
Sewer & Water Rate Study

Prepared for the

Mill Creek Water Reclamation District

by Trilogy Consulting, LLC

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EXECUTIVE SUMMARY

The purpose of this study was to evaluate the adequacy of the Mill Creek Water Reclamation District's (District) sewer and water rates to fund the costs of utility service: operation and maintenance expenses, depreciation, debt service and annual capital investment and replacement. Depreciation represents the expense associated with the gradual wearing out of the utility's infrastructure, and recovering annual depreciation expense through user rates provides funding to replace equipment and renew infrastructure as it reaches the end of its useful life. The District also must take steps to pay a judgement balance of approximately \$3 million, while maintaining a prudent minimum level of reserves. To develop recommended rates for the next five years, the study evaluated customer usage trends, revenue projections, capital improvement needs, cash flow, utility reserve levels, and the ability to make annual payments on the judgement balance. Several alternative scenarios with varying levels of judgement payments and rate increases were prepared and evaluated with District staff.

A substantial rate increase is recommended to fund ongoing operations, a healthy level of routine annual capital improvements, and pay the judgement balance over a reasonable period.

Key recommendations from the study include the following:

- Funding annual routine capital needs of \$324,450 beginning in 2024 for routine repairs and replacements, assuming 3% inflation in future years;
- Maintaining reserves to cover the following: Operating reserve equal to 3 months of annual operating expenses, excluding interest on debt; Debt service reserve equal to an amount sufficient to pay the current portion of principal and interest payments; Depreciation reserve, equal to a full year's depreciation expense less annual revenues received from the depreciation charges; Capital reserve of \$500,000 to fund emergency replacement of critical assets;
- Implement a rate increase that will provide an overall increase to user charge revenues of 38.7 percent, as shown in the table below.

Rate	Current	Proposed
Usage Rates (per 1,000 gallons)	\$7.90	\$10.43
Meter Charge – Residential (per month)	\$12.00	\$15.63
Meter Charge – Commercial – 1"	\$12.00	\$15.63
Meter Charge – Commercial – 1.5"	\$50.00	\$65.13
Meter Charge – Commercial – 2"	\$85.00	\$110.71
Meter Charge – Commercial – 3"	\$170.00	\$221.43
Depreciation Charge (per month)	\$8.00	\$10.07
Infrastructure Fee (per month)	\$6.75	\$14.44

INTRODUCTION

The District owns and operates a potable water supply and distribution system, a sanitary sewer collection and treatment system, and a stormwater conveyance and management system that provides sewer, water, and stormwater service to over 2,300 customers. The District's Wastewater Treatment Facility treats waste from customers within the District and water is provided to customers in the District through ground wells. The District currently bills customers on a monthly basis for sewer and water service.

The District last conducted a user rate study in October 2016. The study included an allocation of costs between the volume, meter service, infrastructure, and depreciation reserve charges. The study noted that there was an imbalance between the revenues generated from the various charges and the costs that each charge was intended to recover. The depreciation reserve charges were particularly deficient, recovering less than half of the annual depreciation expense. Since the rates were still generating a cash surplus, the District did not increase user rates at that time.

IMPETUS FOR STUDY

The District has not increased or updated user charge rates since 2012. Since that time, operating expenses have increased. The District issued debt in 2020 to purchase land for treated wastewater disposal to provide District facilities that could handle the disposal of treated wastewater and avoid additional lease payments for waste disposal in the future. The District has undertaken other significant capital investments in recent years as well. The utility systems are now more than 30 years old and as of year-end 2022 the District's depreciable assets were more than 45 percent depreciated, on average. In the coming years, there will be a growing need for rehabilitation and replacement of infrastructure. In addition, the ever-changing EPA regulatory environment may require the District to change or upgrade its water and wastewater treatment processes. The District also received a judgement for past lease payments from recent litigation requiring it to pay nearly \$3 million. The District paid \$500,000 towards the judgement in 2023.

For these reasons, the District hired Trilogy Consulting to conduct a formal Sewer and Water User Rate Study. The study consisted of setting user rates based on a detailed cost of service study for 2024, as well as projecting the District's revenues, expenses, and cash flow through 2031. The objectives for the study were as follows:

1. Evaluate trends in revenues, expenses, and customer demand to develop forecasts for 2024;

2. Estimate any increase in rates that will be needed for to fully fund utility expenses and capital expense and maintain sufficient reserve balances, while paying off the judgement;
3. Prepare a current allocation of expenses and calculate the various charges that will generate the appropriate amount of revenues for each cost category.

CURRENT RATES AND FINANCIAL STATUS

The first step in the study process was to review the current rate structure and financial status of the utility, including:

- Current rates;
- Historical and projected customer demand;
- Historical revenues and expenses and the current year budget;
- Forecast O&M expenses;
- Capital improvement plans;
- Forecast cash flow and reserves based on revenues at current rates.

For 2023, the District charges the following utility rates to residential customers:

- A volume rate of \$7.90 per 1,000 gallons;
- A meter service charge of \$12.00 per meter per month;
- An infrastructure charge of \$6.75 per unit per month;
- A depreciation reserve charge of \$8.00 per unit per month.

Commercial customers are charged proportionally higher meter service charges based on the size of their meter.

Tables 1 through 4 show the historical revenues and expenses for the District from 2017 through 2022, and the budgeted amounts for 2023. Total operating expenses, including operating, administrative, and depreciation expenses, have increased approximately 34 percent between 2017 and 2023. Capital expenses, including the land purchase in 2020, fluctuated quite a bit during that time but have averaged about \$971,000 per year. Some of the capital investment was financed with bond issues, increasing principal payments by approximately \$250,000 per year. During that same time, revenues also fluctuated slightly, but are projected for 2023 to be about the same as 2017.

Table 1 - Historical and Budgeted Revenues

Acct	Account Description	2017 Actual (\$)	2018 Actual (\$)	2019 Actual (\$)	2020 Actual (\$)	2021 Actual (\$)	2022 Actual (\$)	2023 Budget (\$)
REVENUES								
500	Water Usage	1,513,514	1,458,843	1,388,092	1,673,514	1,606,620	1,557,213	1,500,000
500.2	Service Charges Residential	328,505	329,505	329,557	330,197	331,960	332,437	330,000
500.3	Infrastructure Fee	208,081	209,557	212,323	213,151	213,616	214,457	213,000
500.5	Depreciation Reserve	241,535	241,990	242,479	243,221	244,035	244,280	244,000
501.3	Commercial Service Charge	32,290	34,062	36,332	37,207	37,418	38,967	37,000
502	Meter Income - Residential	7,020	1,550	3,075	9,000	3,000	1,500	2,000
504	Meter Income - Commercial	0	4,036	4,036	0	0	0	0
505	Fire Protection Charge	48,052	52,254	58,674	60,590	61,345	60,888	60,000
507.1	Service Calls	1,385	0	0	0	0	0	0
507.2	Meter Charge	0	0	0	0	0	50	0
508	Penalties	22,994	20,943	19,232	30,383	22,779	26,673	20,000
508.1	Interest Income - Customers	4,045	4,164	3,624	4,239	4,271	4,697	4,000
515	Flat Fee Construction Fees	1,800	400	800	2,400	800	625	1,000
520	Tax Levy	33,181	33,200	33,208	33,031	33,200	33,326	33,200
525	Online Services Charges to Residential	11,187	12,974	12,891	14,406	15,747	17,511	14,000
596	IMET Fund Earnings	14,171	55,832	67,888	19,530	6,275	47,362	12,000
	Other Income	0	0	0	733	54,546	0	0
	Proceeds from Debt	0	0	0	3,300,000	0	0	0
TOTAL REVENUES		2,467,759	2,459,308	2,412,212	5,971,601	2,635,612	2,579,987	2,470,200

Table 2 - Historical and Budgeted Operation Expenses

Acct	Account Description	2017 Actual (\$)	2018 Actual (\$)	2019 Actual (\$)	2020 Actual (\$)	2021 Actual (\$)	2022 Actual (\$)	2023 Budget (\$)
OPERATION EXPENSES								
602	Meter Purchases	2,217	3,375	10,346	1,125	6,864	1,594	6,000
604	Repairs Maintenance - Capital Rep	100,090	161,482	128,834	105,081	117,078	120,958	240,000
604.1	Repairs Maintenance & Vegetation-W Irr	0	0	0	0	5,814	83,179	25,000
604.5	Capital Repairs - Transponders	4,144	740	148	1,349	9,063	0	1,000
605.1	Fuel Oil	1,536	3,443	1,589	1,359	795	5,987	2,560
605.4	Equipment Rentals	2,290	20,319	9,448	6,230	17,913	13,219	14,000
609	JULIE Costs	2,002	1,889	4,120	3,512	3,236	3,365	4,000
610	Facility Small Equip Tools Supp	19,787	20,903	17,183	35,241	67,378	38,274	40,000
610.4	Chemicals	15,423	17,100	17,897	26,392	26,756	30,296	30,000
613	Landscape Maint & Snowplowing	8,626	25,435	22,558	22,528	17,229	30,531	30,000
631.5	Stormwater Management	102,543	100,286	104,533	91,738	91,663	99,996	100,000
635	Operation Management	459,240	459,240	459,240	459,240	459,240	459,240	459,240
635.5	Water Quality Testing	8,355	3,181	1,822	10,677	6,867	8,339	14,000
635.6	Irrigation System Maintenance	13,031	2,678	5,234	2,848	1,861	0	0
641.5	Wastewater Irrigation System	0	1,675	0	0	0	0	0
641.7	Wastewater Technician	29,465	41,970	29,257	0	0	0	0
654	Ion Ex. Softener Supplies	213,571	201,214	177,651	178,779	64,707	57,289	80,000
670	Electricity	251,055	256,716	266,130	272,076	311,478	361,190	400,000
670.1	Natural Gas	4,915	3,355	6,220	5,275	4,269	5,382	8,000
680	Telephone - Operations	45,975	56,558	82,259	106,830	23,666	29,098	30,000
695	Bad Debts	0	0	0	0	0	0	2,000
SUBTOTAL OPERATION EXPENSES		1,284,263	1,381,559	1,344,468	1,330,280	1,235,879	1,347,937	1,485,800

Table 3 - Historical and Budgeted Administrative and Depreciation Expenses

Acct	Account Description	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023 Budget
ADMINISTRATIVE EXPENSES								
622	Billing Service with Postage	58,221	58,033	61,415	60,810	65,922	72,946	80,000
623	Meter Reading Service	0	0	0	2,363	3,039	3,260	4,000
702	Legal Notices	1,188	600	1,998	3,714	3,285	2,469	8,000
712	Lockbox Fees, Bank Charges	41,943	40,248	40,977	43,116	43,739	45,340	48,000
728	Depreciation Expense	608,732	623,900	641,783	659,218	710,161	744,379	770,000
740	Contingency Account	11,616	7,891	2,120	17,865	0	1,603	20,000
754	Dues & Subscriptions	1,114	1,712	1,306	1,959	3,145	11,236	5,000
756	Meeting Expenses	0	0	0	0	0	0	10,000
790	Insurance - General Liability	30,844	33,127	33,265	38,629	50,974	55,068	60,000
791	Insurance - Officials' Liability	200	200	2,005	2,514	2,099	2,054	4,000
796	Interest Expense	16,136	14,110	11,917	9,916	7,793	5,430	6,500
797	Bond Interest	0	0	0	79,636	112,228	102,587	94,000
798	Amortization of Bond Issue Cost	0	0	0	5,083	0	0	0
811.5	Postage & Printing	0	392	0	788	0	0	500
812	Document Storage	0	1,598	1,488	1,488	1,576	2,238	2,500
815	Special Mailings / Customer Notifications	0	0	0	0	0	3,773	6,000
820	Security System	2,514	1,808	1,596	1,596	1,596	1,596	2,000
850	Audit Fees	11,120	11,450	9,000	9,250	9,500	9,500	12,000
852	Accounting / Consulting - Retainer	35,040	36,000	37,020	37,735	38,790	40,310	42,000
852.1	Accounting / Consulting - add serv	32,673	32,666	37,814	38,502	39,809	27,940	44,000
855	Legal Fees - Retainer	16,643	25,709	18,400	64,053	38,074	28,890	50,000
855.5	Legal Expense - Litigation	36,544	153,222	323,700	194,340	159,944	122,194	185,000
856	Legal Fees - Special Counsel	7,019	34,888	60,209	11,440	4,160	0	0
858	Website Development & Maintenance	304	0	0	0	540	0	1,000
860	Gross Wages	18,000	18,000	18,000	18,000	18,000	18,000	18,000
880	Payroll Taxes	1,377	1,377	1,377	1,377	1,386	1,377	1,401
884	SUTA Expense	99	88	86	113	113	131	99
890	Real Estate Tax	0	0	0	0	1,055	0	0
SUBTOTAL ADMINISTRATIVE EXPENSES		931,327	1,097,018	1,305,476	1,303,505	1,316,926	1,302,319	1,474,000
SUBTOTAL OPERATING EXPENSES		2,215,590	2,478,577	2,649,944	2,633,784	2,552,805	2,650,256	2,959,800
NET INCOME		252,169	(19,269)	(237,733)	37,817	82,807	(70,269)	(489,600)

Table 4 - Historical and Budgeted Capital Expenses and Net Cash Flow

Acct	Account Description	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023 Budget
CAPITAL EXPENDITURES								
A212	Land Acquisition				2,713,439	171,501		
A220	Well Repairs	157,862	24,734					
A220.50	Well Repairs			10,000	89,902	217,872	48,469	
A220.50	Storm Water Maintenance				20,000			
A240	Aerators	107,200	93,800					
A240	Misc. Equipment				67,340	5,002		
A240	Portable Generator						184,310	
A240.50	Lift Station Repairs and Equipment			201,469	72,151		42,526	
A250	Irrigation System Expansion					1,555,655	41,342	
	Treatment Cell and Lagoon Split Rail Fence							120,000
	Irrigation Pump Station Replacement							175,000
	Irrigation Pump Station Building Repairs							35,000
	Blower Building Exhaust Fan							25,000
	Lift Station Manual Transfer Switches							40,000
	Well 3 VFD Transfer Switch							80,000
	Cell One Partial Aeration Replacement							50,000
	Building Repairs and Door Replacements							50,000
	Building Addition for Meeting Space & Gen.							225,000
	Irrigation W Pressure Red. Valve & Vault							40,000
SUBTOTAL CAPITAL EXPENDITURES		265,062	118,534	211,469	2,962,832	1,950,030	316,647	840,000
DEBT SERVICE - PRINCIPAL PAYMENTS								
	IEPA Loans	26,934	27,662	28,300	214,062	259,844	273,957	255,000
	Shodeen - Loan 2005	19,830	21,053	22,463	23,849	25,320	26,881	28,539
SUBTOTAL DEBT SERVICE		46,764	48,715	50,763	237,911	285,164	300,838	283,539
SUBTOTAL CAPITAL EXPENSES		311,826	167,249	262,232	3,200,743	2,235,194	617,485	1,123,539
TOTAL EXPENSES		2,527,416	2,645,826	2,912,176	5,834,527	4,787,998	3,267,742	4,083,339
NET CASH FLOW		549,075	437,381	141,819	801,375	(1,442,226)	56,624	(843,139)

Table 5 shows the projected revenue for 2024 from present user charges. Sewer and water sales are projected to be about 189 million gallons in 2023, which would continue a trend of declining water sales since the peak of 211 million gallons in 2020. There has also been some modest growth in the number of customers since 2017, about 5 or 6 per year, and the projected revenues reflect that growth in the revenues from service charges.

Table 5 - Projected Revenues at Present Rates

Type of Charge	Current Rate per Month	Unit	Residential Units	Commercial Units	Projected Revenues at Current Rates
Water & Sewer Volume Charges	\$7.90	/ 1,000 gals	189,385,760		\$1,496,148
Meter Service Charge - Res	\$12.00	/ meter	2,314		\$333,216
Meter Service Charge - Com	\$12.00	/ 1.0" meter		8	\$1,152
	\$50.00	/ 1.5" meter		1	\$600
	\$85.00	/ 2.0" meter		13	\$13,260
	\$170.00	/ 3.0" meter		11	\$22,440
Infrastructure Charge	\$6.75	/ unit	2,652		\$214,781
Depreciation Reserve Charge	\$8.00	/ unit	2,549		\$244,664
Total Projected Revenues					\$2,326,261

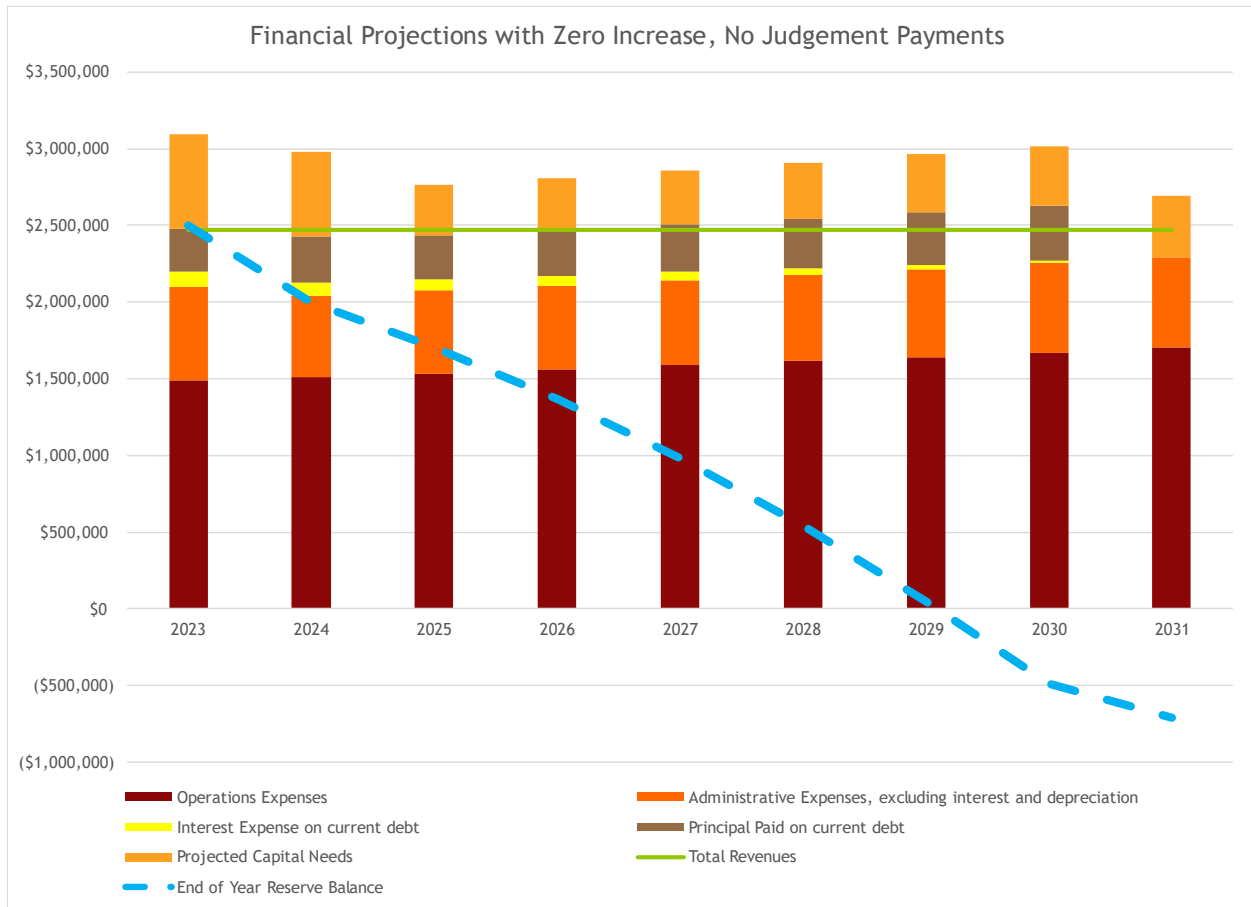
Figure 1 depicts the projected revenues, expenses, net cash flow, and end of year reserves if there is no rate increase and if no judgement payments are made. Only cash expenses are considered in this projection, so depreciation is not included. Expenses were projected under the following assumptions:

- Inflation of 1.5-1.8 percent per year in operations and administrative expenses, excluding interest;
- \$615,000 of capital investment in 2023, consisting of all projects contained in the 2023 budget except for the building addition;
- \$549,450 of capital investment in 2024, consisting of the building addition of \$225,000, plus a base amount of \$324,450 in routine capital projects;
- Allowance of \$334,184 for a minimal amount of capital projects in 2025, inflated by 3 percent per year in future years.

Reserves at the end of 2023 would be projected to be about \$2.45 million, had the \$500,000 judgement payment not been made. As the graph shows, if no increase is implemented, revenues are projected to be insufficient to fund any capital improvements and are projected to fall short of the amounts needed to cover operation expenses, administrative expenses, and principal and interest payments on outstanding bonds within a few years. Reserves are projected to run out completely by 2029, and expenses would continue to outpace annual revenues, even after the existing debt is paid off in 2030.

It is clear from these projections that the District needs an increase in its user charges to continue to operate and maintain the utilities, and to keep up with capital investment needs.

Figure 1 - Cash Flow Projections without rate increase or judgement payments



RECOMMENDED MINIMUM RESERVES

A vital part of this study was to determine what the District needs to maintain in reserves to be financially responsible and ensure that the operation and maintenance of the potable water supply, sanitary sewer, and stormwater systems will not be impaired. There are several factors to consider when developing a utility reserve policy, including operational, maintenance, and capital needs of a utility.

Water, sanitary sewer, and storm water utilities provide basic services critical to public health, safety, and sanitation. They are expected to provide uninterrupted 24/7 service. They are highly regulated, capital-intensive services for which a significant portion of the infrastructure necessary to provide the service is underground and not readily accessible for inspection and maintenance. As utility infrastructure ages, maintenance needs increase, replacement needs increase, and the risk of unexpected failures increases. EPA regulations continue to evolve, requiring utilities to upgrade equipment and processes to remove contaminants from water, wastewater and stormwater.

While the responsibility to provide continuous service that meets all federal, state, and local requirements is constant, utility revenues and expenses may vary significantly. Sales revenues, which represent most of the revenues to fund the operation of these utilities, fluctuate seasonally and vary by year depending on both weather patterns and economic activity. Similarly, operation and maintenance expenses vary throughout the year and from year to year depending on volume of water and wastewater treatment provided, timing of various expenses, and other factors. Capital outlay varies substantially from year to year depending on the facilities or equipment that needs to be purchased or replaced. Unexpected capital repairs and replacements may occur, and utilities need to be prepared for immediate repair or replacement to avoid disruption of service. While a utility records the infrastructure needed to provide service as assets, as a practical reality every infrastructure asset on a utility's books represents a future expenditure to repair, renew, or replace that asset to be able to continue providing critical services.

Because of the critical nature of the services provided, the substantial amount of infrastructure required to provide these services, the age of the infrastructure, the annual and seasonal fluctuations in both revenues and expenses, and the current economic uncertainty affecting expenses, interest rates, and access to capital, it is critical that the District maintain prudent reserve levels.

American Water Works Association guidelines for cash reserve policies served as a resource for developing the recommendations for minimum reserves contained in this study.¹ The discussion and conclusions that are relevant to the District are described in more detail in this section of the report. This section also discusses the conclusions made by the report titled 'Judgment Payment Analysis for Roetzel & Andress, A Legal Professional Association on behalf of and with Mr. Kent W. Shodeen' prepared by Crowe LLP.

Operating Reserve

This study has recommended maintaining an operating reserve of 3 months of current operating and administrative expenses. The purpose of the operating reserve is to provide adequate cash for the District to manage lags between expenses and revenue collections, and to manage fluctuations in revenues from seasonal variation in customer sales, fluctuations in operating expenses, unexpected increases in operating expenses due to factors such as emergency repairs or increases in materials costs, and other unpredictable variations in revenues or expenses. Even though the District bills on a monthly basis, it is good practice to maintain operating reserves at a level that is adequate to manage for more than just a lag in

¹ "Cash Policy Reserve Guidelines", American Waterworks Association, 2018, Christine DeMaster of Trilogy Consulting, contributor.

revenue collection. For example, the District's revenue from its volume charges is highly seasonal. In 2021 and 2022, about 40 percent of annual revenues were collected during the four months of peak summer use. This means that those months that are not during the peak, revenues collected are about 10 to 20 percent less than the average for the year, due to seasonal variability alone. The District also cannot rely on the general fund of a municipality to temporarily pay for operating expenses in the case of a shortfall in current revenues from user rates or an unexpected increase in expenses.

Debt Service Reserve

Generally, when utilities issue debt, the lender requires the utility to maintain a reserve for the life of the debt to ensure that debt service payments will be made on time and the utility will not default. These funds are generally held in a restricted account, meaning that the funds could only be used to make debt service payments should current revenues not be sufficient. While the District's loans do not require a restricted debt service reserve, it is still prudent for the District to maintain a reserve to guarantee that it will not default on its debt obligations. Since there is no specified amount from the lender, this study recommends maintaining a debt service reserve in the amount of the current year's total debt service payments, including both principal and interest. This is a common requirement included in bond covenants and is especially important for the District since it cannot rely on any municipal general funding and must be completely self-sufficient.

Capital Reserves

There are several different types of capital reserves that may be appropriate for utilities to maintain, depending on their unique circumstances. Capital reserves may be used to have funds available for unplanned capital replacements, to smooth out the budgetary and rate fluctuation impacts of fluctuations in capital expenditures from year to year, to set aside funds for replacement of equipment with a relatively short service life, to provide funds for emergency capital expenditures due to catastrophic events, or to set aside funds from fees or assessments collected to fund specific capital improvements. This study recommends maintaining two types of capital reserves: a depreciation reserve, and an emergency capital reserve.

Depreciation Reserve

A depreciation reserve is recommended to fund unplanned or accelerated replacement of utility assets or equipment and to smooth out budgetary and rate impacts of fluctuations in annual capital expenditures. As noted above, the cash flow projections include a minimal annual amount for capital improvements and equipment replacement. However, this amount is about half of the annual depreciation expense, well below the District's average annual capital expenditures for 2017 through 2023, and does not represent a long-term sustainable amount of

funding for capital replacements. And it is expected that actual capital improvement expenditures will vary from year to year depending on the specific assets or equipment that the District needs to replace. Because the District has a fixed charge for a depreciation reserve, this study recommends maintaining a depreciation reserve at a level of one year's annual depreciation, less the annual amount of revenues generated from the depreciation reserve charges. As the previous rate study noted, the depreciation reserve charges do not fully fund annual depreciation. However, since the charges partially fund the annual depreciation reserve, it is reasonable to maintain only a portion of the annual depreciation amount in a reserve. Additionally, since the system is aging, especially much of the District's equipment that is reaching or has reached the end of its useful life, it is important to maintain an amount in reserve to pay for replacement of equipment that fails.

Emergency Capital Reserve

The District maintains assets that have a book value of over \$30 million as of December 31, 2022. This includes infrastructure for potable water supply, sanitary sewer collection and treatment, and stormwater management and conveyance. It is important for the District to safeguard against any critical assets failing before it can plan for their scheduled replacement or due to catastrophic events. Based on the potential replacement costs of key infrastructure, this study recommends maintaining an emergency capital reserve of \$500,000 to provide funds for emergency replacements.

Summary

To ensure that the District has adequate funds to manage its cash flow, meet all of its obligations, cover unexpected expenses or decreases in revenues, and provide uninterrupted service to its customers, this study recommends maintenance of cash reserves of approximately \$1.8 million.

Crowe LLP Report

The June 14, 2023, report prepared by Crowe LLP makes a number of assertions regarding what the appropriate minimum reserve balance is for the District, stating that any remaining funds in excess of that minimum are available for immediate payment of the judgement. The report implies that the only possible reason the District may need to maintain reserves is that "a common best practice for utilities is to maintain the Operating Fund at one and one-half months to two months' worth of Operation and Maintenance Expenses and Taxes Other Than Income Taxes." There is no mention of a need to maintain funds for debt service or capital needs, as has been explained above. However, it is also a common best practice for utilities to maintain funds to ensure they do not default on any loans, and that they can repair, rehabilitate, or replace assets and infrastructure in a timely manner.

COST ALLOCATION, ALTERNATIVES ANALYSIS AND EVALUATION

The review of the financial status of the District indicated that the revenues at current rates will not be sufficient to fully fund the annual operating and capital needs of the utilities and maintain sufficient reserves, nor be able to make any further payments on the judgement. Therefore, the objectives of this study were to:

- Determine the level of revenues that will be required to fully fund the utilities;
- Allocate revenue requirements in a fair manner between the various types of charges;
- Calculate rates that are sufficient to recover the costs of providing potable water and sanitary sewer service and maintaining the storm water conveyance and management system;
- Develop a policy for paying back the full amount of the judgement.

Since the beginning of 2017 through 2023, the District has invested a total of \$6.4 million in land, equipment, and infrastructure. These improvements have been funded through a combination of annual user revenues, utility reserves, and debt. This funding practice has allowed the District to maintain relatively low rates, without any rate increases. In the future, the District will need to monitor its reserve levels more closely in conjunction with managing the judgement payback and maintaining an adequate capital improvement program. Rate increases will be necessary to accomplish these goals.

This study evaluated several scenarios for managing rate increases and payments towards the judgement while maintaining adequate reserves and investment in capital renewal and replacement.

Assumptions for Analysis

The study used several common assumptions for all scenarios. Conservative assumptions were used to ensure that revenues would be adequate to fund all District obligations. The assumptions were as follows:

- No change in the number of customers or billed volume in future years.
- Inflation on operating expenses of 1.5 – 1.8 percent per year.
- Capital investment of \$615,000 in 2023, \$549,450 in 2024, and \$334,184 in 2025, with 3% annual inflation per year thereafter until the judgement is paid back. It was assumed that capital investment would be minimal for the duration of the judgement paydown period, at about half of the District's annual depreciation expense. Once the judgement is paid back, a more sustainable level of capital renewal and replacement equal to at least the amount of annual depreciation expense is expected.
- A recommended minimum reserve balance comprised of the following components:
 - 3 months of operating expenses (less interest and depreciation expense).

- The current year's debt service payments, including principal and interest.
- One full year's depreciation expense, less the annual revenues generated from the depreciation reserve charges.
- Emergency capital reserve of \$500,000 to protect critical infrastructure.
- A reduction in legal expenses in 2024, with inflationary increases in future years.
- Year end 2023 cash reserve balances are projected to be \$2,000,622 following completion of 2023 capital projects, except for the building addition.
- The next judgement payment will be made on 1/1/2024 and annual payments thereafter on January 1 of each year.

After discussion with the District, it is recommended that the District implement a 38.7 percent overall rate increase. It is further recommended that the District maximize the judgement payments annually based on year-end reserve balances and projected positive cash flow for the next year. This mitigates the overall rate increase required and does not unreasonably burden current or future ratepayers, while ensuring prompt payment of the judgement amount to minimize additional interest incurred.

Reserves would fall below the recommended amount temporarily, to about \$1.5 million, following the projected judgement payment of \$466,059 on 1/1/2024, but would be replenished during the year by increased revenues from the rate increase. This approach provides slightly higher payments in the years 2025 through 2027, with the balance projected to be paid off in 2029. As shown in Figure 2, the cash balances are projected to increase after the judgement balance is paid off and the Utility's bonds are retired. This positive cash flow can be used to increase the District's capital improvement program to a more sustainable long-term level.

Figure 3 shows the projected end of year judgement balance in future years under the recommended plan.

Figure 2 - Financial Projections under the Recommended Plan

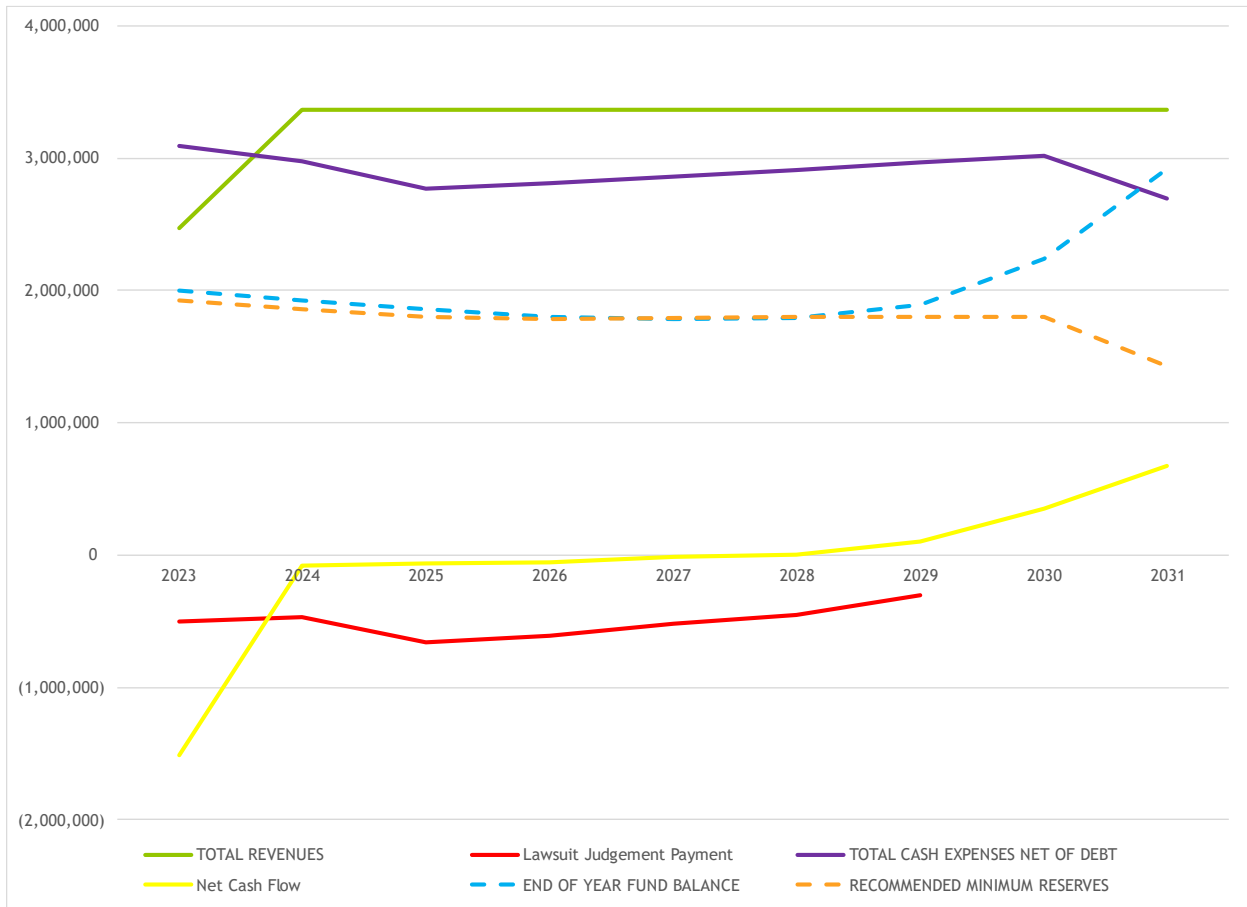
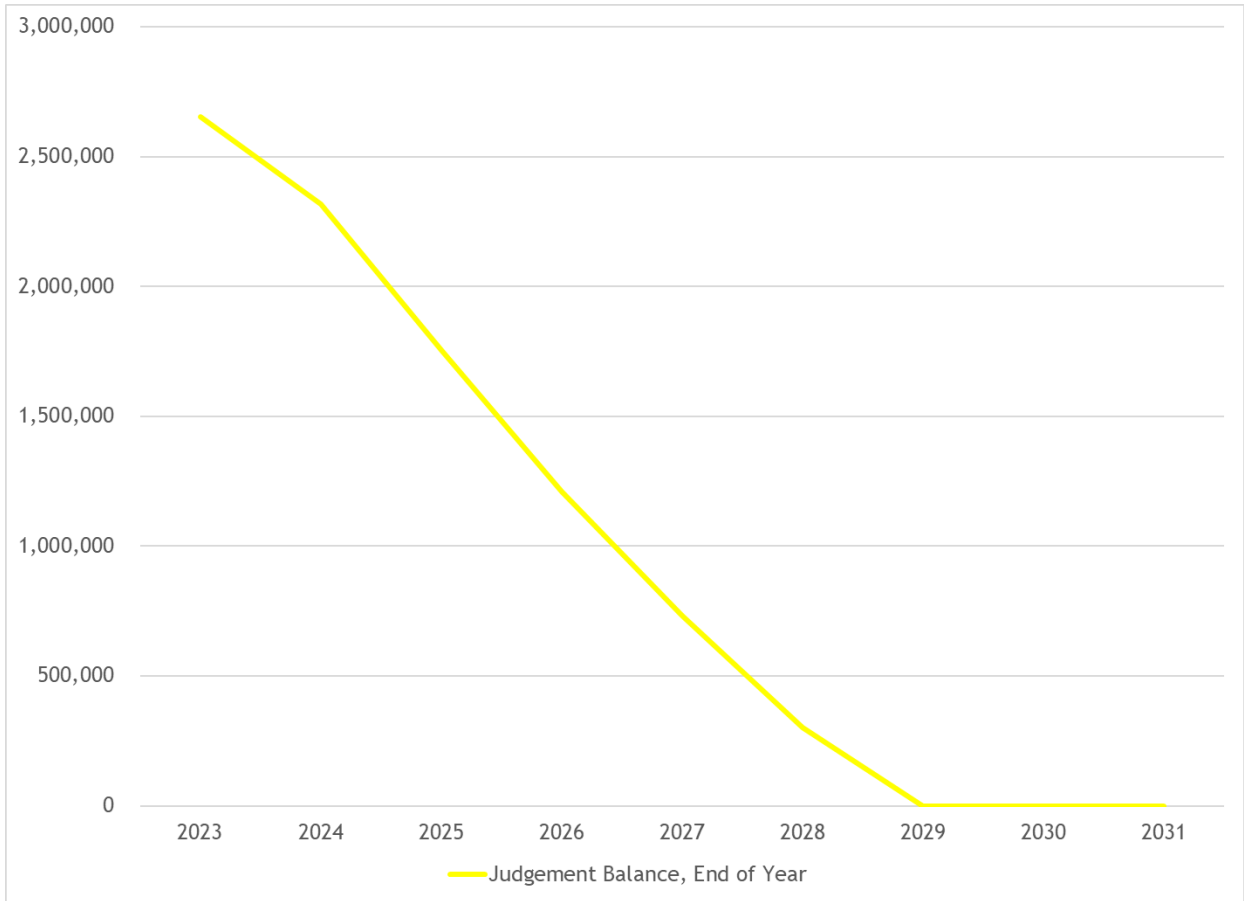


Figure 3 - End of Year Judgement Balance under the Recommended Plan



REVENUE REQUIREMENTS, RECOMMENDATION AND CONCLUSIONS

Utility revenue requirements include operation and administrative expenses, depreciation expenses, and return on investment, which is a percentage of the value of utility assets. The desired rate of return on investment depends on the amount of revenues the utilities need to generate to cover debt service and to fund capital improvements from current revenues versus reserves or debt financing. Table 6 shows the revenue requirements of the utilities under the recommended rate increase, the allocation of the revenue requirements to the various user charges, and the calculation of recommended rates.

Table 6 - Revenue Requirements and Rate Calculations

FORECAST REVENUE REQUIREMENTS	Test Year	UTILITY FUNCTIONS				
		Water	Sewer	Meter	Depreciation	Infrastructure
	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
Operation & Maintenance Expenses	2,089,300	803,250	803,250	482,800		
Depreciation Expense	763,928	183,185	272,734		308,008	
Return on Investment @ 2.50%	459,320					459,320
Less: Other Revenues	86,200	43,100	43,100	0	0	0
Total Revenue Requirements	3,226,347	943,335	1,032,884	482,800	308,008	459,320
Revenues at Current Rates	2,326,261	1,496,148		333,216	244,664	214,781
Change in Required Revenues	38.7%	32.1%		44.9%	25.9%	113.9%
Projected # of Units		189,386		2,574	2,549	2,652
Calculated Rate per Unit		\$10.43		\$ 15.63	\$ 10.07	\$ 14.44
		per 1,000 gals		per month	per month	per month
Current Rate per Unit		\$7.90		\$12.00	\$8.00	\$6.75
Change in Rate per Unit		32.1%		30.3%	25.9%	113.9%

It is recommended that the District implement the user rates shown in Table 7, for the beginning of 2024.

Table 7 - Recommended 2024 Rate Structure

PROJECTED RATES

Usage Rates (\$/1,000 gallons)	\$10.43
Meter Charge - Residential (\$/month)	\$15.63
Meter Charge - Commercial - 1" (\$/month)	\$15.63
Meter Charge - Commercial - 1.5" (\$/month)	\$65.13
Meter Charge - Commercial - 2" (\$/month)	\$110.71
Meter Charge - Commercial - 3" (\$/month)	\$221.43
Depreciation Charge (\$/month)	\$10.07
Infrastructure Fee (\$/month)	\$14.44

The impact to the average customer's bills is shown in Table 8, broken down by rate component. Under the recommended rates, the volume portion of an average customer's bill comprises about 61 percent of the bill, with the other 39 percent coming from the various fixed charges. This is similar to the current balance of volumetric and fixed charges.

Table 8 - Average Residential Customer Bill Impact

Current Rates

Type of Charge	Current Rate per Month	Unit	Residential Units	Monthly Bill at Current Rates
Water & Sewer Volume Charges	\$7.90	/ 1,000 gals	6.0	\$47.40
Meter Service Charge	\$12.00	/ meter	1	\$12.00
Infrastructure Charge	\$6.75	/ unit	1	\$6.75
Depreciation Reserve Charge	\$8.00	/ unit	1	\$8.00
Total Monthly Bill				\$74.15

Recommended Rates

Type of Charge	Proposed Rate per Month	Unit	Residential Units	Monthly Bill at Proposed Rates
Water & Sewer Volume Charges	\$10.43	/ 1,000 gals	6.0	\$62.58
Meter Service Charge	\$15.63	/ meter	1	\$15.63
Infrastructure Charge	\$14.44	/ unit	1	\$14.44
Depreciation Reserve Charge	\$10.07	/ unit	1	\$10.07
Total Monthly Bill				\$102.72
% Increase in Bill				38.5%
\$ Increase in Bill per Month				\$28.57

Table 9 presents a comparison of the average District residential customer’s monthly bill with similar utilities in the region. The selected communities all provide their own water supply and wastewater treatment similar to the District. As the table shows, the District’s current rates are relatively low, which reflects their stability since 2012. With the recommended increase, the average customer’s bill would increase to above average, but it would be similar to other regional communities.

Table 9 - Regional Residential Rate Comparison

	Water / Sewer Volume (Combined Rate)	Total User Charges	Total Monthly Charges ⁽¹⁾
St. Charles	\$ 12.73 per 1,000 gals	\$ 38.73 per month	\$ 115.11
Elburn	\$ 11.89 per CCF	\$ 15.00 per month	\$ 110.36
Mill Creek WRD - Recommended	\$ 10.43 per 1,000 gals	\$ 40.14 per month	\$ 102.72
Geneva	\$ 8.84 per CCF	\$ 25.80 per month	\$ 96.70
Wasco Sanitary District	\$ 8.00 per 1,000 gals	\$ 47.00 per month	\$ 95.00
Batavia	\$ 9.13 per CCF	\$ 16.92 per month	\$ 90.14
Sycamore	\$ 7.91 per CCF	\$ 17.84 per month	\$ 81.24
DeKalb	\$ 7.34 per CCF	\$ 17.41 per month	\$ 76.28
Mill Creek WRD - Current	\$ 7.90 per 1,000 gals	\$ 26.75 per month	\$ 74.15
Aurora	\$ 5.80 per CCF	\$ 26.90 per month	\$ 73.42
Cortland	\$ 4.00 per 1,000 gals	\$ 36.00 per month	\$ 60.00

Notes:

(1) Based on 6,000 gallons, or 802 cubic feet, of monthly consumption.

As this study uses many assumptions and projections, District staff should continue to monitor the utilities' financial situation on an annual basis going forward, using this study as a plan and guide to ensure that the recommended rates adequately recover revenues, and adjust rates if conditions change significantly from the projected results.

ADDENDUM

Trilogy Consulting recommended that the District maintain cash reserves of approximately \$1.8 million to manage cash flows, ensure that it meet all of its obligations, is able to cover unexpected expenses or decreases in revenues, and provide uninterrupted service to its customers.

This recommended amount included 3 month's operating expenses, a full year's debt service payments, and approximately \$900,000 to cover year-to-year fluctuations in capital expenditures or emergency/unplanned capital expenditures.

Since the completion of this report with our initial recommendations, the District received bids to rehabilitate the sand filters in the wastewater treatment plant. The District was anticipating that this project would cost approximately \$250,000, but received two bids in the amount of \$576,400 and \$432,000. It is uncertain whether the District will be able to rehabilitate the sand filters or will need to replace the filters. If the sand filters are discovered to be past the point of rehabilitation, they may need to be replaced, at an estimated cost of \$1.2 to \$1.4 million.

Given the environment of increasing costs for capital projects, as well as the uncertainty about whether the District will need to replace or rehabilitate the sand filters, the \$900,000 that was initially recommended to cover unplanned capital expenditures may not be adequate. It is recommended that the District consider maintaining reserves of \$2.2 million to \$2.4 million to provide \$1.3 million to \$1.5 million for unplanned capital projects.