Sewer Rate Study

Executive Summary

DRAFT

Prepared for the

City of La Crosse

by Trilogy Consulting, LLC

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TRILOGY
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INTRODUCTION

The City of La Crosse owns and operates a wastewater collection system, sewer interceptors and lift stations, and Wastewater Treatment Plant (WWTP) that provides water and 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 City last increased sewer user charge rates by 9.80 percent in 2015, based on a study prepared by John A. Mayer in 2014. No additional rate increases were planned or have been implemented since 2015. The Utility has historically prepared a full user charge study every five years. In addition, the Utility is planning on significant capital investment in ongoing sewer main replacements, equipment replacement, and an estimated $55.2 million in upgrades to the Wastewater Treatment Plant (WWTP) in 2022.

The purpose of this study was two-fold: 1) to recommend rates that will collect adequate revenues for the City of La Crosse Wastewater Utility to fulfill all its current and upcoming obligations; and 2) to allocate costs to all customer classes in proportion to their use of the wastewater system. The study consisted of determining recommended user rates based on 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 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.

SUMMARY

The results of the study indicate a significant rate increase is recommended to fund the utility's ongoing operating expenses and $64.3 million capital improvement program over the next five years and 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.

Of the $64.3 million in capital projects, $54.7 million of the WWTP project is planned to be funded through debt and the remaining $9.6 million through annual revenues generated through user charges. Annual debt service for the WWTP project is projected to be about $3.3 million per year.

Currently, the City's wastewater rates are lower than other communities in La Crosse's geographic region and lower than other University of Wisconsin and peer communities. Even with the proposed rate increase, La Crosse sewer rates would still be lower than surrounding communities' current rates, not considering any increases to wastewater rates that other communities may also implement in the interim.

A plan to increase rates over a three-year period is recommended for consideration by the City Council. These increases should be evaluated on an annual basis and adjusted for changing conditions, such as changes in sales, operating expenses or variances in capital costs or interest rates from the projections in this study. The recommended rate increases would increase the utility's user charge revenues by about $974,000 in 2020 and by a total of about $3.6 million per year by 2022.

HISTORICAL AND FORECAST CUSTOMER DEMANDS

The total volume of wastewater treated at the plant has increased steadily over the last several years. However, the 'billable' flow, or wastewater generated by customers, has remained relatively steady from 2015 through 2018. Forecast billable flows and loadings for were developed for each customer class based on trend analysis of usage per customer and number of customers. Domestic strength wastewater volumes for 2019 are forecast to be about one percent higher than 2018, largely driven by increases in flows from industrial customers. Hauled waste volumes have been increasing steadily and are expected to increase in 2019 by about 19 percent. High strength industrial 'surcharge' loadings for BOD and Phosphorus are expected to decrease due to pretreatment by one of the Utility's largest dischargers, while TSS and NH-3 are expected to increase.

For the ten-year cash flow forecasts, flows and loadings were assumed to remain flat in order to conservatively estimate future rate increases.

UTILITY FINANCIAL STATUS

The evaluation of the Utility's financial performance over the last five years resulted in the following findings:

- The Utility's revenues have generally increased from year to year during the last five years. However, fluctuations in expenses and capital outlay have resulted in fluctuating cash flows. Total cash flow over the last five years has been slightly positive.
- The Utility has not had any outstanding debt since 2014. All capital improvements have been funded through reserves or current revenues.

- As of December 31, 2018, the Utility had cash on hand totaling $5.3 million. About $2.7 million of this total was held in the restricted equipment replacement fund, only available for replacing equipment with useful life of less than 20 years. The unrestricted portion of these funds was equal to 185 days cash on hand, or about $1.1 million short of the recommended minimum of 250 days cash on hand.

CASH FLOW FORECASTS

Several alternative cash flow forecasts were prepared to test the impacts of alternative levels and timing of rate increases: one with no rate increase; one with an immediate rate increase in 2020; one with rate increases phased in over three years; and one with rate increases phased in over a 7-year period. To illustrate the impact of the WWTP upgrade, an additional scenario was prepared without that project.

Key findings and recommendations regarding the alternative rate increase scenarios are as follows:

- The Utility cannot obtain financing for the WWTP upgrade without a rate increase.
- The WWTP upgrade is driving the need for rate increases. If the WWTP upgrade were not needed, the Utility may be able to fund most of its routine capital improvements from current revenues without a rate increase.
- A minimum cumulative rate increase of about 46.0 percent is estimated to be needed in order to obtain a Clean Water Fund (CWF) loan for the WWTP project. The exact magnitude of the increase will depend on billable flows and loadings over the next two years, more refined estimates of project costs and changes in O&M associated with the project, the amount of the project that can be cash financed from the Equipment Replacement Fund (ERF), changes in the amount of the required annual ERF deposit, and current CWF interest rates at the time of loan closing.
- In general, the shorter phase-in periods for the rate increase would result in lower cumulative rate increases over the next ten years and higher reserve levels at the end of the ten-year period.

REVENUE REQUIREMENTS

Overall, a user rate increase of 49.3 percent is recommended to cover the 2023 revenue requirements of $10,209,976, the first full year of debt service payments for the WWTP project. The following table summarizes the revenue requirements for this study as compared to the revenue requirements for 2015 from the previous rate study. As shown, most of the rate increase is required to fund the debt service for the WWTP project. In addition, the amount of annual

capital expenditures is nearly twice the amount included in the revenue requirements for 2015. These increases are partially offset by increases in billable sales and other revenues.

Comparison of 2015 and 2023 Revenue Requirements

	2015	Proposed	Difference	% Difference
Operation and Maintenance	$5,418,350	$5,583,136	$164,786	3.0%
Equipment Replacement Fund	$399,380	$394,808	-$4,572	-1.1%
Debt Service - WWTP	$0	$3,340,389	$3,340,389	--
Debt Service - Collector	$0	$0	$0	--
Capital Outlay / Reserves	$844,542	$1,675,615	$831,073	98.4%
Total	$6,662,272	$10,993,948	$4,331,676	65.0%
User Charge Revenues at Current Rates	$5,938,929	$6,839,157	$900,228	15.2%
Other Income / Withdrawals from ERF	$126,323	$797,626	$671,303	531.4%
Total Revenues at Current Rates	$6,065,252	$7,636,783	$1,571,531	25.9%
Required Increase in Revenues			$3,357,165	
Percentage Increase in User Charge Revenues			49.1%	

PROPOSED RATE SCHEDULE

It is recommended that the rate increase be phased in over three years, beginning in 2020. The following table shows the proposed schedule of rates for each year, 2020 through 2022. The rate increases for 2021 and 2022 should be evaluated each year and adjusted as more detailed plans and refined cost estimates for the WWTP project become available.

Proposed Phased-In Rate Schedule

Billing Cycle - Quarterly
Billing Units - CCF

Flat Charge

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

Usage Charges

	Units	Current Rate	Proposed Rate - 2020	Proposed Rate - 2021	Proposed Rate - 2022
Domestic Sewage	$/CCF	$1.26	$1.52	$1.78	$2.05
Unmetered	Per Quarter	$36.42	$40.84	$45.26	$49.85
Surcharge Rates					
BOD	$/pound	$0.224	$0.226	$0.228	$0.231
TSS	$/pound	$0.211	$0.239	$0.267	$0.295
Phosphorus	$/pound	$4.177	$4.867	$5.557	$6.246
NH-3	$/pound	$0.559	$0.451	$0.343	$0.234
Holding Tank Waste	$ / 1,000 gal.	$5.70	$7.22	$8.74	$10.27
Septic Tank Waste	$ / 1,000 gal.	$15.90	$18.50	$21.10	$23.70
Grease Trap Waste	$ / 1,000 gal.	$46.00	$51.41	$56.82	$62.23
Admin. Charge	$ / load	$11.00	$14.00	$17.00	$20.00
Onalaska	$ / MG	$1,631.00	$1,970.00	$2,309.00	$2,647.00
La Crescent	$ / MG	$1,631.00	$1,970.00	$2,309.00	$2,647.00
Campbell	$ / MG	$1,631.00	$1,970.00	$2,309.00	$2,647.00
Shelby	$ / MG	$1,631.00	$1,970.00	$2,309.00	$2,647.00

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 customer using 44,880 gallons or 6,000 cubic feet of water per year, the estimated annual sewer bill under current La Crosse rates would be $135.60 per year. Under the proposed rate increase for 2020, this would increase to $151.20, or a total increase of $1.30 per month. The recommended rates for 2022 would result in an annual bill of $183.00, or an increase of $3.95 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.

Comparison of Average Residential Bills with Regional and Peer Communities

Community	Fixed Charge	Bills per Year	Volume Rate	Annual Usage	Units	Annual Bill
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
Waukesha	$15.92	4	$9.10	44,880	gallons	$472.09
Oshkosh	$29.00	4	$5.22	6,000	ft^3	$429.20
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	$34.00	4	$3.82	6,000	ft^3	$365.20
Holmen	$15.50	4	$6.60	44,880	gallons	$358.21
Madison	$14.26	12	$3.37	44,880	gallons	$322.37
Superior	$2.00	12	$4.96	6,000	ft^3	$321.60
Sheboygan	$47.98	4	$1.87	6,000	ft^3	$304.12
Janesville	$43.10	4	$2.01	6,000	ft^3	$293.00
Manitowoc	$10.77	12	$2.68	6,000	ft^3	$290.04
Beloit	$7.09	12	$3.32	6,000	ft^3	$284.28
Wausau	$20.40	4	$3.11	6,000	ft^3	$268.20
Sparta	$21.00	4	$3.07	6,000	ft^3	$268.20
West Salem	$45.00	4	$1.85	44,880	gallons	$263.03
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	$20.00	4	$2.77	6,000	ft^3	$246.20
La Crescent, MN	$60.37	4				$241.48
Menomonie	$16.00	4	$2.60	6,000	ft^3	$220.00
Appleton	$13.60	4	$2.73	6,000	ft^3	$218.20
Onalaska	$6.50	4	$2.91	6,000	ft^3	$200.60
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 2022)	**$15.00**	**4**	**$2.05**	**6,000**	**ft^3**	**$183.00**
La Crosse (proposed 2021)	**$15.00**	**4**	**$1.78**	**6,000**	**ft^3**	**$166.80**
La Crosse (proposed 2020)	**$15.00**	**4**	**$1.52**	**6,000**	**ft^3**	**$151.20**
Kenosha	$2.48	12	$1.99	6,000	ft^3	$149.16
La Crosse (current)	**$15.00**	**4**	**$1.26**	**6,000**	**ft^3**	**$135.60**
Average w/o La Crosse						$309.41
Median w/o La Crosse						$287.16

SEWER CONNECTION FEE

The sewer utility system has capacity to serve additional customers and no outstanding debt. The cost of constructing the existing wastewater system was contributed by the City and by past and current customers. The purpose of the connection fees is to recover the cost of the available capacity in the utility system that has been paid for by past and current customers.

The basis for the proposed connection fees is the value of the excess capacity in the sanitary sewer facilities serving the entire system. These system-wide facilities include wastewater treatment facilities, interceptor sewers and interceptor lift stations. The intent of the fees is that properties within the City or municipal wholesale customers obtaining new or additional sanitary sewer service will be required to buy into the system in an amount equal to the current value of the system-wide reserve capacity required to convey and treat their wastewater. The amount of capacity required is determined based on estimated sewer usage and converted to a per Residential Equivalent Connection (REC) basis. A REC is defined as the estimated amount of wastewater discharged by one single-family home daily. For nonresidential uses, the number of RECs would be determined based on the estimated amount of wastewater discharge compared to an average single-family household.

Two alternative methods for calculating the connection fee per REC were evaluated. It is recommended that the City impose sewer connection fees according to Alternative 2, based on average daily wastewater flow, as the more feasible of the two methods.

Sewer Connection Fee: Alternative 2

System Capacity	Total
Asset Value	$113,009,534
System Capacity (Average Day Flow in gpd)	20,000,000
Asset Value per Unit of Capacity (gallons per day)	$5.65
Est. Capacity Requirements per REC	126
Asset Value per REC	$711

The method of implementation will depend on the specific service area from which the City proposes to collect the fees. In general, fees imposed on areas outside of City boundaries will require an intermunicipal agreement in order to implement the fees. For areas that will be served as retail customers of the City, the fees may be collected from individual customers as they connect. For areas that will be served on a wholesale basis, the City may choose to collect the fees in one of two general ways:

- Initial lump sum payment for RECs associated with existing development connecting to the City's system and payment for new development as it occurs
- Initial lump sum payment for RECs associated with both existing and anticipated future development (purchase of total anticipated future capacity needs upfront)

If the City imposes connection fees on new connections, the revenues from connection fees should be used to offset the amount of revenues to be collected through user charges.

RECOMMENDATIONS

It is recommended that the City adopt the schedule of sewer user rates and sewer connection fees as shown above and continue to monitor the financial health of the utility for the necessity of additional future rate increases as presented in the cash flow analysis. This will allow the Wastewater Utility to generate the revenue needed to provide adequate funding for the utility's operation and maintenance expenses and capital improvement program while maintaining the utility's reserve funds at the recommended levels.