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WATER UTILITY RATE STUDY FOR 2023 RATES:

City of Coon Rapids, MN



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I. EXECUTIVE SUMMARY

In May of 2022, the City of Coon Rapids, Minnesota (“City”) engaged Ehlers to conduct a water utility rate study. The goals of the study were to:

- Establish water utility rates that will be adequate to grow and maintain appropriate fund balance.
- Develop a funding plan to support utility operations, outstanding debt obligations and future capital improvements.
- Analyze the sufficiency of the water rate structure as it relates to cost recovery for fixed overhead and usage patterns.
- Inform ongoing capital planning and policy decisions.

Municipal utility funds are considered enterprise funds. They are intended to be operated like a private enterprise in which the fee revenue pays for all associated operations and capital expenses. In the City’s Annual Comprehensive Financial Report (ACFR), enterprise funds are segregated funds, recognizing the unique purpose and revenue streams of these functions.

In addition to the ACFR segregating the enterprise funds, the City’s Capital Improvement Plan (CIP) distinguishes between projects that will be funded by the enterprise funds. Utilities are capital intensive operations with over \$77.4 million in future capital costs estimated for the water utility between 2023 and 2032.

The Water Fund has been facing challenges that are putting upward pressure on rates. This analysis indicates opportunity to change the water rate structure to:

- Ensure the long-term financial health of the enterprise fund,
- Better align user charges with usage patterns and associated costs,
- Incentivize conservation among high water users, and
- Generate adequate fixed revenue to pay annual fixed costs of the system and guarantee reliable cashflow.

This report provides the key findings and recommendations of the study.

II. METHODOLOGY AND ASSUMPTIONS

Funding capital improvements for a redeveloping community as well as replacing aging utility infrastructure drive the need for adequate utility revenue. City staff developed a 10-year Capital Improvement Plan for the water utility (See Appendix A).

As part of this study, Ehlers prepared a 10-year cash flow projection for the water fund through the year 2032. This projection examines anticipated revenue and expenditure cash flows in future years and estimates the user rate increases necessary to meet all anticipated financial obligations of the utility fund while maintaining adequate cash reserves to continue to support operational and future capital needs.

The cash flow analysis method determines future revenue requirements by incorporating operating and maintenance expenses, transfer payments, current and future debt service and anticipated future capital outlays. We also build in future growth estimates for the model to anticipate associated costs and usage revenues. The primary financial inputs of the analysis were the City's audited financial statements, current budget documents, annual water billing data for 2021, and the aforementioned Capital Improvement Plan.

The cashflow projections include the following assumptions:

- 2-3% annual inflation on operating costs.
- 3% annual inflation on future capital improvement project costs.
- A small amount of additional fixed and usage revenue from growth has been included for our user revenue calculations. This is based on established patterns of growth in the community.

III. BACKGROUND INFORMATION

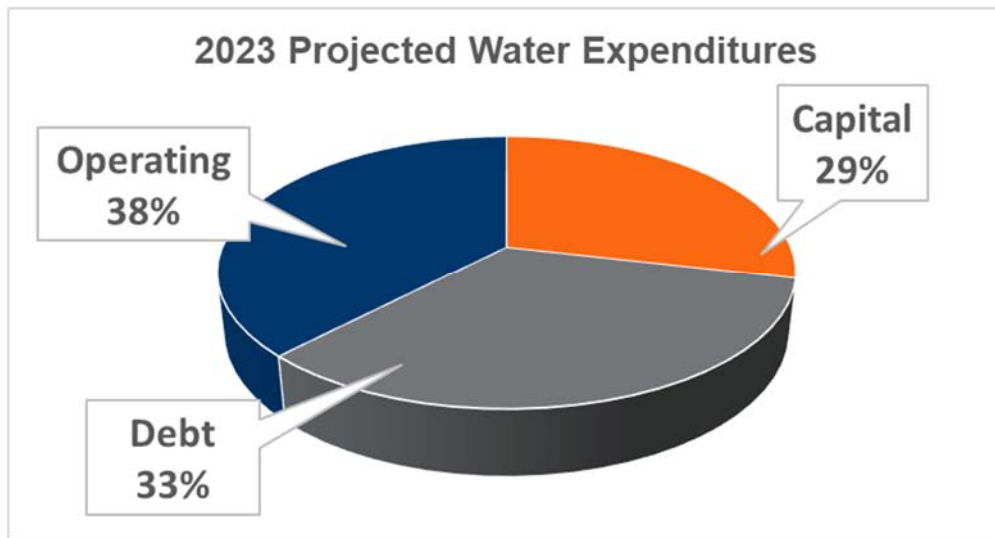
There are two main components to the City's water utility revenues:

- Fixed Charges
- Usage Fees

Current fixed charges are a quarterly fee regardless of the size of the water meter. The fixed charge is established to recover certain administration expenses, such as meter reading and billing, plus a portion of distribution costs. The 2022 fixed charge per account is \$16.75 per quarter and generates approximately \$1.3 million of revenue. However, 2023 budgeted fixed costs are projected to be slightly over \$1.8 million.

In addition, capital and annual debt expenditures comprise 62% of the total 2023 budgeted expenditures in the Water Fund as shown in Figure 1. The annual investment in capital improvements do not fluctuate with consumption; therefore, the revenue stream needs to be reliable from year to year.

Figure 1. 2023 Budgeted Water Expenditures (Excluding Depreciation)



Usage fees are based on the metered use of water. Water is sold in units and currently one unit represents 1,000 gallons. The billing structure for most City residents is tiered so that the rate per unit depends on the amount of water used per quarter. Currently, multi-family, commercial and industrial accounts are charged at a flat first-tier rate per unit. Their separately metered irrigation accounts are charged at a flat third-tier rate per unit.

The City's existing residential tiered rate structure is setup to incentivize water conservation, but upon review is not actively impacting high residential users. Under the current structure, 90% of residential accounts have all their water use within the first two tiers of the rates during the summer months. The current structure thus lacks an adequate price signal for customers to monitor their usage more closely, and results in similar fees being collected for all water use: whether for essential uses or others such as irrigation.

Currently the multi-family accounts are paying one fixed charge per account, regardless of the number of residential units or the meter size. The accounts also currently pay a flat first-tier usage rate. The current rate structure does not appropriately align the cost recovery from this user class compared to their proportionate usage of the system because of the low fee structure. The rate study proposes creating a separate multi-family user classification. In this new user class, each account would be charged a fixed fee per dwelling unit. The account would also be monitored under the tiered usage structure, multiplied by the number of dwelling units.

Similarly, the commercial, industrial and institutional accounts are also currently paying a flat first-tier usage rate per unit. The rate study proposes creating a second-tier water usage rate for this user classification.

IV. WATER RATE ANALYSIS

The rate study proposes making residential tiers 1 and 2 smaller starting in 2023 to promote conservation and equity between users. As shown in Figure 2, during the period of highest seasonal consumption, only 10% of residential accounts usages are outside of the second tier and as a result only a small fraction of users receive a price signal to monitor their consumption more closely. As shown in Figure 3, under the proposed 2023 structure and assuming similar usage patterns, 25% of residents will now receive a price signal. This still leaves the large majority of customers within the lower priced tiers, but in tandem with the increased rates for tier 2 and 3 water use, the new structure will more effectively incentivize restraining consumption increases.

Figure 2. Current Tiers and Residential Accounts by Usage (3Q, 2021)

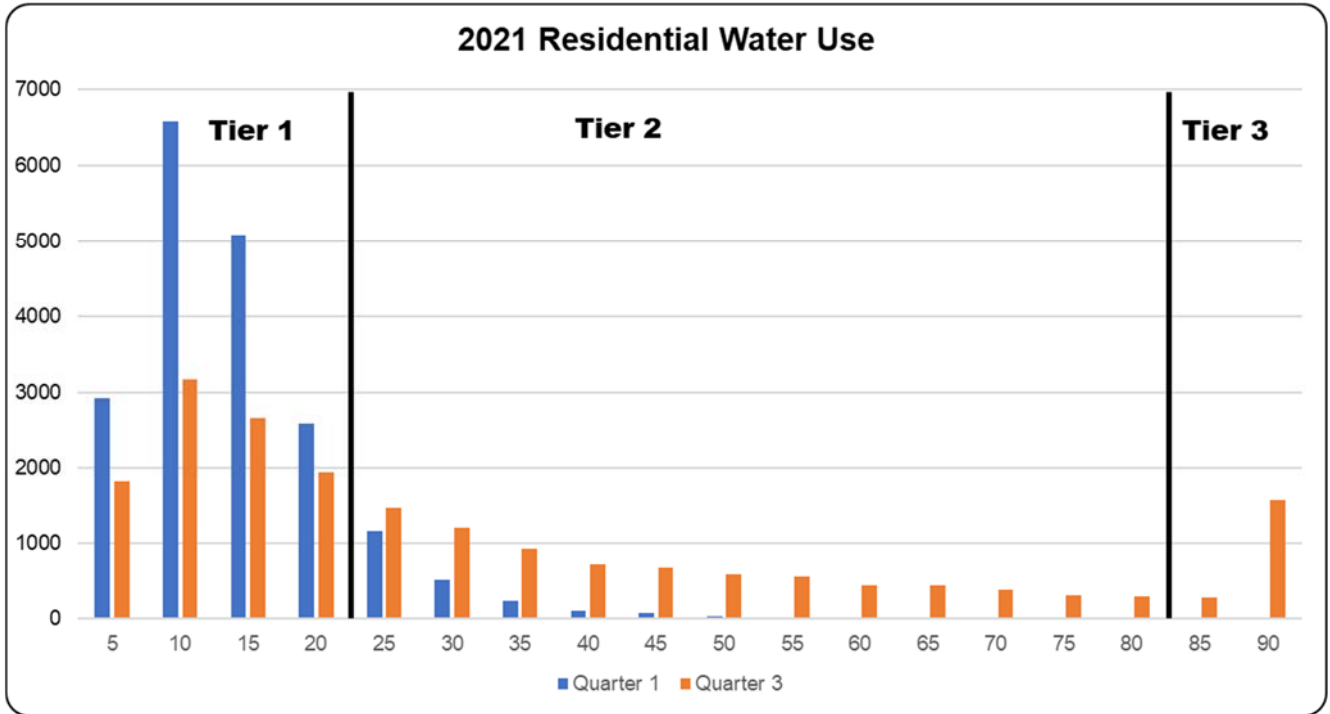
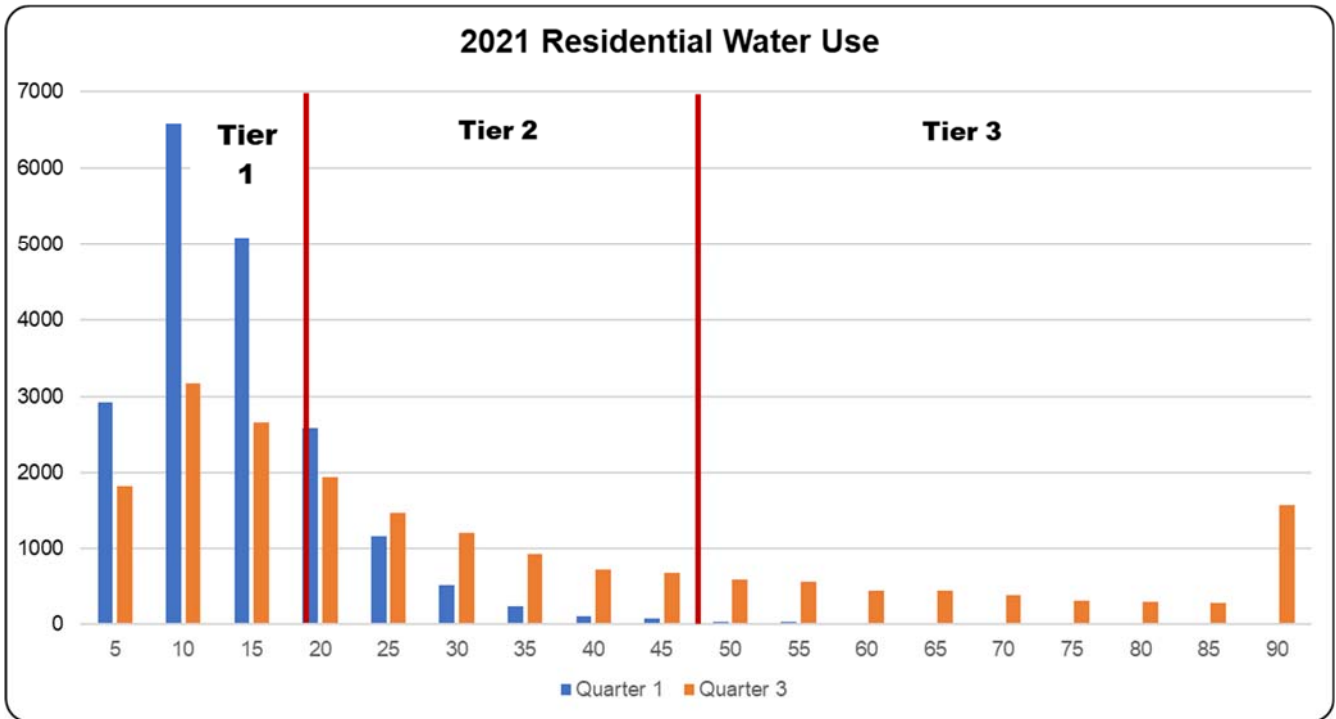


Figure 3. Proposed 2023 Tiers and Residential Accounts by Usage



The complete proposed water rate structure can be seen in Table 1. Combining the new tiering and charges, the proposed changes are estimated to generate an 18.3% increase in water revenue in 2023. For the remaining period, the study recommends uniform annual inflationary rate increases of 8% from 2024-2027 to continue to fund operations and the CIP.

Table 1. Proposed 2023 Restructure and Rates

Proposed Quarterly Water Rates					
	2023	2024	2025	2026	2027
Fixed Rates					
Residential and Irrigation Base Fee	21.00	22.68	24.49	26.45	28.57
Multi-Family Base Fee Per Unit	7.00	7.56	8.16	8.82	9.52
Commercial/Industrial/Institutional	21.00	22.68	24.49	26.45	28.57
Usage Rates - per 1,000 gallons					
Residential and Multi-Family per Unit					
0-15,000 gallons	2.21	2.39	2.58	2.78	3.01
15,001-45,000 gallons	2.76	2.98	3.22	3.48	3.75
>45,000 gallons	3.45	3.73	4.02	4.35	4.69
Commercial/Industrial/Institutional					
0-600,000 gallons	2.21	2.39	2.58	2.78	3.01
>600,000 gallons	2.76	2.98	3.22	3.48	3.75
Irrigation					
Per 1,000 gallons	3.45	3.73	4.02	4.35	4.69

Tables 2 through 4 are provided to show the impacts of the proposed changes on average residential, multi-family and commercial users. For instance, as shown in Table 2, the proposed rates for 2023 expect that an average residential customer is expected to be paying approximately 13% more for the same use under the prior rates and charges.

Table 2. Residential Customer Comparison - Proposed Restructure

Impact Analysis						
	Existing	Proposed				
	2022	2023	2024	2025	2026	2027
Sample Water Bill						
Residential - Average Winter Quarter						
Base Fee	\$ 16.75	\$ 21.00	\$ 22.68	\$ 24.49	\$ 26.45	\$ 28.57
Usage Fee (12,000 gallons)	25.20	26.52	28.64	30.93	33.41	36.08
Total Quarterly Bill	\$ 41.95	\$ 47.52	\$ 51.32	\$ 55.43	\$ 59.86	\$ 64.65
\$ Quarterly Increase		\$ 5.57	\$ 3.80	\$ 4.11	\$ 4.43	\$ 4.79
% Increase		13.28%	8.00%	8.00%	8.00%	8.00%
Residential - Average Summer Quarter						
Base Fee	\$ 16.75	\$ 21.00	\$ 22.68	\$ 24.49	\$ 26.45	\$ 28.57
Usage Fee (34,000 gallons)	77.70	85.59	92.44	99.83	107.82	116.44
Total Quarterly Bill	\$ 94.45	\$ 106.59	\$ 115.12	\$ 124.33	\$ 134.27	\$ 145.01
\$ Quarterly Increase		\$ 12.14	\$ 8.53	\$ 9.21	\$ 9.95	\$ 10.74
% Increase		12.85%	8.00%	8.00%	8.00%	8.00%

Table 3. Multi-Family Customer Comparison - Proposed Restructure

Impact Analysis						
	Existing	Proposed				
	2022	2023	2024	2025	2026	2027
Sample Water Bill						
Multifamily - High Volume User						
Base Fee (256 Units)	\$ 16.75	\$ 1,792.00	\$ 1,935.36	\$ 2,090.19	\$ 2,257.40	\$ 2,438.00
Usage Fee (4,000,000 gallons)	8,400.00	8,928.00	9,642.24	10,413.62	11,246.71	12,146.45
Total Quarterly Bill	\$ 8,416.75	\$ 10,720.00	\$ 11,577.60	\$ 12,503.81	\$ 13,504.11	\$ 14,584.44
\$ Quarterly Increase		\$ 2,303.25	\$ 857.60	\$ 926.21	\$ 1,000.30	\$ 1,080.33
% Increase		27.37%	8.00%	8.00%	8.00%	8.00%
Multifamily - Low Volume User						
Base Fee (12 Units)	\$ 16.75	\$ 84.00	\$ 90.72	\$ 97.98	\$ 105.82	\$ 114.28
Usage Fee (175,000 gallons)	367.50	386.75	417.69	451.11	487.19	526.17
Total Quarterly Bill	\$ 384.25	\$ 470.75	\$ 508.41	\$ 549.08	\$ 593.01	\$ 640.45
\$ Quarterly Increase		\$ 86.50	\$ 37.66	\$ 40.67	\$ 43.93	\$ 47.44
% Increase		22.51%	8.00%	8.00%	8.00%	8.00%

Table 4. Commercial/Industrial Customer Comparison - Proposed Restructure

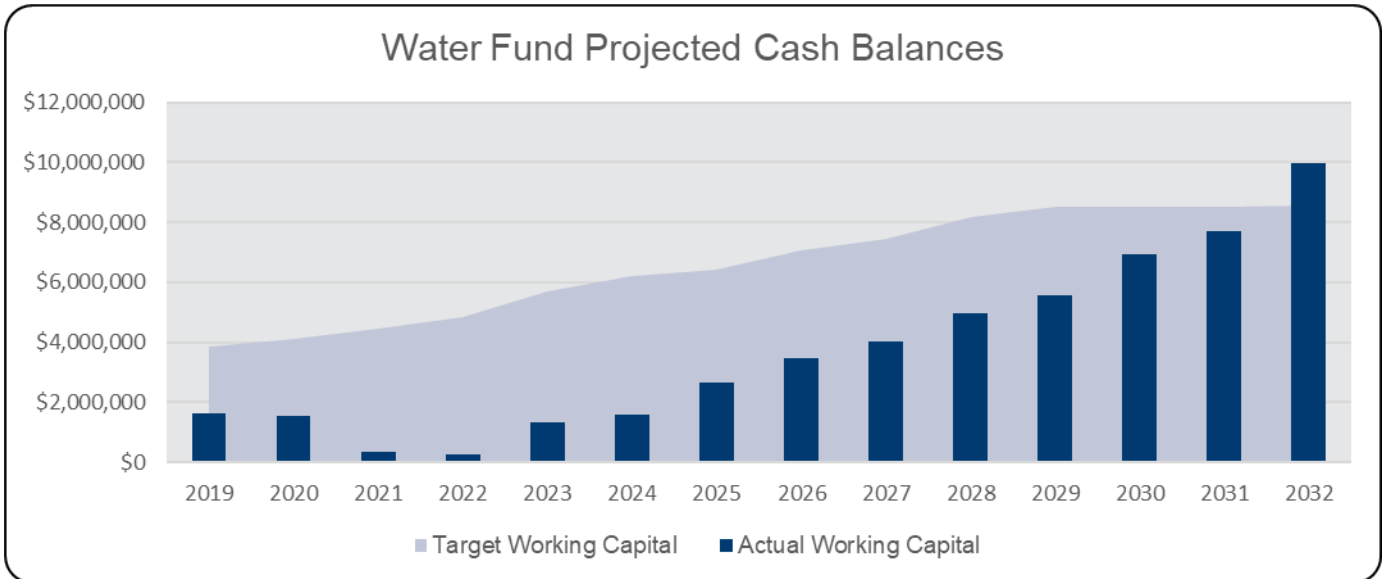
Impact Analysis						
	Existing	Proposed				
	2022	2023	2024	2025	2026	2027
Sample Water Bill						
Industrial - High Volume User						
Base Fee	\$ 16.75	\$ 21.00	\$ 22.68	\$ 24.49	\$ 26.45	\$ 28.57
Usage Fee (967,000 gallons)	2,030.70	2,338.92	2,526.03	2,728.12	2,946.37	3,182.07
Total Quarterly Bill	\$ 2,047.45	\$ 2,359.92	\$ 2,548.71	\$ 2,752.61	\$ 2,972.82	\$ 3,210.65
\$ Quarterly Increase		\$ 312.47	\$ 188.79	\$ 203.90	\$ 220.21	\$ 237.83
% Increase		15.26%	8.00%	8.00%	8.00%	8.00%
Commercial User						
Base Fee	\$ 16.75	\$ 21.00	\$ 22.68	\$ 24.49	\$ 26.45	\$ 28.57
Usage Fee (300,000 gallons)	630.00	663.00	716.04	773.32	835.19	902.00
Total Quarterly Bill	\$ 646.75	\$ 684.00	\$ 738.72	\$ 797.82	\$ 861.64	\$ 930.57
\$ Quarterly Increase		\$ 37.25	\$ 54.72	\$ 59.10	\$ 63.83	\$ 68.93
% Increase		5.76%	8.00%	8.00%	8.00%	8.00%

In addition to promoting conservation, the new structure and annual rate increases will help pay for the anticipated capital reinvestment needed for the City’s aging water system, ensure revenue stability and promote equity among user classes for their proportional use of the system.

V. CASH RESERVES

The proposed rate increases are designed to maintain the financial health of the water fund. The study designed a target cash reserve for the water utility in order to position the fund for continued self-sufficiency and minimize reliance on debt. The target is set as the annual amount necessary to provide adequate operating cashflow plus be able to fund the next year’s debt service and a portion of its expected capital expenditures. The 2023 and following annual increase in rates are designed to achieve this target cash reserve by 2032. Figure 4, below, shows a graph comparing the projected year-end cash balance in the fund (in dark blue) against the City’s target cash reserve (in light blue) for the full period of the study.

Figure 4. Projected Water Fund Cash Balances



VI. COMMUNITY COMPARISON

Every community's utility system has features and differing demands that make it unique – growth patterns, groundwater sources, soil conditions, usage patterns and infrastructure. Therefore, we recommend rates be set based on each individual community's documented needs while it goes through its periodic rate review. Nevertheless, it is helpful to know how the City compares to neighboring and peer communities across the metro.

Figures 5 and 6 are provided to compare the utility bills of sample Coon Rapids residential and commercial customers against the charges imposed for the same use in other metro communities. These specific comparison cities have been selected because they share similarities with Coon Rapids in term of size, development characteristics and life cycle of infrastructure.

Figure 5. Residential Quarterly Bill Comparison of Neighboring Communities

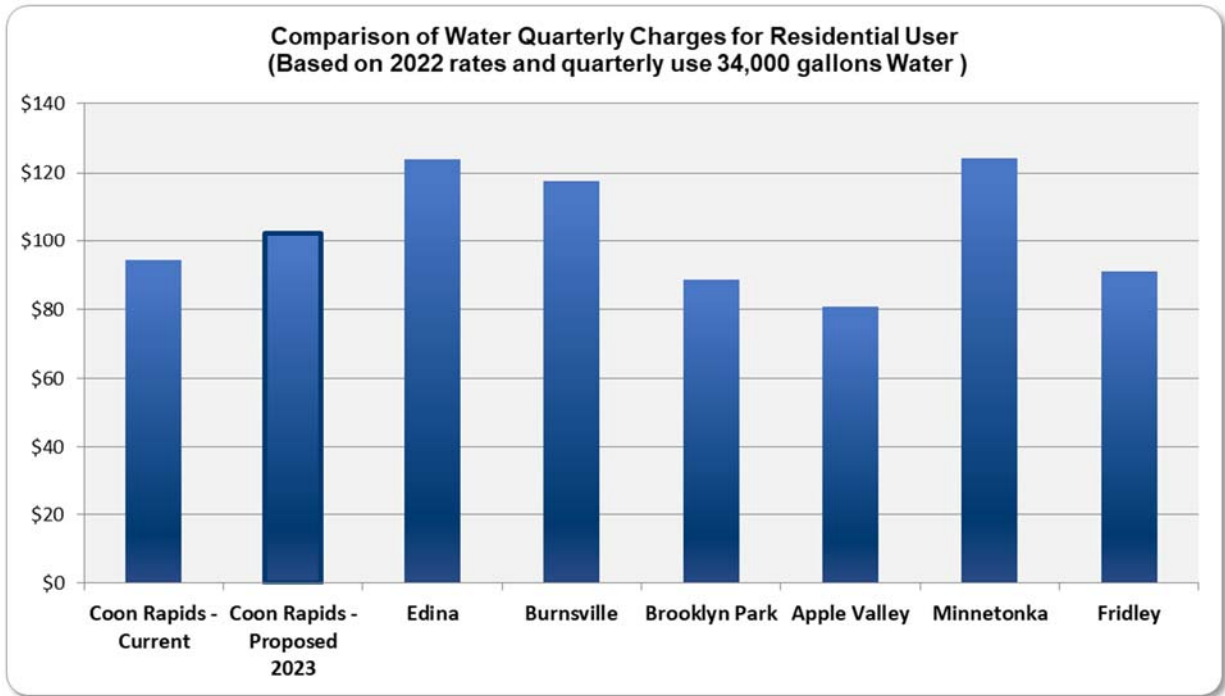
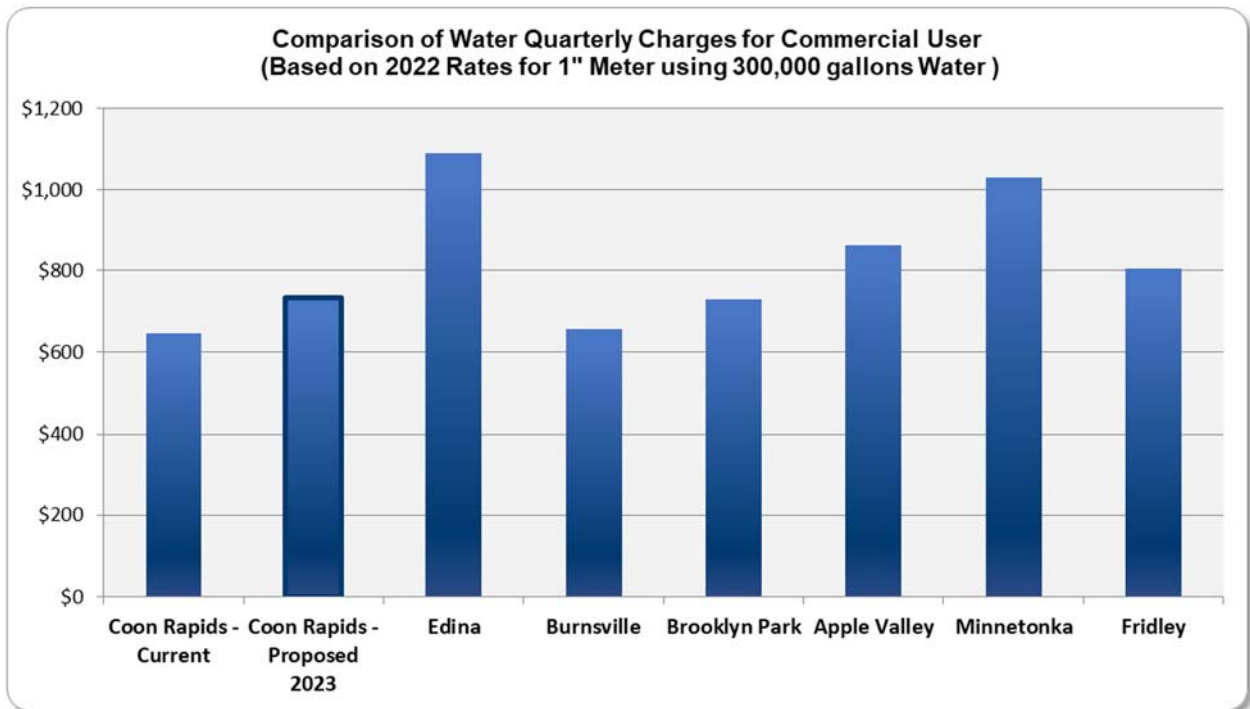


Figure 6. Commercial Quarterly Bill Comparison of Neighboring Communities



VII. SUMMARY

The City of Coon Rapids' water utility has been well managed and have adequate cash reserves. However, the water utility is facing unique challenges related to anticipated reconstruction. Future capital investment is putting upward pressure on rates as it is, and our analysis indicates an additional opportunity to change the existing rate structure to improve the equitable allocation of charges among the city's customer classes and also enhance its promotion of water conservation.

The proposed water utility increases accommodate the City's commitment to funding street reconstruction projects, expanding and maintaining the system, achieving water conservation, and maintaining adequate cash reserves.

Appendix A - Water Fund Capital Improvement Plan

Water Fund Capital Improvement Plan

Project Categories	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Vehicles / Equipment	168,134	110,000	40,000	246,690	45,000	145,000	198,181	105,000	-	416,533
Treatment Plant	-	1,510,000	760,000	1,560,000	20,000	-	410,000	-	20,000	-
System Rehabillitation / Replacement	715,000	675,000	679,125	681,881	754,775	689,464	1,185,155	688,505	693,838	757,566
Street Reconstruction	225,000	2,678,675	3,037,612	5,995,545	7,815,300	7,881,245	2,746,800	2,670,500	2,670,500	2,670,500
Plans, Studies & IT	-	130,000	40,000	60,000	15,000	25,000	40,000	5,000	45,000	5,000
Water Towers	3,150,000	1,400,000	-	-	50,000	-	1,750,000	-	1,000,000	-
Distribution	1,700,000	1,500,000	2,600,000	-	-	-	-	-	-	-
Meter Replacements	1,640,000	-	-	-	-	-	-	-	-	-
<i>CIP Totals (2022 Dollars):</i>	7,598,134	8,003,675	7,156,737	8,544,116	8,700,075	8,740,709	6,330,136	3,469,005	4,429,338	3,849,599
Annual Inflation Percent	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Inflated Project Costs:	7,826,078	8,491,099	7,820,360	9,616,478	10,085,772	10,436,864	7,785,269	4,394,432	5,779,281	5,173,540