,666
511100	Reg Salaries - Other City Depts	187,841	172,738	175,971	206,123	89,849	166,504		100,250	101,253	102,265	103,288
511100	Reg Salaries - Industrial PreTrmnt	41,797	2,945	3,912	56,132	57,350	32,427		60,750	61,358	61,971	62,591
511100	Reg Salaries - Oper & Mtce	135,684	163,084	90,168	602,880	574,139	313,191		597,400	603,374	609,408	662,388
511100	Reg Salaries - Sanitary Collection	41,726	14,894	17,793	190,371	155,725	84,102		182,275	184,098	185,939	187,798
511100	Reg Salaries - Mech Sludge Cake	0	0	0	2,436	46,372	9,762		0	0	0	0
511100	Reg Salaries - Storm Collection	842	434	417	0	0	338		0	0	0	0
511100	Reg Salaries - Training	9,864	20,536	11,240	16,472	14,578	14,538		16,201	16,363	16,527	16,692
511100	Reg Salaries - Leave								0	0	0	0
511100	Reg Salaries - Sanitary Lift Sta	70,268	74,012	82,111	71,145	110,296	81,567		91,130	92,041	92,962	93,891
511101	Limited Term EE Salaries								15,000			
511200	Overtime Wages	16,973	20,165	18,738	236	232	11,269	25,600	250	253	255	258
511200	Overtime Wages - Other City Depts	509	308	203	89	98	241		250	253	255	258
511200	Overtime Wages - Industrial PreTrmnt	81	0	41	1,234	182	308		200	202	204	206
511200	Overtime Wages - Oper & Mtce	485	951	1,639	18,905	18,556	8,107		17,000	17,170	17,342	17,515
511200	Overtime Wages - Sanitary Collection	60	62	488	9,117	22,757	6,497		9,000	9,090	9,181	9,273
511200	Overtime Wages - Mech Sludge Cake	130	0	205	639	10,846	2,364		0	0	0	0
513100	Overtime Wages - Training	2,920	3,064	2,997	1,480	5,056	3,104		3,300	3,333	3,366	3,400
513000	Benefits Budget Only							594,339	0	0	0	0
513100	Health Insurance ⁽¹⁾	697,282	537,730	565,238	528,468	491,077	563,959		351,500	358,530	365,701	373,015
513200	Life Insurance	5,100	4,430	4,485	4,295	9,606	5,583		9,050	9,141	9,232	9,324
513300	Retirement Benefits	77,447	213,642	88,548	80,927	87,180	115,141		90,600	91,506	92,421	93,345
513400	Social Security Taxes	99,659	83,868	88,784	89,591	93,589	91,098		96,700	97,667	98,644	99,630
519013	Safety Seminar	0	1,381	0	536	0	383		0	0	0	0
521200	Audit & Accounting Services	2,500	2,500	2,500	2,500	2,500	2,500	2,615	2,742	2,769	2,797	2,825
521400	Consulting Services ⁽²⁾	31,472	50,196	21,816	26,273	210,408	68,033	550,000	190,000	40,000	40,400	40,804
521402	Sample Tests Sludge	4,433	4,620	4,158	11,147	9,252	6,722	10,000	10,000	10,100	10,201	10,303
521403	Sample Tests Plant Water	34,666	20,146	20,144	20,367	22,887	23,642	20,000	25,000	25,250	25,503	25,758
521404	Sample Tests Pretreat	9,977	5,367	12,683	8,470	8,831	9,066	10,000	10,000	10,100	10,201	10,303
521500	Recruitment	0	0	0	708	637	177	500	500	505	510	515
521910	Environmental Fees	53,615	47,324	43,508	41,702	41,201	45,470	45,000	45,000	45,450	45,905	46,364
521911	Other Prof Svc Tv Inspect	25,183	17,341	26,594	18,507	50,099	27,545	50,000	50,000	50,500	51,005	51,515
522100	Telephone	9,866	7,582	4,253	7,366	13,170	8,448	15,000	15,000	15,150	15,302	15,455
522200	Electricity	549,716	525,995	498,698	555,066	571,726	540,240	535,000	535,000	540,350	545,754	564,311

Acct No.	Account Description	5-Year										
		2015	2016	2017	2018	2019	Average	2020	2021	2022	2023	2024
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
522300	Water	52,968	66,803	65,558	32,376	38,449	51,231	50,000	40,000	40,400	40,804	41,212
522400	Natural Gas	41,001	43,011	31,661	41,970	38,662	39,261	50,000	50,000	50,500	51,005	140,515
522500	Sewer	95,146	109,860	128,707	50,703	63,971	89,677	60,000	60,000	60,600	61,206	61,818
522501	San. Dist #1 & #2 Payments	6,178	6,149	6,198	6,260	7,398	6,437	8,000	8,000	8,080	8,161	8,242
522502	Sewer Pay To Other Munic	59,620	133,066	107,106	114,214	111,543	105,110	115,000	132,250	133,573	134,908	136,257
522550	Storm Sewer Fee Payments	8,352	8,988	8,837	8,029	4,235	7,689	10,000	10,000	10,100	10,201	10,303
522600	Recycling Services	873,214	816,440	841,630	682,428	1,020,155	846,773	1,300,000	1,200,000	1,212,000	1,224,120	356,361
522702	Grit & Screenings Disposal	6,851	7,136	9,302	18,308	11,119	10,543	10,000	20,000	20,200	20,402	20,606
524100	Repair/Maint-Grounds	6,396	6,898	6,443	9,130	13,064	7,217	12,000	10,000	10,100	10,201	10,303
524200	Repair/Maint-Buildings	11,757	27,349	29,685	15,340	12,079	19,242	18,000	28,000	28,280	28,563	28,848
524400	Repair/Maint-Sewer	13,492	11,946	12,042	9,790	24,547	14,363	20,000	20,000	20,200	20,402	20,606
524500	Repair/Maint-Vehicles	32,913	13,867	24,088	22,247	30,512	24,725	30,000	30,000	30,300	30,603	30,909
524600	Repair/Maint-Equip	293,787	414,130	240,118	313,232	240,289	300,311	300,000	325,000	328,250	331,533	445,848
524700	Repair/Maint Commun. Equip	8,437	639	1,157	788	867	2,378	1,500	1,500	1,515	1,530	1,545
524800	Repair/Maint Biogas Cogeneration									0		110,000
	Repair/Maint La Crescent FM ⁽³⁾								5,107	5,158	5,209	5,261
526100	City Services	263,012	239,135	247,655	242,920	266,715	251,888	191,557	248,103	250,584	253,090	255,621
526150	Water Dept Svcs Inventory	198,805	184,389	193,074	277,638	294,146	229,610	300,000	305,000	308,050	311,131	314,242
529100	Laundry Services	1,396	1,664	1,869	1,093	1,745	1,553	1,800	1,800	1,818	1,836	1,855
531100	Office Supplies	2,531	1,710	2,145	2,035	1,934	2,071	2,000	18,000	2,020	2,040	2,061
531110	Supplies Safety Coordinator	11	0	0	0	0	2		0	0	0	0
531200	Postage	1,145	765	768	872	1,286	967	1,500	1,500	1,515	1,530	1,545
533100	Gasoline	17,022	17,288	12,770	13,298	15,897	15,255	15,000	15,000	15,150	15,302	15,455
533200	Oil	7,953	6,923	5,198	9,053	0	5,825		0	0	0	0
533201	Diesel Fuel	25,192	27,861	24,599	17,046	32,892	25,518	25,000	28,000	28,280	28,563	28,848
533300	Grease	97	28	284	0	0	82		0	0	0	0
533500	Dept Supplies	56,780	56,909	60,032	61,167	37,411	54,460	60,000	60,000	60,600	61,206	61,818
533532	Chemical Supplies	127,344	132,847	143,695	171,870	181,237	151,399	180,000	185,000	186,850	188,719	648,606
533539	Safety Equipment	2,213	6,957	1,552	2,794	9,290	4,561	15,000	10,000	10,100	10,201	10,303
533541	Pretreatment Supplies	119	816	328	100	255	323	1,000	1,000	1,010	1,020	1,030
533600	Small Tools	1,667	1,569	2,564	1,543	4,379	2,345		0	0	0	0
533610	Lab Equipment	241	0	0	0	28,272	5,703	30,000	30,000	30,300	30,603	30,909
535100	Equipment Rental	0	0	0	1,220	1,762	596	1,000	1,000	1,010	1,020	1,030
535210	Contracted Sewer Repair	69,357	55,771	64,044	85,004	341,506	123,137	100,000	125,000	126,250	127,513	128,788
535211	Foundary Supplies - Sewer	22,725	23,345	31,254	39,810	51,074	33,642	50,000	50,000	50,500	51,005	51,515
535212	Concrete Supplies - Sewer	6,357	3,511	17,766	24,581	2,268	10,897	15,000	15,000	15,150	15,302	15,455
535409	Contracted Flatwork	0	0	0	0	54,629	10,926	25,000	25,000	25,250	25,503	25,758
536000	Travel	1,979	5,229	2,847	4,551	4,426	3,806	5,000	5,000	5,050	5,101	5,152
536001	Travel - Safety Coordinator	0	90	0	0	0	18		0	0	0	0

Acct No.	Account Description	2015	2016	2017	2018	2019	5-Year	2020	2021	2022	2023	2024
							Average					
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
539000	Miscellaneous	3,911	6,798	8,507	6,919	3,738	5,975	7,000	7,000	7,070	7,141	7,212
551001	Property Insurance	59,106	55,340	57,481	56,042	56,118	56,817	65,000	69,000	69,690	70,387	71,091
551005	Worker Compensation Insur	47,060	52,957	54,153	61,659	59,982	55,162	58,000	66,000	66,660	67,327	68,000
551016	Liability Insurance	66,445	41,637	26,312	23,980	25,534	36,782	27,000	29,700	29,997	30,297	30,600
586035	COVID - Operating Supplies							4,500	10,000	0	0	0
599998	Flood Damage	0	0	6,297	0	0	1,259		0	0	0	0
591100	Bad Debt Expense	1,094	1,131	2,831	73	504	1,126	2,000	2,000	2,020	2,040	2,061
592299	Transfer to Budget Carryover	0	0	0	0	13,422	2,684			0	0	0
593002	Adj. for OPEB	(173,111)	(247,176)	(280,260)	(137,077)	0	(167,525)			0	0	0
599900	Prior Expense	(23,537)	0	21,740	0	(17)	(363)		0	0	0	0
TOTAL OPERATION & MAINTENANCE		5,194,374	5,164,407	4,898,762	5,062,416	6,100,623	5,288,447	6,424,646	6,091,058	5,962,173	6,025,380	6,037,277

Allocation of Collector and Interceptor Mains

Function	Size (Inches)	Quantity (Feet)	Gravity Mains			Quantity (Feet)	Force Mains		
			Total	Collector	Interceptor		Total	Collector	Interceptor
C	1.5		-	-	-	237	356	356	-
C	2		-	-	-	410	820	820	-
C	2.5		-	-	-	1,000	2,500	2,500	-
C	3		-	-	-	3,700	11,100	11,100	-
C	4	481	1,924	1,924	-	2,390	9,560	9,560	-
C	6	2,471	14,826	14,826	-	3,824	22,944	22,944	-
C	8	441,093	3,528,742	3,528,742	-	3,377	27,016	27,016	-
C	10	117,061	1,170,605	1,170,605	-	430	4,300	4,300	-
C	12	219,470	2,633,638	2,633,638	-	10,052	120,624	120,624	-
C	14		-	-	-	17,374	243,236	243,236	-
C	15	62,437	936,552	936,552	-	-	-	-	-
C	16	234	3,742	3,742	-	16,810	268,960	268,960	-
I	18	60,459	1,088,267	-	1,088,267	6,634	119,412	-	119,412
I	20	16,937	338,730	-	338,730	-	-	-	-
I	21	5,113	107,365	-	107,365	-	-	-	-
I	24	24,577	589,855	-	589,855	6,290	150,960	-	150,960
I	27	1,721	46,464	-	46,464	-	-	-	-
I	30	19,356	580,686	-	580,686	-	-	-	-
I	33	1,058	-	-	-	-	-	-	-
I	36	9,931	-	-	-	-	-	-	-
I	39	1,565	61,035	-	61,035	-	-	-	-
I	42	527	22,134	-	22,134	-	-	-	-
I	48	4,217	-	-	-	-	-	-	-
I	50	16,523	826,150	-	826,150	-	-	-	-
		1,005,229	11,950,716	8,290,029	3,660,687	72,528	981,788	711,416	270,372
				69.37%	30.63%			72.46%	27.54%

Less: La Crescent Forcemain

C	10	150
C	12	3,350
Net		69,028

Combined Gravity and Force Mains 1,077,757 12,932,503 9,001,445 3,931,059
 Use for Allocation 69.60% 30.40%

	O&M	UF Plant / Dep	Total Plant
Interceptor Mains	16.28%	30.40%	30.40%
Collector Mains	83.72%	69.60%	69.60%

Labor, Power, Chemical Cost Allocation Factor Development

Process Code	Allocation Percents									Collection System	Interceptor System	Treatment Plant					Customer		
	Coll	Intr	Flow	BOD	TSS	P	NH ₃	Cst	Cnn			Total	Flow	B.O.D.	T.S.S.	Phos.	NH ₃ -N	Billing	Meter/Conn
<u>Labor Allocation</u>																			
2			30%	10%	55%	5%	0%	0%	0%	35.75%	0.00%	0.00%	10.73%	3.58%	19.67%	1.79%	0.00%	0.00%	
3			20%	45%	10%	5%	20%	0%	0%	32.90%	0.00%	0.00%	6.58%	14.80%	3.29%	1.64%	6.58%	0.00%	0.00%
5			0%	40%	55%	5%	0%	0%	0%	20.91%	0.00%	0.00%	0.00%	8.36%	11.50%	1.05%	0.00%	0.00%	0.00%
8			25%	35%	20%	10%	10%	0%	0%	10.44%	0.00%	0.00%	2.61%	3.65%	2.09%	1.04%	1.04%	0.00%	0.00%
Total Labor Expense			20%	30%	37%	6%	8%	0%	0%	100.00%	0.00%	0.00%	19.92%	30.40%	36.54%	5.52%	7.62%	0.00%	0.00%
<u>Electric Power Allocation</u>																			
1.1			100%	0%	0%	0%	0%	0%	0%	812,208	0	0	812,208	0	0	0	0	0	0
1.2			70%	0%	30%	0%	0%	0%	0%	39	0	0	27	0	12	0	0	0	0
1.3			70%	0%	30%	0%	0%	0%	0%	29,416	0	0	20,591	0	8,825	0	0	0	0
2.1			50%	20%	28%	3%	0%	0%	0%	61,318	0	0	30,659	12,264	16,863	1,533	0	0	0
3.1			20%	45%	10%	5%	20%	0%	0%	5,420,845	0	0	1,084,169	2,439,380	542,085	271,042	1,084,169	0	0
3.6			0%	0%	0%	100%	0%	0%	0%	1,276,456	0	0	0	0	0	1,276,456	0	0	0
3.9			20%	32%	44%	4%	0%	0%	0%	12,446	0	0	2,489	3,983	5,476	498	0	0	0
5			0%	40%	55%	5%	0%	0%	0%	2,843,883	0	0	0	1,137,553	1,564,136	142,194	0	0	0
6			100%	0%	0%	0%	0%	0%	0%	1,541,437	0	0	1,541,437	0	0	0	0	0	0
8.1			100%	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0
9			29%	30%	18%	14%	9%	0%	0%	-1,992,200	0	0	-579,755	-596,625	-354,901	-280,900	-180,019	0	0
10			29%	30%	18%	14%	9%	0%	0%	162,915	0	0	47,410	48,790	29,023	22,971	14,721	0	0
Total Electric Power			29%	30%	18%	14%	9%	0%	0%	10,168,763	0	0	2,959,236	3,045,345	1,811,517	1,433,795	918,871	0	0
% of Total											0%	0%	29%	30%	18%	14%	9%	0%	0%
<u>Chemical Allocation</u>																			
70.3			0%	40%	55%	5%	0%	0%	0%	56.59%	0.00%	0.00%	0.00%	22.63%	31.12%	2.83%	0.00%	0.00%	0.00%
70.4			0%	0%	0%	100%	0%	0%	0%	43.00%	0.00%	0.00%	0.00%	0.00%	43.00%	0.00%	0.00%	0.00%	0.00%
70			13%	32%	37%	16%	3%	0%	0%	0.42%	0.00%	0.00%	0.05%	0.13%	0.15%	0.07%	0.01%	0.00%	0.00%
Total Chemicals			0%	23%	31%	46%	0%	0%	0%	100.00%	0.00%	0.00%	0.05%	22.77%	31.27%	45.89%	0.01%	0.00%	0.00%
<u>Natural Gas Allocation</u>																			
66.1			20%	30%	37%	6%	8%	0%	0%	70.00%	0.00%	0.00%	13.94%	21.28%	25.58%	3.87%	5.34%	0.00%	0.00%
66.2			0%	40%	55%	5%	0%	0%	0%	30.00%	0.00%	0.00%	0.00%	12.00%	16.50%	1.50%	0.00%	0.00%	0.00%
Total Natural Gas			14%	33%	42%	5%	5%	0%	0%	100.00%	0.00%	0.00%	13.94%	33.28%	42.08%	5.37%	5.34%	0.00%	0.00%

Allocation of Operation and Maintenance Expenses to Service Cost Functions

Acct No.	Alloc. Method	Account Description	Coll System		Int System		WWTP		Cust Costs		COLLECTION SYSTEM				INTERCEPTOR SYSTEM			WASTEWATER TREATMENT PLANT				CUSTOMER COSTS										
			Coll Main	Coll LS	La Crescent		Flow	BOD	TSS	Phos	NH-3	Billing	Conn	Ind. Pre-Treat	Hauled Waste	Total	Mains	Lift Stations	La Crescent Forecman	Mains	Lift Stations	Flow	BOD	TSS	P	NH-3	Billing	Meter / Connection	Industrial Pretreatment	Hauled Waste		
					FM	Int Main																									Int Flow	Int TSS
511100	Labor	Regular Salaries	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	328,666	49,571	15,381	0	21,648	19,997	40,788	62,250	74,836	11,309	15,613	0	0	17,273	0		
511100	Labor	Reg Salaries - Other City Depts	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	103,288	15,578	4,834	0	6,803	6,284	12,818	19,563	23,518	3,554	4,906	0	0	5,428	0		
511100	Labor	Reg Salaries - Industrial PreTrmnt	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	62,591	9,440	2,929	0	4,123	3,808	7,768	11,855	14,252	2,154	2,973	0	0	3,290	0		
511100	Labor	Reg Salaries - Oper & Mtce	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	662,388	99,905	30,999	0	43,630	40,302	82,203	125,458	150,822	22,792	31,465	0	0	34,812	0		
511100	Labor	Reg Salaries - Sanitary Collection	83.7%	0.0%	16.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	187,798	157,221	0	0	30,577	0	0	0	0	0	0	0	0	0	0	0	
511100	Labor	Reg Salaries - Mech Sludge Cake	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
511100	Labor	Reg Salaries - Storm Collection	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
511100	Labor	Reg Salaries - Training	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	16,692	2,518	781	0	1,099	1,016	2,071	3,161	3,801	574	793	0	0	877	0		
511100	Labor	Reg Salaries - Sanitary Lift Sta	0.0%	43.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	93,891	0	40,820	0	0	53,071	0	0	0	0	0	0	0	0	0	0	0
511101	Labor	Limited Term EE Salaries	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
511200	Labor	Overtime Wages	0.0%	11.7%	0.0%	15.3%	13.9%	21.3%	25.6%	3.9%	5.3%	0.0%	0.0%	3.0%	0.0%	258	0	30	0	0	39	36	55	66	10	14	0	0	8	0	0	
511200	Labor	Overtime Wages - Other City Depts	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	258	39	12	0	17	16	32	49	59	9	12	0	0	14	0	0	
511200	Labor	Overtime Wages - Industrial PreTrmnt	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	206	31	10	0	14	13	26	39	47	7	10	0	0	11	0	0	
511200	Labor	Overtime Wages - Oper & Mtce	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	17,515	2,642	820	0	1,154	1,066	2,174	3,317	3,988	603	832	0	0	921	0	0	
511200	Labor	Overtime Wages - Sanitary Collection	83.7%	0.0%	16.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9,273	7,763	0	0	1,510	0	0	0	0	0	0	0	0	0	0	0	0
511200	Labor	Overtime Wages - Mech Sludge Cake	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
511200	Labor	Overtime Wages - Storm Collection	15.1%	4.7%	6.6%	6.1%	12.4%	18.9%	22.8%	3.4%	4.8%	0.0%	0.0%	5.3%	0.0%	3,400	513	159	0	224	207	422	644	774	117	162	0	0	179	0	0	
513000	Labor	Benefits Budget Only	23.2%	6.5%	7.5%	8.5%	10.0%	15.2%	18.3%	2.8%	3.8%	0.0%	0.0%	4.2%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
513100	Labor	Health Insurance	23.2%	6.5%	7.5%	8.5%	10.0%	15.2%	18.3%	2.8%	3.8%	0.0%	0.0%	4.2%	0.0%	373,015	86,644	24,289	0	27,808	31,578	37,230	56,280	68,308	10,323	14,251	0	0	17,765	0		
513200	Labor	Life Insurance	23.2%	6.5%	7.5%	8.5%	10.0%	15.2%	18.3%	2.8%	3.8%	0.0%	0.0%	4.2%	0.0%	9,324	2,166	607	0	695	789	931	1,420	1,707	258	356	0	0	394	0	0	
513300	Labor	Retirement Benefits	23.2%	6.5%	7.5%	8.5%	10.0%	15.2%	18.3%	2.8%	3.8%	0.0%	0.0%	4.2%	0.0%	93,345	21,682	6,078	0	6,959	7,902	9,317	14,219	17,094	2,583	3,566	0	0	3,945	0	0	
513400	Labor	Social Security Taxes	23.2%	6.5%	7.5%	8.5%	10.0%	15.2%	18.3%	2.8%	3.8%	0.0%	0.0%	4.2%	0.0%	99,630	23,142	6,487	0	7,427	8,434	9,944	15,176	18,245	2,757	3,806	0	0	4,211	0	0	
519013	Labor	Safety Seminar	23.2%	6.5%	7.5%	8.5%	10.0%	15.2%	18.3%	2.8%	3.8%	0.0%	0.0%	4.2%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
521200	Labor	Audit & Accounting Services	23.2%	6.5%	7.5%	8.5%	10.0%	15.2%	18.3%	2.8%	3.8%	0.0%	0.0%	4.2%	0.0%	2,825	656	184	0	211	239	282	430	517	78	108	0	0	119	0	0	
521400	Labor	Consulting Services	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	40,804	4,738	2,222	0	1,568	3,276	4,321	8,149	9,198	4,834	1,454	0	0	934	110	0	
521402	Labor	Sample Tests Sludge	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	10,303	1,196	561	0	396	1,091	1,091	2,058	2,323	1,220	367	0	0	236	28	0	
521403	Labor	Sample Tests Plant Water	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	25,758	2,991	1,403	0	990	2,068	2,728	5,144	5,806	3,051	918	0	0	590	70	0	
521404	Labor	Sample Tests Pretreat	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	10,303	1,196	561	0	396	1,091	1,091	2,058	2,323	1,220	367	0	0	236	28	0	
521500	Labor	Recruitment	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	515	60	28	0	20	41	55	103	116	61	18	0	0	12	1	0	
521910	Plant	Environmental Fees	0.0%	0.0%	0.0%	0.0%	12.7%	31.0%	35.9%	15.6%	3.1%	0.0%	0.0%	0.0%	1.7%	46,364	0	0	0	0	5,873	14,376	16,633	7,252	1,421	0	0	0	0	809	0	
521911	Plant	Other Prof Svc Tv Inspect	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	51,515	5,981	2,805	0	1,980	4,136	5,456	10,288	11,613	6,102	1,835	0	0	1,180	139	0	
522100	Plant	Telephone	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	15,455	1,794	842	0	594	1,241	1,637	3,086	3,484	1,831	551	0	0	354	42	0	
522200	Elec	Electricity	0.0%	3.4%	0.0%	12.7%	24.4%	25.1%	14.9%	11.8%	7.6%	0.0%	0.0%	0.0%	0.0%	564,311	0	19,136	0	0	71,821	137,752	147,760	84,326	66,743	42,773	0	0	0	0	0	0
522300	Elec	Water	0.0%	1.3%	0.0%	1.7%	12.2%	29.9%	34.6%	15.1%	3.0%	0.0%	0.0%	0.5%	1.7%	41,212	0	538	0	0	699	5,038	12,331	14,268	6,221	1,219	0	0	206	694	0	
522400	Elec	Natural Gas	0.0%	7.0%	0.0%	7.3%	11.9%	28.5%	36.1%	4.6%	4.6%	0.0%	0.0%	0.0%	0.0%	140,515	0	9,878	0	0	10,196	16,791	40,080	50,681	6,462	6,427	0	0	0	0	0	
522500	Elec	Sewer	0.0%	1.1%	0.0%	1.4%	12.3%	30.1%	34.8%	15.2%	3.0%	0.0%	0.0%	0.5%	1.7%	61,818	0	672	0	0	874	7,506	18,593	21,512	9,379	1,838	0	0	309	1,046	0	
522501	Plant	San. Dist #1 & #2 Payments	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	8,242	957	449	0	317	662	873	1,646	1,858	976	294	0	0	189	22	0	
522502	Plant	Sewer Pay To Other Munic	0.0%	0.0%	0.0%	0.0%	12.7%	31.0%	35.9%	15.6%	3.1%	0.0%	0.0%	0.0%	1.7%	136,257	0	0	0	0	17,260	42,249	48,883	21,313	4,175	0	0	0	2,377	0		
522550	Plant	Storm Sewer Fee Payments	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	10,303	1,196	561	0	396	827	1,091	2,058	2,323	1,220	367	0	0	236	28	0	

Acct No.	Alloc. Method	Account Description	Coll System		Int System		WWTP			Cust Costs			COLLECTION SYSTEM				INTERCEPTOR SYSTEM				WASTEWATER TREATMENT PLANT				CUSTOMER COSTS							
			Coll Main	Coll LS	La Crescent		Flow	BOD	TSS	Phos	NH-3	Billing	Conn	Ind. Pre-Treat	Hauled Waste	Total	La Crescent		Mains	Lift Stations	Forcemain	Mains	Lift Stations	Flow	BOD	TSS	P	NH-3	Billing	Meter / Connection	Industrial Pretreatment	Hauled Waste
					Int Main	Int LS											Mains	Lift Stations														
535100		Equipment Rental	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	1,030	120	56	0	40	83	109	206	232	122	37	0	0	0	24	3	
535210		Contracted Sewer Repair	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	128,788	14,953	7,013	0	4,949	10,340	13,640	25,720	29,032	15,256	4,588	0	0	2,949	349		
535211		Foundary Supplies - Sewer	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	51,515	5,981	2,805	0	1,980	4,136	5,456	10,288	11,613	6,102	1,835	0	0	1,180	139		
535212		Concrete Supplies - Sewer	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	15,455	1,794	842	0	594	1,241	1,637	3,086	3,484	1,831	551	0	0	354	42		
535409		Contracted Flatwork	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	25,758	2,991	1,403	0	990	2,068	2,728	5,144	5,806	3,051	918	0	0	590	70		
536000		Travel	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	5,152	598	281	0	198	414	546	1,029	1,161	610	184	0	0	118	14		
536001		Travel - Safety Coordinator	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
539000		Miscellaneous	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	7,212	837	393	0	277	579	764	1,440	1,626	854	257	0	0	165	20		
551001		Property Insurance	0.0%	6.5%	0.0%	8.5%	10.8%	26.4%	30.5%	13.3%	2.6%	0.0%	0.0%	0.0%	1.5%	71,091	0	4,636	0	0	6,028	7,654	18,736	21,679	9,452	1,852	0	0	0	1,054		
551005	Labor	Worker Compensation Insur	23.2%	6.5%	7.5%	8.5%	10.0%	15.2%	18.3%	2.8%	3.8%	0.0%	0.0%	4.2%	0.0%	68,000	15,795	4,428	0	5,069	5,757	6,787	10,358	12,452	1,882	2,598	0	0	2,874	0		
551016		Liability Insurance	0.0%	21.7%	0.0%	28.3%	10.0%	15.2%	18.3%	2.8%	3.8%	0.0%	0.0%	0.0%	0.0%	30,600	0	6,652	0	0	8,648	3,047	4,651	5,591	845	1,166	0	0	0	0		
586035		COVID - Operating Supplies	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
599998		Flood Damage	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
591100		Bad Debt Expense	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	2,061	239	112	0	79	165	218	412	465	244	73	0	0	47	6		
593002		Adj. for OPEB	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
599900		Prior Expense	11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total			11.6%	5.4%	3.8%	8.0%	10.6%	20.0%	22.5%	11.8%	3.6%	0.0%	0.0%	2.3%	0.3%	6,037,277	651,085	305,357	5,261	215,484	450,230	625,917	1,152,860	1,283,738	679,793	209,721	23,361	290,881	128,404	15,185		
		Less: Non-Sewer Deduct Charges											100.0%		(5,500)	0	0	0	0	0	0	0	0	0	0	0	0	(5,500)	0	0		
		Less: Late Payment Charges											100.0%		(40,943)	0	0	0	0	0	0	0	0	0	0	0	(40,943)	0	0	0		
		Less: All Other Revenues				12.7%	31.0%	35.9%	15.6%	3.1%			1.7%		(28,208)	0	0	0	0	0	0	(3,573)	(8,746)	(10,120)	(4,412)	(864)	0	0	0	(492)		
		Less: Pre-Treatment Charges											100.0%		(128,404)	0	0	0	0	0	0	0	0	0	0	0	0	0	(128,404)	0		
Net O&M			11.2%	5.2%	0.1%	3.7%	7.7%	10.7%	19.6%	21.8%	11.6%	3.6%	-0.3%	4.9%	0.0%	5,834,222	651,085	305,357	5,261	215,484	450,230	622,344	1,144,113	1,273,618	675,381	208,856	(17,582)	285,381	0	14,693		

Change in Utility Plant from 2019 to 2023

	Balance 12/31/2019	Projected Balance 12/31/2020	Projected Balance 12/31/2021	Projected Balance 12/31/2022	Projected Balance 12/31/2023	Change: 2019- 2023	% Change
Wastewater Treatment Facility							
Prelim.- Raw Sewage Pumping	\$890,991	\$890,991	\$890,991	\$890,991	\$890,991	\$0	0%
Prelim.- Bar Screening / Communion	\$1,030,279	\$1,030,279	\$1,030,279	\$1,030,279	\$999,981	(\$30,299)	-3%
Prelim.- Grit Removal	\$700,526	\$706,264	\$706,264	\$706,264	\$706,264	\$5,738	1%
Prelim.- Septage Receiving	\$0	\$0	\$0	\$1,016,512	\$1,778,896	\$1,778,896	
Primary Treatment	\$713,874	\$713,874	\$713,874	\$713,874	\$713,874	\$0	0%
Primary Clarifier	\$1,906,132	\$1,906,132	\$1,917,657	\$1,940,707	\$1,957,995	\$51,864	3%
Secondary - Activated Sludge	\$1,657,019	\$1,657,019	\$2,646,448	\$4,625,304	\$5,988,231	\$4,331,212	261%
Secondary - Phosphorus	\$1,925,461	\$1,925,461	\$3,376,497	\$6,278,569	\$8,455,123	\$6,529,662	339%
Secondary - NH ₃ -N	\$24,023	\$24,023	\$24,023	\$24,023	\$24,023	\$0	0%
Secondary - Final Clarifier	\$223,995	\$223,995	\$223,995	\$223,995	\$223,995	\$0	0%
Biosolids Trmnt & Disposal	\$10,461,525	\$10,461,525	\$18,459,358	\$34,455,022	\$46,129,003	\$35,667,478	341%
Disinfection	\$1,121,728	\$1,121,728	\$1,121,728	\$1,121,728	\$1,121,728	\$0	0%
Plant Site Piping & Pumps	\$1,070,138	\$1,070,138	\$1,070,138	\$1,070,138	\$1,070,138	\$0	0%
Laboratory & Monitoring	\$65,372	\$69,418	\$69,418	\$69,418	\$69,418	\$4,046	6%
Flow Monitoring Eqmt.	\$61,196	\$61,196	\$61,196	\$61,196	\$61,196	\$0	0%
Safety Equipment	\$7,094	\$7,094	\$7,094	\$7,094	\$7,094	\$0	0%
Electrical	\$861,194	\$876,194	\$4,179,637	\$10,786,522	\$15,741,686	\$14,880,492	1728%
WWTP Non-Specific	\$1,448,942	\$1,448,942	\$2,299,920	\$4,001,875	\$5,278,342	\$3,829,400	264%
Subtotal Wastewater Treatment Facility	\$24,169,489	\$24,194,273	\$38,798,515	\$69,023,511	\$91,217,977	\$67,048,488	277%
Conveyance System							
Interceptor Mains	\$7,195,961	\$7,245,961	\$8,132,961	\$8,484,961	\$8,484,961	\$1,289,000	18%
Interceptor Lift Stations	\$2,414,523	\$3,219,023	\$3,219,023	\$3,219,023	\$3,219,023	\$804,500	33%
Collection Mains / Other Eqmt.	\$16,762,872	\$18,255,181	\$19,197,181	\$20,717,181	\$21,082,181	\$4,319,309	26%
Collection Lift Stations (All)	\$760,194	\$760,194	\$1,138,194	\$3,138,194	\$3,138,194	\$2,378,000	313%
Other Conveyance System - Non Specific	\$1,179,989	\$1,364,989	\$1,364,989	\$1,734,989	\$1,734,989	\$555,000	47%
Subtotal Conveyance System	\$28,313,539	\$30,845,348	\$33,052,348	\$37,294,348	\$37,659,348	\$9,345,809	33%
General Plant Equipment							
Office Furn. & Eqmt.- EDP	\$54,489	\$54,489	\$54,489	\$54,489	\$54,489	\$0	0%
Transport. Eqmt.	\$2,012,335	\$2,036,680	\$2,052,680	\$2,052,680	\$2,100,180	\$87,846	4%
Communications Eqmt.	\$5,699	\$5,699	\$5,699	\$5,699	\$5,699	\$0	0%
Tools, Shop & Misc.	\$64,261	\$64,261	\$64,261	\$64,261	\$64,261	\$0	0%
Other Genrl. Eqmt.	\$124,303	\$124,303	\$124,303	\$124,303	\$124,303	\$0	0%
Subtotal General Plant Equipment	\$2,261,086	\$2,285,432	\$2,301,432	\$2,301,432	\$2,348,932	\$87,846	4%
Total Utility Plant	\$54,744,114	\$57,325,053	\$74,152,295	\$108,619,292	\$131,226,257	\$76,482,143	140%

Allocation of Utility-Financed Plant to Service Cost Functions

Acct No.	Account Description	Ave. Balance 2023 (\$)	Allocation Percents										CONVEYANCE		TREATMENT PLANT					CUSTOMER COSTS		HAULED WASTE
			Coll	Int	Flow	BOD	TSS	P	NH-3	Cust	Conn	HW	Collection System	Interceptor System	Flow	BOD	TSS	P	NH-3	Billing	Meter / Conn	(\$)
			(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
WASTEWATER TREATMENT FACILITY:																						
1.1	Prelim.- Raw Sewage Pumping	890,991	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0	0	890,991	0	0	0	0	0	0	
1.2	Prelim.- Bar Screening / Communion	1,015,130	0%	0%	70%	0%	30%	0%	0%	0%	0%	0	0	710,591	0	304,539	0	0	0	0	0	
1.3	Prelim.- Grit Removal	706,264	0%	0%	70%	0%	30%	0%	0%	0%	0%	0	0	494,385	0	211,879	0	0	0	0	0	
1.4	Prelim.- Septage Receiving	1,397,704	0%	0%	0%	0%	0%	0%	0%	0%	100%	0	0	0	0	0	0	0	0	0	1,397,704	
2	Primary Treatment	713,874	0%	0%	30%	10%	55%	5%	0%	0%	0%	0	0	214,162	71,387	392,631	35,694	0	0	0	0	
2.1	Primary Clarifier	1,949,351	0%	0%	50%	20%	28%	3%	0%	0%	0%	0	0	974,676	389,870	536,072	48,734	0	0	0	0	
3	Secondary Treatment	0	0%	0%	20%	45%	10%	5%	20%	0%	0%	0	0	0	0	0	0	0	0	0	0	
3.1	Secondary - Activated Sludge	5,306,768	0%	0%	20%	45%	10%	5%	20%	0%	0%	0	0	1,061,354	2,388,045	530,677	265,338	1,061,354	0	0	0	
3.6	Secondary - Phosphorus	7,366,846	0%	0%	0%	0%	100%	0%	0%	0%	0%	0	0	0	0	7,366,846	0	0	0	0	0	
3.7	Secondary - NH ₃ -N	24,023	0%	0%	0%	0%	0%	100%	0%	0%	0%	0	0	0	0	0	0	24,023	0	0	0	
3.8	Secondary - Return Sludge Pumping	0	0%	0%	20%	32%	44%	4%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	
3.9	Secondary - Final Clarifier	223,995	0%	0%	20%	32%	44%	4%	0%	0%	0%	0	0	44,799	71,678	98,558	8,960	0	0	0	0	
4	Advanced Treatment	0	0%	0%	30%	30%	30%	10%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	
5	Biosolids Trmnt & Disposal	40,292,013	0%	0%	0%	40%	55%	5%	0%	0%	0%	0	0	0	16,116,805	22,160,607	2,014,601	0	0	0	0	
6	Disinfection	1,121,728	0%	0%	100%	0%	0%	0%	0%	0%	0%	0	0	1,121,728	0	0	0	0	0	0	0	
7	Plant Site Piping & Pumps	1,070,138	0%	0%	9%	32%	41%	16%	2%	0%	0%	0	0	98,964	341,767	435,067	174,856	19,485	0	0	0	
8	Laboratory & Monitoring	69,418	0%	0%	25%	35%	20%	10%	10%	0%	0%	0	0	17,355	24,296	13,884	6,942	6,942	0	0	0	
8.1	Flow Monitoring Eqmt.	61,196	0%	0%	100%	0%	0%	0%	0%	0%	0%	0	0	61,196	0	0	0	0	0	0	0	
8.2	Safety Equipment	7,094	0%	0%	9%	32%	41%	16%	2%	0%	0%	0	0	656	2,266	2,884	1,159	129	0	0	0	
9	Electrical	13,264,104	0%	0%	29%	30%	18%	14%	9%	0%	0%	0	0	3,860,019	3,972,339	2,362,937	1,870,237	1,198,573	0	0	0	
10	WWTP Non-Specific	4,640,108	0%	0%	13%	32%	37%	16%	3%	0%	0%	0	0	598,209	1,464,285	1,694,232	738,665	144,716	0	0	0	
	SUBTOTAL	80,120,744	0%	0%	13%	31%	36%	16%	3%	0%	2%	0	0	10,149,082	24,842,740	28,743,966	12,532,032	2,455,221	0	0	1,397,704	
	PERCENTAGE											0.00%	0.00%	12.67%	31.01%	35.88%	15.64%	3.06%	0.00%	0.00%	1.74%	
CONVEYANCE SYSTEM:																						
15	Interceptor Mains	8,484,961	0%	100%	0%	0%	0%	0%	0%	0%	0%	0	8,484,961	0	0	0	0	0	0	0	0	
16	Interceptor Lift Stations	3,219,023	0%	100%	0%	0%	0%	0%	0%	0%	0%	0	3,219,023	0	0	0	0	0	0	0	0	
17	Force Mains	0	0%	100%	0%	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	
20	Collection Mains / Other Eqmt.	20,899,681	60%	0%	0%	0%	0%	0%	15%	25%	0%	12,539,809	0	0	0	0	0	3,134,952	5,224,920	0	0	
21	Collection Lift Stations (All)	3,138,194	100%	0%	0%	0%	0%	0%	0%	0%	0%	3,138,194	0	0	0	0	0	0	0	0	0	
25	Service Connections / Laterals	0	0%	0%	0%	0%	0%	0%	0%	100%	0%	0	0	0	0	0	0	0	0	0	0	
26	Other Conveyance System - Non Specific	1,734,989	44%	33%	0%	0%	0%	0%	0%	9%	15%	761,045	568,137	0	0	0	0	152,178	253,629	0	0	
	SUBTOTAL	37,476,848	44%	33%	0%	0%	0%	0%	0%	9%	15%	16,439,048	12,272,121	0	0	0	0	0	3,287,130	5,478,550	0	
	PERCENTAGE											43.86%	32.75%	0.00%	0.00%	0.00%	0.00%	0.00%	8.77%	14.62%	0.00%	
	SUBTOTAL WWTP AND INTERCEPTORS											0	11,703,984	10,149,082	24,842,740	28,743,966	12,532,032	2,455,221	0	0	1,397,704	
												0.00%	12.75%	11.05%	27.05%	31.30%	13.65%	2.67%	0.00%	0.00%	1.52%	
	SUBTOTAL WWTP AND CONVEYANCE	117,597,592	14%	10%	9%	21%	24%	11%	2%	3%	5%	1%	16,439,048	12,272,121	10,149,082	24,842,740	28,743,966	12,532,032	2,455,221	3,287,130	5,478,550	1,397,704
													13.98%	10.44%	8.63%	21.13%	24.44%	10.66%	2.09%	2.80%	4.66%	1.19%

Acct No.	Account Description	Ave. Balance 2023 (\$)	Allocation Percents										CONVEYANCE			TREATMENT PLANT				CUSTOMER COSTS		HAULED WASTE
			Coll	Int	Flow	BOD	TSS	P	NH-3	Cust	Conn	HW	Collection	Interceptor	Flow	BOD	TSS	P	NH-3	Billing	Meter / Conn	(\$)
													System	System								
GENERAL PLANT EQUIPMENT:																						
28.1	Land & Land Rights	0	14%	10%	9%	21%	24%	11%	2%	3%	5%	1%	0	0	0	0	0	0	0	0	0	0
28.2	Struct. & Improv.	0	14%	10%	9%	21%	24%	11%	2%	3%	5%	1%	0	0	0	0	0	0	0	0	0	0
28.3	Office Furn. & Eqmt.	0	14%	10%	9%	21%	24%	11%	2%	3%	5%	1%	0	0	0	0	0	0	0	0	0	0
28.4	Office Furn. & Eqmt.- EDP	54,489	14%	10%	9%	21%	24%	11%	2%	3%	5%	1%	7,617	5,686	4,703	11,511	13,319	5,807	1,138	1,523	2,539	648
28.5	Transport. Eqmt.	2,076,430	14%	10%	9%	21%	24%	11%	2%	3%	5%	1%	290,266	216,690	179,203	438,650	507,535	221,279	43,352	58,041	96,735	24,679
28.6	Communications Eqmt.	5,699	14%	10%	9%	21%	24%	11%	2%	3%	5%	1%	797	595	492	1,204	1,393	607	119	159	265	68
28.7	Tools, Shop & Misc.	64,261	14%	10%	9%	21%	24%	11%	2%	3%	5%	1%	8,983	6,706	5,546	13,575	15,707	6,848	1,342	1,796	2,994	764
28.8	Safety Eqmt.	0	14%	10%	9%	21%	24%	11%	2%	3%	5%	1%	0	0	0	0	0	0	0	0	0	0
28.9	Other Genrl. Eqmt.	124,303	14%	10%	9%	21%	24%	11%	2%	3%	5%	1%	17,376	12,972	10,728	26,259	30,383	13,247	2,595	3,475	5,791	1,477
	SUBTOTAL	2,325,182	14%	10%	9%	21%	24%	11%	2%	3%	5%	1%	325,039	242,649	200,671	491,200	568,336	247,788	48,546	64,994	108,324	27,636
	TOTAL	119,922,774											16,764,087	12,514,770	10,349,754	25,333,939	29,312,302	12,779,820	2,503,766	3,352,124	5,586,873	1,425,340
													14.0%	10.4%	8.6%	21.1%	24.4%	10.7%	2.1%	2.8%	4.7%	1.2%

Allocation of Depreciation to Service Cost Functions

Acct No.	Account Description	2023					2023 Allocation Percents											CONVEYANCE		TREATMENT PLANT				CUSTOMER COSTS		HAULED WASTE		
		Forecast Depr on Existing Assets	Depreciation on 2020 Additions	Depreciation on 2021 Additions	Depreciation on 2022 Additions	Depreciation on 2023 Additions	Total Projected Depreciation	Coll	Int	Flow	BOD	TSS	P	NH-3	Cust	Conn	HW	Collection System	Interceptor System	Flow	BOD	TSS	P	NH-3	Billing	Meter / Conn		
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)											(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	
WASTEWATER TREATMENT FACILITY:																												
1.1	Prelim - Raw Sewage Pumping	18,719	0	0	0	0	18,719	0%	0%	100%	0%	0%	0%	0%	0%	0%	0	0	18,719	0	0	0	0	0	0	0	0	
1.2	Prelim - Bar Screening / Communiton	25,000	0	0	0	0	25,000	0%	0%	70%	0%	30%	0%	0%	0%	0%	0	0	17,500	0	7,500	0	0	0	0	0		
1.3	Prelim - Grit Removal	27,943	1,200	0	0	0	29,143	0%	0%	70%	0%	30%	0%	0%	0%	0%	0	0	20,400	0	8,743	0	0	0	0	0		
1.4	Prelim - Septage Receiving	0	0	10,165	20,330	15,248	45,743	0%	0%	0%	0%	0%	0%	0%	100%	0%	0	0	0	0	0	0	0	0	0	45,743		
2	Primary Treatment	750	0	0	0	0	750	0%	0%	30%	10%	55%	5%	0%	0%	0%	0	0	225	75	413	38	0	0	0	0		
2.1	Primary Clarifier	90,958	0	384	768	576	92,686	0%	0%	50%	20%	28%	3%	0%	0%	0%	0	0	46,343	18,537	25,489	2,317	0	0	0	0		
3	Secondary Treatment	0	0	0	0	0	0	0%	0%	20%	45%	10%	5%	20%	0%	0%	0	0	0	0	0	0	0	0	0	0		
3.1	Secondary - Activated Sludge	63,452	0	32,981	65,962	49,471	211,866	0%	0%	20%	45%	10%	5%	20%	0%	0%	0	0	42,373	95,340	21,187	10,593	42,373	0	0	0		
3.6	Secondary - Phosphorus	65,401	0	48,368	96,736	72,552	283,056	0%	0%	0%	0%	0%	100%	0%	0%	0%	0	0	0	0	0	283,056	0	0	0	0		
3.7	Secondary - NH ₄ -N	0	0	0	0	0	0	0%	0%	0%	0%	0%	0%	100%	0%	0%	0	0	0	0	0	0	0	0	0	0		
3.8	Secondary - Return Sludge Pumping	0	0	0	0	0	0	0%	0%	20%	32%	44%	4%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0		
3.9	Secondary - Final Clarifier	3,153	0	0	0	0	3,153	0%	0%	20%	32%	44%	4%	0%	0%	0%	0	0	631	1,009	1,387	126	0	0	0	0		
4	Advanced Treatment	0	0	0	0	0	0	0%	0%	30%	30%	30%	10%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0		
5	Biosolids Trmnt & Disposal	256,965	0	261,946	523,893	392,920	1,435,723	0%	0%	40%	55%	5%	0%	0%	0%	0%	0	0	0	574,289	789,648	71,786	0	0	0	0		
6	Disinfection	29,511	0	0	0	0	29,511	0%	0%	100%	0%	0%	0%	0%	0%	0%	0	0	29,511	0	0	0	0	0	0	0		
7	Plant Site Piping & Pumps	28,856	0	0	0	0	28,856	0%	0%	8%	32%	40%	17%	2%	0%	0%	0	0	2,381	9,339	11,577	4,985	574	0	0	0		
8	Laboratory & Monitoring	3,845	550	0	0	0	4,395	0%	0%	25%	35%	20%	10%	10%	0%	0%	0	0	1,099	1,538	879	440	440	0	0	0		
8.1	Flow Monitoring Eqmt.	2,007	0	0	0	0	2,007	0%	0%	100%	0%	0%	0%	0%	0%	0%	0	0	2,007	0	0	0	0	0	0	0		
8.2	Safety Equipment	0	0	0	0	0	0	0%	0%	8%	32%	40%	17%	2%	0%	0%	0	0	0	0	0	0	0	0	0	0		
9	Electrical	12,640	150	126,345	252,690	189,518	581,343	0%	0%	29%	30%	18%	14%	9%	0%	0%	0	0	169,178	174,101	103,563	81,969	52,531	0	0	0		
10	WWTP Non-Specific	44,115	0	12,287	24,575	18,431	99,408	0%	0%	13%	32%	35%	17%	3%	0%	0%	0	0	12,683	31,646	35,126	16,481	3,472	0	0	0		
SUBTOTAL		673,313	1,900	492,477	984,954	738,716	2,891,360	0%	0%	13%	31%	35%	16%	3%	0%	0%	2%	0	0	363,049	905,874	1,005,511	471,792	99,390	0	0	45,743	
PERCENTAGE										0.00%	0.00%	12.56%	31.33%	34.78%	16.32%	3.44%	0.00%	0.00%						0.00%	0.00%	1.58%		
CONVEYANCE SYSTEM:																												
15	Interceptor Mains	69,485	500	8,870	3,520	0	82,375	0%	100%	0%	0%	0%	0%	0%	0%	0%	0	82,375	0	0	0	0	0	0	0	0	0	0
16	Interceptor Lift Stations	48,471	34,958	0	0	0	83,430	0%	100%	0%	0%	0%	0%	0%	0%	0%	0	83,430	0	0	0	0	0	0	0	0	0	
17	Force Mains	0	0	0	0	0	0	0%	100%	0%	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	
20	Collection Mains / Other Eqmt.	160,318	14,923	10,420	16,200	4,650	206,511	60%	0%	0%	0%	0%	0%	15%	25%	0%	123,906	0	0	0	0	0	0	30,977	51,628	0		
21	Collection Lift Stations (All)	3,822	0	12,600	66,667	0	83,089	100%	0%	0%	0%	0%	0%	0%	0%	0%	83,089	0	0	0	0	0	0	0	0	0	0	
25	Service Connections / Laterals	0	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%	100%	0%	0	0	0	0	0	0	0	0	0	0		
26	Other Conveyance System - Non Specific	36,139	12,333	0	12,333	0	60,806	45%	36%	0%	0%	0%	0%	0%	7%	11%	27,638	22,138	0	0	0	0	0	4,136	6,893	0		
SUBTOTAL		318,235	62,715	31,890	98,720	4,650	516,210	45%	36%	0%	0%	0%	0%	7%	11%		234,634	187,942	0	0	0	0	0	35,113	58,521	0		
PERCENTAGE										45.45%	36.41%	0.00%	0.00%	0.00%	0.00%	0.00%								6.80%	11.34%	0.00%		
SUBTOTAL WWTP AND INTERCEPTORS										0	165,804	363,049	905,874	1,005,511	471,792	99,390	0	0	0	0	0	0	0	0	0	0	45,743	
PERCENTAGE										0.00%	5.42%	11.88%	29.63%	32.89%	15.43%	3.25%	0.00%	0.00%						0.00%	0.00%	1.50%		
SUBTOTAL WWTP AND CONVEYANCE		991,548	64,615	524,367	1,083,674	743,366	3,407,570	7%	6%	11%	27%	30%	14%	3%	1%	2%	1%	234,634	187,942	363,049	905,874	1,005,511	471,792	99,390	35,113	58,521	45,743	
PERCENTAGE										6.89%	5.52%	10.65%	26.58%	29.51%	13.85%	2.92%	1.03%							1.03%	1.72%	1.34%		

Acct No.	Account Description	2023					2023 Allocation Percents													CONVEYANCE		TREATMENT PLANT				CUSTOMER COSTS		HAULED WASTE	
		Forecast Depr on Existing Assets	Depreciation on 2020 Additions	Depreciation on 2021 Additions	Depreciation on 2022 Additions	Depreciation on 2023 Additions	Total Projected Depreciation	Coll	Int	Flow	BOD	TSS	P	NH-3	Cust	Conn	HW	Collection System	Interceptor System	Flow	BOD	TSS	P	NH-3	Billing	Meter / Conn			
		(\$)	(\$)	(\$)	(\$)	(\$)	(\$)											(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)		
GENERAL PLANT EQUIPMENT:																													
28.1	Land & Land Rights	0	0	0	0	0	0	7%	6%	11%	27%	30%	14%	3%	1%	2%	1%	0	0	0	0	0	0	0	0	0	0	0	
28.2	Struct. & Improv.	0	0	0	0	0	0	7%	6%	11%	27%	30%	14%	3%	1%	2%	1%	0	0	0	0	0	0	0	0	0	0		
28.3	Office Furn. & Eqmt.	0	0	0	0	0	0	7%	6%	11%	27%	30%	14%	3%	1%	2%	1%	0	0	0	0	0	0	0	0	0	0		
28.4	Office Furn. & Eqmt. - EDP	1,106	0	0	0	0	1,106	7%	6%	11%	27%	30%	14%	3%	1%	2%	1%	76	61	118	294	326	153	32	11	19	15		
28.5	Transport. Eqmt.	119,182	19,333	1,067	0	3,167	142,748	7%	6%	11%	27%	30%	14%	3%	1%	2%	1%	9,829	7,873	15,209	37,949	42,122	19,764	4,164	1,471	2,452	1,916		
28.6	Communications Eqmt.	570	0	0	0	0	570	7%	6%	11%	27%	30%	14%	3%	1%	2%	1%	39	31	61	151	168	79	17	6	10	8		
28.7	Tools, Shop & Misc.	0	0	0	0	0	0	7%	6%	11%	27%	30%	14%	3%	1%	2%	1%	0	0	0	0	0	0	0	0	0	0		
28.8	Safety Eqmt.	0	0	0	0	0	0	7%	6%	11%	27%	30%	14%	3%	1%	2%	1%	0	0	0	0	0	0	0	0	0	0		
28.9	Other Genrl. Eqmt.	5,664	0	0	0	0	5,664	7%	6%	11%	27%	30%	14%	3%	1%	2%	1%	390	312	603	1,506	1,671	784	165	58	97	76		
	SUBTOTAL	126,521	19,333	1,067	0	3,167	150,088	7%	6%	11%	27%	30%	14%	3%	1%	2%	1%	10,335	8,278	15,991	39,900	44,288	20,780	4,378	1,547	2,578	2,015		
	TOTAL	1,118,070	83,948	525,434	1,083,674	746,532	3,557,658											244,968	196,220	379,040	945,774	1,049,799	492,573	103,768	36,659	61,099	47,758		

Change in Depreciation from 2020 to 2023

	2020	Projected 2021	Projected 2022	Projected 2023	Change: 2020-2023	% Change
Wastewater Treatment Facility						
Prelim.- Raw Sewage Pumping	\$18,719	\$18,719	\$18,719	\$18,719	\$0	0%
Prelim.- Bar Screening / Communiton	\$25,000	\$25,000	\$25,000	\$25,000	\$0	0%
Prelim.- Grit Removal	\$27,943	\$29,143	\$29,143	\$29,143	\$1,200	4%
Prelim.- Septage Receiving	\$0	\$0	\$0	\$45,743	\$45,743	
Primary Treatment	\$3,236	\$750	\$750	\$750	(\$2,486)	-77%
Primary Clarifier	\$94,765	\$90,958	\$90,958	\$92,686	(\$2,078)	-2%
Secondary - Activated Sludge	\$83,195	\$69,513	\$63,452	\$211,866	\$128,671	155%
Secondary - Phosphorus	\$65,941	\$65,941	\$65,941	\$283,056	\$217,115	329%
Secondary - NH ₃ -N	\$2,402	\$0	\$0	\$0	(\$2,402)	-100%
Secondary - Return Sludge Pumping	\$0	\$0	\$0	\$0	\$0	
Secondary - Final Clarifier	\$4,507	\$4,507	\$4,507	\$3,153	(\$1,354)	-30%
Biosolids Trmnt & Disposal	\$279,400	\$259,941	\$256,965	\$1,435,723	\$1,156,323	414%
Disinfection	\$63,067	\$29,511	\$29,511	\$29,511	(\$33,555)	-53%
Plant Site Piping & Pumps	\$28,856	\$28,856	\$28,856	\$28,856	\$0	0%
Laboratory & Monitoring	\$3,845	\$4,395	\$4,395	\$4,395	\$550	14%
Flow Monitoring Eqmt.	\$2,007	\$2,007	\$2,007	\$2,007	\$0	0%
Electrical	\$12,640	\$12,790	\$12,790	\$581,343	\$568,703	4499%
WWTP Non-Specific	\$48,698	\$47,431	\$45,804	\$99,408	\$50,710	104%
Subtotal Wastewater Treatment Facility	\$764,220	\$689,461	\$678,796	\$2,891,360	\$2,127,140	278%
Conveyance System						
Interceptor Mains	\$69,485	\$82,375	\$82,375	\$82,375	\$12,890	19%
Interceptor Lift Stations	\$57,355	\$83,621	\$83,621	\$83,430	\$26,074	45%
Collection Mains / Other Eqmt.	\$161,718	\$187,835	\$202,156	\$206,511	\$44,793	28%
Collection Lift Stations (All)	\$6,934	\$16,569	\$83,089	\$83,089	\$76,155	1098%
Other Conveyance System - Non Specific	\$37,625	\$48,472	\$60,806	\$60,806	\$23,181	62%
Subtotal Conveyance System	\$333,117	\$418,872	\$512,046	\$516,210	\$183,093	55%
General Plant Equipment						
Office Furn. & Eqmt.- EDP	\$3,796	\$3,796	\$3,796	\$1,106	(\$2,690)	-71%
Transport. Eqmt.	\$121,449	\$141,056	\$141,056	\$142,748	\$21,299	18%
Communications Eqmt.	\$570	\$570	\$570	\$570	\$0	0%
Other Genrl. Eqmt.	\$5,897	\$5,897	\$5,897	\$5,664	(\$233)	-4%
Subtotal General Plant Equipment	\$131,713	\$151,319	\$151,319	\$150,088	\$18,375	14%
Total Depreciation Expense	\$1,229,049	\$1,259,652	\$1,342,162	\$3,557,658	\$2,328,609	189%
General Plant Equipment	\$131,713	\$151,319	\$151,319	\$150,088		
Conveyance System	\$333,117	\$418,872	\$512,046	\$516,210		
Wastewater Treatment Facility	\$764,220	\$689,461	\$678,796	\$2,891,360		
Total	\$1,229,049	\$1,259,652	\$1,342,162	\$3,557,658		

Summary of Allocation of Operating Costs to Service Cost Functions - 2023

Retail Rate of Return - Collection System	0.00%											
Retail Rate of Return - Non-Collection	1.57%											
NIRB - Collection System	16,799,702											
NIRB - Non-Collection	64,778,166											
		<u>CONVEYANCE</u>			<u>WASTE TREATMENT</u>					<u>CUSTOMER COSTS</u>		<u>HAULED WASTE</u>
<u>Operating Cost</u>	<u>Total</u>	<u>Collection System</u>	<u>La Crescent F.M.</u>	<u>Interceptor System</u>	<u>Flow</u>	<u>BOD</u>	<u>TSS</u>	<u>P</u>	<u>NH-3</u>	<u>Billing</u>	<u>Meter / Connection</u>	<u>(\$)</u>
	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Operation and Maintenance	5,834,222	956,442	5,261	665,715	622,344	1,144,113	1,273,618	675,381	208,856	(17,582)	285,381	14,693
Depreciation	3,557,658	244,968		196,220	379,040	945,774	1,049,799	492,573	103,768	36,659	61,099	47,758
Return on NIRB - Collection System	0	0		0	0	0	0	0	0	0	0	0
Return on NIRB - Non-Collection	1,016,882	0		129,612	112,393	275,113	318,315	138,782	27,190	0	0	15,478
Total	10,408,762	1,201,410	5,261	991,547	1,113,776	2,365,000	2,641,733	1,306,736	339,814	19,077	346,479	77,929

Wholesale ROR - Collection System	0.00%											
Wholesale ROR - Non-Collection	4.90%											
NIRB - Collection System	16,799,702											
NIRB - Non-Collection	64,778,166											
		<u>CONVEYANCE</u>			<u>WASTE TREATMENT</u>					<u>CUSTOMER COSTS</u>		<u>HAULED WASTE</u>
<u>Operating Cost</u>	<u>Total</u>	<u>Collection System</u>	<u>La Crescent F.M.</u>	<u>Interceptor System</u>	<u>Flow</u>	<u>BOD</u>	<u>TSS</u>	<u>P</u>	<u>NH-3</u>	<u>Billing</u>	<u>Meter / Connection</u>	<u>(\$)</u>
	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Operation and Maintenance	5,834,222	956,442	5,261	665,715	622,344	1,144,113	1,273,618	675,381	208,856	(17,582)	285,381	14,693
Depreciation	3,557,658	244,968		196,220	379,040	945,774	1,049,799	492,573	103,768	36,659	61,099	47,758
Return on NIRB - Collection System	0	0		0	0	0	0	0	0	0	0	0
Return on NIRB - Non-Collection	3,174,130	0		404,575	350,826	858,746	993,600	433,198	84,870	0	0	48,315
Total	12,566,010	1,201,410	5,261	1,266,510	1,352,209	2,948,633	3,317,018	1,601,152	397,495	19,077	346,479	110,766

Overall Rate of Return	1.95%											
NIRB - Collection System	16,799,702											
NIRB - Non-Collection	64,778,166											
		<u>CONVEYANCE</u>			<u>WASTE TREATMENT</u>					<u>CUSTOMER COSTS</u>		<u>HAULED WASTE</u>
<u>Operating Cost</u>	<u>Total</u>	<u>Collection System</u>	<u>La Crescent F.M.</u>	<u>Interceptor System</u>	<u>Flow</u>	<u>BOD</u>	<u>TSS</u>	<u>P</u>	<u>NH-3</u>	<u>Billing</u>	<u>Meter / Connection</u>	<u>(\$)</u>
	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Operation and Maintenance	5,834,222	956,442	5,261	665,715	622,344	1,144,113	1,273,618	675,381	208,856	(17,582)	285,381	14,693
Depreciation	3,557,658	244,968		196,220	379,040	945,774	1,049,799	492,573	103,768	36,659	61,099	47,758
Return on NIRB - Combined	1,589,641	0		190,907	166,130	420,493	506,528	215,591	41,677	0	0	48,315
Total	10,981,521	1,201,410	5,261	1,052,842	1,167,513	2,510,381	2,829,945	1,383,545	354,302	19,077	346,479	110,766

Customer Class Demand Allocation

Customer Class	Billing Units - CCF						BASE DEMAND				EXTRA-CAPACITY MAX DAY DEMAND				BOD				TSS				P				NH3			
	Annual Volume (CCF)	Average Day Volume (CF)	System Percent (%)	Collection Percent (%)	Interceptor Percent (%)	Retail Percent (%)	Extra Capacity Ratio	Extra Capacity Volume Rate Per Day	System Adjust. Percentage (%)	Coll. Adjust. Percentage (%)	Waste Strength (mg/l)	Loadings (lbs)	Percent (%)	Retail Percent (%)	Waste Strength (mg/l)	Loadings (lbs)	Percent (%)	Retail Percent (%)	Waste Strength (mg/l)	Loadings (lbs)	Percent (%)	Retail Percent (%)	Waste Strength (mg/l)	Loadings (lbs)	Percent (%)	Retail Percent (%)	Waste Strength (mg/l)	Loadings (lbs)	Percent (%)	Retail Percent (%)
	Residential	762,318.0	208,854	15.93%	20.57%	15.98%	20.48%	0.62	128,513	15.93%	20.57%	350	1,665,452	16.84%	22.01%	325	1,546,491	17.10%	22.46%	7.0	33,309	17.24%	22.70%	40.0	190,337	17.54%	23.22%	40.0	190,337	17.54%
Multi-Family	360,340.9	98,724	7.53%	9.72%	7.55%	9.68%	0.62	60,747	7.53%	9.72%	350	787,244	7.96%	10.40%	325	731,013	8.08%	10.62%	7.0	15,745	8.15%	10.73%	40.0	89,971	8.29%	10.98%	40.0	89,971	8.29%	10.98%
Commercial	500,560.3	137,140	10.46%	13.51%	10.49%	13.45%	0.62	84,386	10.46%	13.51%	350	1,093,585	11.06%	14.45%	325	1,015,471	11.23%	14.75%	7.0	21,872	11.32%	14.90%	40.0	124,981	11.52%	15.25%	40.0	124,981	11.52%	15.25%
Industrial	1,112,590.7	304,819	23.25%	30.02%	23.33%	29.90%	0.62	187,563	23.25%	30.02%	350	2,430,700	24.58%	32.12%	325	2,257,079	24.96%	32.78%	7.0	48,614	25.16%	33.13%	40.0	277,794	25.60%	33.89%	40.0	277,794	25.60%	33.89%
Public Authority	195,493.1	53,560	4.09%	5.27%	4.10%	5.25%	0.62	32,957	4.09%	5.27%	350	427,098	4.32%	5.64%	325	396,591	4.39%	5.76%	7.0	8,542	4.42%	5.82%	40.0	48,811	4.50%	5.95%	40.0	48,811	4.50%	5.95%
Onalaska	705,286.1	193,229	14.74%	0.00%	14.79%	0.00%	0.62	118,899	14.74%	0.00%	350	1,540,853	15.58%	0.00%	325	1,430,792	15.82%	0.00%	7.0	30,817	15.95%	0.00%	40.0	176,098	16.23%	0.00%	40.0	176,098	16.23%	0.00%
La Crescent	137,671.1	37,718	2.88%	0.00%	2.89%	0.00%	0.62	23,209	2.88%	0.00%	350	300,773	3.04%	0.00%	325	279,289	3.09%	0.00%	7.0	6,015	3.11%	0.00%	40.0	34,374	3.17%	0.00%	40.0	34,374	3.17%	0.00%
Campbell	155,278.8	42,542	3.25%	0.00%	3.26%	0.00%	0.62	26,177	3.25%	0.00%	350	339,241	3.43%	0.00%	325	315,009	3.48%	0.00%	7.0	6,785	3.51%	0.00%	40.0	38,770	3.57%	0.00%	40.0	38,770	3.57%	0.00%
Shelby SD#2	65,042.8	17,820	1.36%	0.00%	1.36%	0.00%	0.62	10,965	1.36%	0.00%	350	142,100	1.44%	0.00%	325	131,950	1.46%	0.00%	7.0	2,842	1.47%	0.00%	40.0	16,240	1.50%	0.00%	40.0	16,240	1.50%	0.00%
Holding Tank Waste	10,083.8	2,763	0.21%	0.00%	0.00%	0.27%	0.62	1,700	0.21%	0.00%	600	37,766	0.38%	0.50%	1,800	113,299	1.25%	1.65%	25.0	1,574	0.81%	1.07%	50.0	3,147	0.29%	0.38%	50.0	3,147	0.29%	0.38%
Septic Tank Waste	3,715.5	1,018	0.08%	0.00%	0.00%	0.10%	0.62	626	0.08%	0.00%	1,800	41,747	0.42%	0.55%	5,500	127,559	1.41%	1.85%	60.0	1,392	0.72%	0.95%	100.0	2,319	0.21%	0.28%	100.0	2,319	0.21%	0.28%
Grease Trap Waste	1,309.6	359	0.03%	0.00%	0.00%	0.04%	0.62	221	0.03%	0.00%	7,500	61,310	0.62%	0.81%	15,000	122,619	1.36%	1.78%	120.0	981	0.51%	0.67%	200.0	1,635	0.15%	0.20%	200.0	1,635	0.15%	0.20%
Category "B" Surcharge Loadings	-	-	0.00%	0.00%	0.00%	0.00%	0.00	-	0.00%	0.00%	-	-	0.00%	0.00%	-	-	0.00%	0.00%	-	-	0.00%	0.00%	-	-	0.00%	0.00%	-	-	0.00%	0.00%
Inflow / Infiltration	775,154.4	212,371	16.20%	20.91%	16.25%	20.83%	0.62	130,677	16.20%	20.91%	-	-	0.00%	0.00%	-	-	0.00%	0.00%	-	-	0.00%	0.00%	-	-	0.00%	0.00%	-	-	0.00%	0.00%
Total	4,784,845.1	1,310,916	100.0%	100.0%	100.0%	100.0%		806,640	100.0%	100.0%		9,890,923	100.0%	100.0%		9,043,355	100.0%	100.0%		193,208	100.0%	100.0%		1,085,239	100.0%	100.0%		1,085,239	100.0%	100.0%

Consumer Costs Allocation Factors

Customer Class	Number of Meters												Total Meters	Percent Total	
	5/8	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10	12			
Residential	8,632	4,634	143		2	1								13,412	84.32%
Multi-Family	164	213	327		25	59	4	4						796	5.00%
Commercial	298	558	344		58	104	23	18	2					1,405	8.83%
Industrial	5	13	29		10	13	9	14	6	4				103	0.65%
Public Authority	11	44	31		17	63	15	9						190	1.19%
Total	9,110	5,462	874	0	112	240	51	45	8	4	0	0	15,906		

Allocation factor:	Equivalent Meters												Total Meters	Percent Total
	Meter Size (Inches):	5/8	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10		
Equiv. Meters Ratio:	1	1.0	2.5	3.7	5	8	15	25	50	80	120	160		

Customer Class	5/8	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10	12	Total	Percent
Residential	8,632	4,634	358	-	10	8	-	-	-	-	-	-	13,642	62.44%
Multi-Family	164	213	818	-	125	472	60	100	-	-	-	-	1,952	8.93%
Commercial	298	558	860	-	290	832	345	450	100	-	-	-	3,733	17.09%
Industrial	5	13	73	-	50	104	135	350	300	320	-	-	1,350	6.18%
Public Authority	11	44	78	-	85	504	225	225	-	-	-	-	1,172	5.36%
Total	9,110	5,462	2,185	0	560	1,920	765	1,125	400	320	0	0	21,847	100.00%

Allocation factor:	Equivalent Services												Total Services	Percent Total
	Meter Size (Inches):	5/8	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10		
Equiv. Services Ratio:	1	1.0	1.3	1.7	2	3	4	5	6	7	8	9		

Customer Class	5/8	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10	12	Total	Percent
Residential	8,632	4,634	186	-	4	3	-	-	-	-	-	-	13,459	78.44%
Multi-Family	164	213	425	-	50	177	16	20	-	-	-	-	1,065	6.21%
Commercial	298	558	447	-	116	312	92	90	12	-	-	-	1,925	11.22%
Industrial	5	13	38	-	20	39	36	70	36	28	-	-	285	1.66%
Public Authority	11	44	40	-	34	189	60	45	-	-	-	-	423	2.47%
Total	9,110	5,462	1,136	0	224	720	204	225	48	28	0	0	17,157	100.00%

Allocation of Service Cost Functions to Customer Classes

	Retail	Wholesale	Hauled Waste	Industrial Surcharges	Infiltration / Inflow	Total
CONVEYANCE COSTS:						
Collection	950,152	0	0	0	251,258	1,201,410
Interceptor	609,368	282,333	0	0	161,141	1,052,842
FLOW COSTS:						
Flow	682,324	300,485	4,270	0	180,434	1,167,513
TREATMENT COSTS:						
BOD	1,531,267	692,512	41,981	244,621	0	2,510,381
TSS	1,737,126	791,183	133,320	168,316	0	2,829,945
P	866,261	385,017	32,702	99,565	0	1,383,545
NH-3	229,173	97,239	2,601	25,288	0	354,302
CUSTOMER COSTS:						
Billing	19,077	0	0	0	0	19,077
Equivalent Meters	346,479	0	0	0	0	346,479
HAULED WASTE	0	0	110,766	0	0	110,766
SUBTOTAL COST before I/I	6,971,852	2,553,241	325,640	537,790	592,999	10,981,521
I/I Adjustment	486,812	106,187	0	0	(592,999)	0
SUBTOTAL COST after I/I	7,458,663	2,659,428	325,640	537,790	0	10,981,521
COST OF SERVICES	7,405,520	2,640,479	323,320	533,958	0	10,903,277
REVENUE AT PRESENT RATES	6,683,842	1,885,390	199,606	471,338	0	9,240,176
DIFFERENCE	721,678	755,090	123,714	62,620	0	1,663,101
PERCENT INCREASE/DECREASE	10.8%	40.0%	62.0%	13.3%	0.0%	18.0%

**APPENDIX C – BASIS OF RISK PREMIUM FOR NON-CONTRACT VS. CONTRACT
COMMUNITIES**

INTRODUCTION

This updated study proposed to determine revenue requirements using the utility basis method. This is the standard approach for water and sewer utilities regulated by the Public Service Commission of Wisconsin and is common nationwide for utilities that provide service to customers outside of their municipal boundaries, whether on retail or wholesale basis. It is a reasonable and appropriate approach to setting rates because the municipal owner carries certain burdens and risks that the outside communities do not have to bear. If there is not a current agreement for sewer service, the risk is even greater to the municipal utility owner. This appendix explains how the utility basis is appropriate for the La Crosse Sewer Utility, in particular a risk premium for communities lacking current sewer service contracts.

LITERATURE REVIEW

A number of publications discuss the utility basis of setting revenue requirements and rates for sewer utilities. The following excerpts can be found in the manual on rate-setting, "Financing and Charges for Wastewater Systems," published by the Water Environment Federation.⁸

On the general applicability of the utility basis for sewer utilities with wholesale customers:

"The approach works particular well for allocating costs to those customers located outside the corporate limits of a municipality owned utility. In such situations, the service relationship parallels that of an investor-owned utility because the owner (municipality) serves non-owner customers (those outside the corporate limits).

Customers inside the municipal corporate limits may be considered to be the utility's stockholders. They are ultimately responsible for paying all operating and capital costs of the utility should outside customers decide to no longer be served by the municipality. Thus, the municipality is entitled to a reasonable return from the non-owner customers, based on the value of the assets that are used and useful in providing service to them and the business risks inherent in municipal service to non-owner customers."⁹

This has particular application to La Crosse as outside city customers have no obligation to pay any capital costs directly from their own funding or via a direct payment on share of the loan for treatment plant improvements. The La Crosse Sewer Utility is carrying the entire burden of construction, debt, ownership, and replacement, without any guarantee of a certain level of sales

⁸ Water Environment Federation, Financing and Charges for Wastewater Systems, WEF Manual of Practice No. 27, 2004

⁹ Page 234, WEF Manual of Practice No. 27

or even that outside city customers will remain customers, and receiving a return on their investment is a perfectly reasonable expectation for the inside city owner customers. This approach is also of benefit to the outside city customers:

“...the utility basis provides a measure of protection for the non-owner customers against inconsistent capital financing choices or inequitable rate-setting practices of the municipal owner. The utility basis often stabilizes periodic rate changes compared with the cash basis as revenue- or debt-financed capital improvements may fluctuate significantly from year to year.”¹⁰

This is especially true in Wisconsin, which has a regulatory body that maintains a benchmark rate of return on investment for water and sewer utilities. By utilizing this as its own standard, the Utility ensures that outside city customers will not be charged an unfair rate, and any shortfall in revenues must be made up by inside city customers.

Additional risk exists where wholesale customers do not have current contracts for service. It is to the owner utility’s discretion to determine the amount of risk that warrants a higher rate of return for wholesale customers without contracts. On the level of risk regarding wholesale customers and contracts:

“If the municipality serves retail and wholesale customers outside its corporate limits, the utility would probably assess the level of risk involved in serving outside customers and charge a higher rate of return than the rate of return for inside customers.

To derive a higher outside rate of return, municipalities generally either add a fixed percentage in the range of 2 to 4%, or apply a multiplier in the range of 1.25 to 2.00, to the system rate of return as an allowance for cost associated with risk.”¹¹

For contract customers, the Utility is limiting its rate of return to the benchmark set by the Public Service Commission of Wisconsin at the time of setting rates, or to the same rate of return as retail customers if a higher return is needed. This rate is deemed to be a reasonable rate of return by the regulatory body of the State of Wisconsin, regardless of the actual cost of capital obtained by a utility or municipality. However, non-contract customers carry additional risk and can be reasonably charged a higher rate of return:

“Table A.1 shows an outside rate of return of 7.25%, which equates to approximately a 1.74 multiplier applied to the system return. A multiplier this high

¹⁰ Page 234, WEF Manual of Practice No. 27.

¹¹ Page 238, WEF Manual of Practice No. 27.

may be indicative of a service situation where the municipal utility has no means of terminating service to outside retail customers when they fail to pay. The situation could also apply where wholesale service is provided without contract.”¹²

Both of these hypothetical situations exist currently for the City of La Crosse Sewer Utility. It cannot legally terminate service as per the approved Sewer Service Area Plan, and it is currently providing wholesale service without contract.

Another publication discussing issues of wholesale service of wastewater treatment is “Water and Wastewater Finance and Pricing,” written by George A. Raftelis.¹³ To wit:

“The concept of inside-city customer ownership provides a fundamental explanation why the water and wastewater rates paid by outside city retail customers are often higher than those of inside-city retail customers for the same level of service. It also explains why, when industry standard cost-of-service principles are used to calculate outside-city rates (retail or wholesale), the outside revenue requirement generally includes an explicit return on invested capital component.

A secondary justification often used for charging higher rates to outside-city wholesale customers is that such customers create a higher level of risk for the providing utility. For example, a utility providing service to an outside-city wholesale customer may invest in new water or wastewater treatment plant capacity in order to provide service. If the wholesale customer elects to cancel service after the initial contract term, the providing utility may lose a significant source of rate revenue and find that it is left with unused excess treatment plant capacity.”¹⁴

This is the case with the La Crosse Sewer Utility. It is planning to invest in major improvements to its wastewater treatment plant, partially to provide capacity to its outside-city wholesale customers and is shouldering the entire burden of funding construction and the associated debt. At this time, it does not have current contracts to provide service for three of its wholesale customers and so is carrying 100 percent of the risk of providing capacity for these non-captive customers. While the utility does not believe it is in the best interests of its outside-city customers to cancel service, it recognizes that it is a possible outcome, and deems it reasonable to apply a higher rate of return of 2% to the benchmark PSC rate of return in order to compensate the utility

¹² Page 238, WEF Manual of Practice No. 27.

¹³ Raftelis, George A., CRC Press, Water and Wastewater Finance and Pricing, 2015

¹⁴ Pages 255-256, Raftelis.

and its municipal owners for the risk and burden of carrying capacity that might go unused and the costs that are associated with such risk.

CONCLUSION

It is the recommendation of this study that it is appropriate to use the utility basis methodology to establish the revenue requirements of the La Crosse Sewer Utility, to charge the PSC benchmark rate of return for wholesale customers, and to apply a risk premium of 2.0% to the rate of return for wholesale customers without a contract for the reasons described within this appendix. Proposed non-contract wholesale customer rates were developed using a rate of return of 6.90% (PSC benchmark rate of return of 4.90% plus a 2.0% risk premium) for non-contract customers, as shown in Table 13.