



Draft Report



**Water and Wastewater
Rate Study**
January 2020





January 5, 2020

Ms. Susie Turner
Public Works Director
City of Kalispell
201 1st Avenue East
Kalispell, MT 59901

Subject: City of Kalispell Comprehensive Water and Wastewater Rate Study

Dear Ms. Turner:

HDR Engineering, Inc. (HDR) is pleased to present the draft report on the comprehensive water and wastewater rate study recently conducted for the City of Kalispell (City). The overall objective in conducting each utility rate study was to establish cost-based rates that provide adequate and sustainable funding for the operational and capital needs of each utility. This report outlines the approach, methodology, findings, and conclusions of the rate study process undertaken for the City's water and wastewater utilities.

This report was developed utilizing the City's specific accounting, operating, and historical customer billing records. HDR utilized this information to develop our analyses which shaped our findings, conclusions, and recommendations. At the same time, this study was developed utilizing generally accepted rate setting principles as outlined in the American Water Works Association M1 and the Wastewater Environment Federation Manual of Practice No. 27 rate setting manuals. The conclusions and recommendations contained within this report are intended to provide the City with cost-based and equitable rates for its customers.

We appreciate the assistance provided by the City staff, management, and the City Council in the development of this study.

Sincerely yours,
HDR Engineering, Inc.

A handwritten signature in black ink, appearing to read 'Shawn Koorn'.

Shawn Koorn
Associate Vice President



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Executive Summary

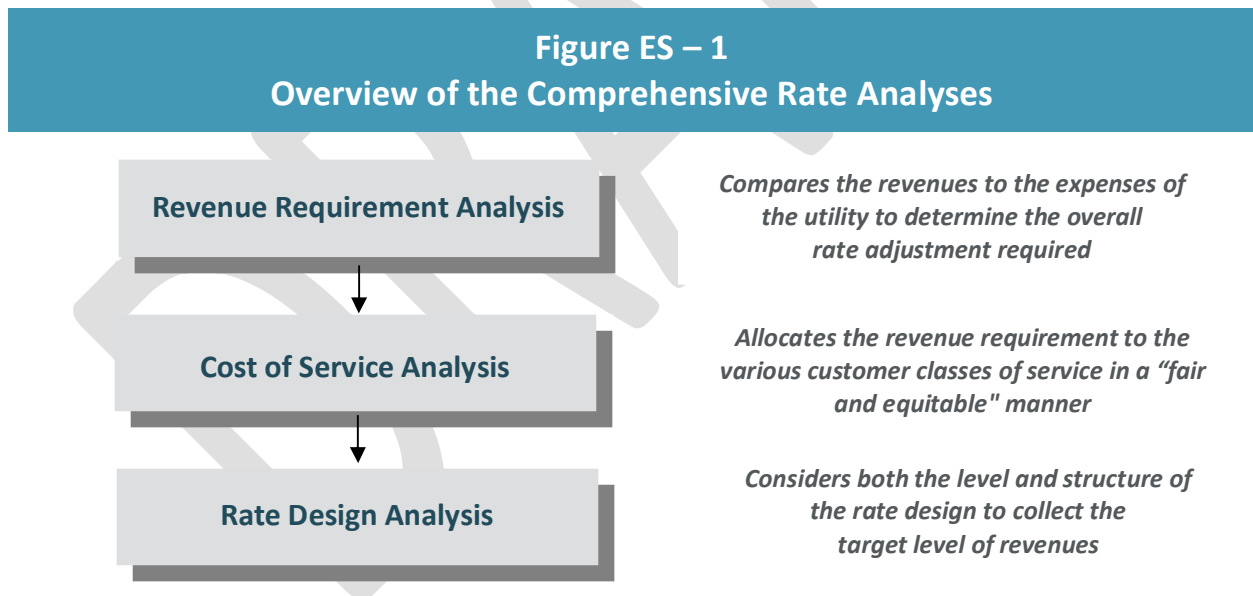
Introduction

HDR Engineering, Inc. (HDR) was retained by the City of Kalispell (City) to perform a comprehensive water and wastewater rate study. The development of these studies determines the adequacy of the existing water and wastewater utility rates. This study also provides the basis for adjustments to maintain cost-based rates for each of the utilities. This report describes the overall methodology used to conduct the study, along with our findings, conclusions and recommendations for each utility.

“This study also provides the basis for adjustments to maintain cost-based rates for each of the utilities.”

Overview of the Rate Study Process

A comprehensive water and wastewater rate study uses three interrelated analyses to address the adequacy and equity of a utility’s rates. These three analyses are a revenue requirement analysis, a cost of service analysis, and a rate design analysis. These three analyses are illustrated below in Figure ES-1.



The City’s water and wastewater utilities were each evaluated on a “stand-alone” basis. That is, no subsidies between the utilities or other City funds should occur. By viewing each utility on a stand-alone basis, the need to adequately fund both O&M and capital infrastructure must be balanced against the rate impacts to the utility’s customers.

Review of the Financial Policies

Financial policies are intended to provide guidance in the financial planning and rate-setting process, and in the day-to-day financial management of the City's utilities. Adoption of financial policies provides a strong foundation for the long-term financial sustainability of the utilities. The City currently has in place several financial/rate setting policies.

There are a variety of reasons or benefits for establishing written financial policies. In particular, written financial policies provide management with clear policy direction and provides for consistent and logical financial/rate (business) decisions. More importantly, written financial policies provide a strong message to the outside financial community (bond rating agencies) of the City Council's commitment to manage the utilities in a financially prudent and responsible manner.

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The City already has certain financial policies for the utilities which are written and well-understood. In other cases, the City's financial planning practices have not been formally documented or adopted. As a part of this study, a number of financial/rate policies were reviewed. These included the following:

- **Reserve Policies:**
 - ✓ *Operating Reserve:* 30 days of O&M expense minimum balance; 90 days target of O&M expenses is recommended
 - ✓ *Impact Fee Reserve:* City utilizes a combined (buy-in plus future) methodology and places impact fees in reserves; the impact fee revenue is reviewed annually for the allotment of funds towards debt service payments and/or growth related capital; no required minimum balance; no change or action recommended
 - ✓ *Equipment Replacement Program Reserve:* New in FY 2021; funding annual reserve based on average of five year plan; policy should be formally documented.
 - ✓ *Capital Improvement & Emergency Reserve:* Minimum balance of \$400,000 maintained for emergencies.
 - ✓ *Bond Reserve:* Based on legal requirements (bond covenants). No formal action needed.
- **Target Debt Service Coverage Ratio:** City's current minimum target for financial planning purposes of 1.25 for an individual utility excluding impact fee revenue in the calculation.
- **Rate Funding of Renewal and Replacement Capital Projects:** Target, as a minimum, one year's annual depreciation expenses as renewal and replacement for each utility. The study has established a phased in approach to increase the rate funding component for capital renewal and replacement to prudent levels equal to a target of two year's annual depreciation or 2.0 for water and 1.5 for wastewater.
- **Funding of Capital Improvement Projects** – City's practice of prudently using available reserves, and rate funded capital improvement project funds to pay for capital improvement projects. The City also reviews impact fee revenues annually for use of

these funds towards growth related debt, or growth related capital improvement projects. The use of long-term debt only as needed.

A more detailed discussion of these financial/rate policies may be found in Section 3 of this report. The financial/rate setting policies discussed herein have been used in the review of each utility.

Summary Results of the Water Utility

The water rate study reviewed the overall adequacy of the existing water rates, at current implemented (adopted) rates. The water utility was evaluated on a financially stand-alone basis. That is, no funding sources other than those generated by the water utility, such as water sales and other water-related fees and revenues, were considered or used to fund water utility expenses.

Water Revenue Requirement Analysis

The starting point of the revenue requirement analysis was the proposed FY 2020 budget. In addition to existing budget levels, additional projected operation costs were included in future years such as additional staff to support operational and new capital infrastructure. The projection of revenues and expenses for future years was based on estimated growth and escalation (inflationary) factors. The study was developed for a six-year period to review future rate needs based on identified operating and capital needs. The focus for rate setting purposes was five-year rate setting period of FY 2021 – FY 2025, which is called the rate transition plan.

A major component within water utility's revenue requirement analysis was the development of the capital improvement funding plan. The development of the rate plan was based on the City's FY 2020 – FY 2025 CIP. The City's water capital improvement plan totals approximately \$30.0 million for the FY 2020 – FY 2025 period. Shown in Table ES-1 below is a summary of the water utility capital improvement plan for the study period.

Table ES – 1
Summary of the Water Capital Improvement Plan (\$000s)

	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Renewal and Replacement	\$1,498	\$1,415	\$6,476	\$1,774	\$3,714	\$1,829
Growth Related Projects	3,808	7,885	208	869	306	234
Transfer to Cash Reserve	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Capital Projects	\$5,305	\$9,300	\$6,684	\$2,644	\$4,019	\$2,063
Less: Outside Funding Sources						
Operating Fund Reserves	\$238	\$5,076	\$249	\$1,129	\$839	\$218
Impact Fee Funds	1,342	150	125	120	120	120
Meter Replacement Cash	151	309	79	0	0	0
Assumed SRF Loans	<u>2,674</u>	<u>2,700</u>	<u>5,000</u>	<u>0</u>	<u>1,500</u>	<u>0</u>
Total Outside Funding	\$4,405	\$8,235	\$5,454	\$1,249	\$2,459	\$338
Rate Funded Capital	\$900	\$1,065	\$1,230	\$1,395	\$1,560	\$1,725

[1] – Summation of table may reflect rounding errors due to decimal points.

A major component of the capital costs includes the annual renewal and replacement needs of the water system. These are items such as the Lower Zone Reservoir Roof project, Noffsinger Rehabilitation Alternative, and booster station upgrades. The CIP also includes a new cellular metering reading system which will be implemented over a ten year period. There are also several larger projects that impact the CIP related to the 1 MG Elevated Storage Tank, and Northwest Well #1 which are primarily related to growth and expansion on the system. The primary funding sources for these projects are assumed to be from a combination of capital reserves, issuance of new long-term debt, and rate funded capital. In addition, future known costs were included in the future years to reflect those changing costs of O&M expenses, staffing, etc. A more detailed summary of the projected changes in overall O&M are included in Section 3 of this report.

The revenue requirement analysis sums the utility’s operating and capital expenses and compares it to the total water revenues to determine the overall rate adjustment required. A rate transition plan was developed for the water utility to smoothly implement the needed rate adjustments. The proposed rate adjustments will also maintain debt service coverage ratios as new long-term issuances occur for the funding of capital projects. This level of rate adjustment will also provide the City financial flexibility, should the need arise, to issue additional long-term debt to fund future capital improvements.

Based upon the revenue requirement analysis developed, HDR recommends the City increase the overall water utility revenue levels by 16.5% in 2021, 10.0% in 2022, 9.5% in 2023, 9.5% in 2024, and 3.0% in 2025. The deficit in 2021 - absent any rate adjustments - is approximately \$527,000 and increases to approximately \$1.6 million by 2025. It should be noted there are not any proposed rate adjustment in FY 2020. Table ES-2 is a summary of the water revenue requirement analysis.

Table ES – 2
Summary of the Water Revenue Requirements (\$000s)

	Proposed	Projected				
	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Revenues						
Rate Revenues	\$3,163	\$3,194	\$3,226	\$3,259	\$3,291	\$3,324
Other Revenues	<u>286</u>	<u>286</u>	<u>263</u>	<u>270</u>	<u>268</u>	<u>263</u>
Total Revenues	\$3,449	\$3,481	\$3,490	\$3,528	\$3,559	\$3,587
Expenses						
O&M Expenses	\$2,491	\$2,226	\$2,293	\$2,362	\$2,484	\$2,560
Equip. Replacement Program	45	119	119	119	119	119
Rate Funded Capital	900	1,065	1,230	1,395	1,560	1,725
Debt Service Payment	520	692	1,004	1,006	1,111	1,016
Less: Impact Fees to Debt	(309)	(122)	(126)	(130)	(134)	(138)
To / (From) Reserves	<u>(198)</u>	<u>27</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Expenses	\$3,449	\$4,008	\$4,521	\$4,752	\$5,141	\$5,282
Bal./ (Defic.) of Funds	(\$0)	(\$527)	(\$1,031)	(\$1,224)	(\$1,582)	(\$1,695)
Bal. / (Def.) as % of Rate Rev	0.0%	16.5%	32.0%	37.6%	48.1%	51.0%
Proposed Revenue Adjustment	0.0%	16.5%	10.0%	9.5%	9.5%	3.0%
Add'l Revenue with Rate Adj.	\$0	\$527	\$908	\$1,314	\$1,765	\$1,936
Bal. / (Def.) After Rate Adj.	\$0	\$0	(\$123)	\$89	\$183	\$242
Key Financial Targets						
Ending Operating Balance	\$7,789	\$2,740	\$2,368	\$1,329	\$673	\$697
Ending Operating Balance Target	\$625	\$578	\$595	\$612	\$642	\$661
Rate Funded Capital	\$900	\$1,065	\$1,230	\$1,395	\$1,560	\$1,725
Rate Funded Capital Target (2.00)	1.07	1.27	1.46	1.66	1.86	2.05
Debt Service Coverage (> 1.25)						
Before Revenue Adjustment	1.75	1.64	1.07	1.04	0.86	0.89
After Proposed Adjustment	1.75	2.40	1.98	2.35	2.45	2.80

[1] – Summation of table may reflect rounding errors due to decimal points.

It should be noted that the balance or deficiencies in any single year are cumulative. That is, any adjustments in the initial years will reduce the deficiency in the following years. Over the six-year period, revenues need to be adjusted by approximately \$1.7 million in order to adequately and properly fund the City's water utility O&M and capital infrastructure needs and meet the financial policies and targets over the five year period.

As was noted in the capital section, the water utility is proposed to rely heavily on the reserve funds and draws approximately \$9.7 million, of both operating and impact fee reserves, over the projected time period to fund capital projects and minimize overall rate impacts. This was feasible given current reserve levels. However, the annual cash flow and ending reserve balances should be monitored each year to make sure that the uses of funds does not place the reserve below the minimum level. Additionally, as the water reserves approach the minimums, the need

for rate adjustments should be evaluated so as to avoid future, large, rate adjustments for customers.

To implement the needed adjustments, a water transition plan was developed. In addition to FY 2020 - FY 2025, the City Council included a recommended 3% rate adjustment beyond FY 2025 to maintain the current level of service for the water utility. Provided in Table ES-3 is the proposed water utility rate transition plan.

Table ES – 3 Summary of the Water Rate Transition Plan								
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Recommended		
						FY 2026	FY 2027	
Proposed Revenue Adjustment	16.5%	10.0%	9.5%	9.5%	3.0%	3.0%	3.0%	

Water Cost of Service Analysis

A water cost of service analysis is concerned with the proportional and equitable distribution of the total water revenue requirement to the various water customer classes of service. The objectives of the water cost of service analysis are different from determining revenue requirements. A revenue requirement analysis determines the utility's overall financial needs, while the cost of service study determines the proportional and equitable manner to collect those revenue requirements.

The customer classes were reviewed and reflect generally accepted customer classes of service and City customer class characteristics. A key element of the study was the review of the consumption patterns by customer type to equitably and proportionally allocate the City's costs of providing service. Based on the identified customer classes of service, each with their own unique customer consumption characteristics, the cost of service can be developed based on generally accepted methodologies (i.e., AWWA M1 Manual).

In summary form, the cost of service analysis began by functionalizing the revenue requirement for the City's water utility. The functionalized revenue requirement was then allocated into the various cost components (e.g., average day, peak day, customer related). The individual allocation totals were then proportionally distributed to the various customer classes of service based on the appropriate distribution factor. The distributed expenses for each customer class were then aggregated to determine each customer class's overall revenue responsibility. As noted, it was determined that the current customer classes were appropriate and are maintained in this analysis. As a result, the cost of service proportionally allocated costs to residential, commercial, and irrigation customer classes. Table ES-4 provides the summary of the cost of service analysis for the FY 2021 test year.

Table ES – 4
Summary of the Water Utility Cost of Service Analysis (\$'000's)

Classes of Service	Present Rate Revenues	Distributed Costs	\$ Difference	% Difference
Residential	\$1,356	\$1,316	\$40	(3.0%)
Commercial	1,145	1,283	(137)	12.0%
Irrigation	598	1,038	(440)	73.5%
Private Fire	<u>94</u>	<u>83</u>	<u>10</u>	<u>(10.9%)</u>
Total	\$3,194	\$3,721	(\$316)	16.5%

[1] – Summation of table may reflect rounding errors due to decimal points.

The allocation of costs reflects the facilities and costs allocated to each customer class with their respective benefit from services. It is important to understand that a cost of service analysis is based on one year's data and customer information. Water usage and the costs incurred by the utility will change from year to year. As such, it is appropriate to determine whether these findings are consistent over time, and adjust accordingly.

The results of the cost of service analysis show that there are differences between the customer classes of service. Specifically, the irrigation (irrigation and sprinkling customers) class shows the need to be increased greater than other customers' classes given the peaking impact these customer place on the system. In addition, the current rate for irrigation (and sprinkling) is less than the consumption rate for all customers. Section 4 of this report provides a detailed discussion of the cost of service analysis conducted for the City's water utility. Given these results, it is recommended that a movement to cost of service results be made as a results of this study. Specifically, the level of the irrigation rate will adjusted to better reflect the cost of service results. The Technical Appendix A contains the various water exhibits and additional details associated with the cost of service analysis.

Water Rate Design Analysis

The final component of the rate study is the development of rates which reflect the overall revenue needs, as developed in the revenue requirement analysis. Based on the review of customer consumption patterns as well as the City's goals and objectives, HDR is recommending that the City maintain their current water rate structures for all customer classes of service (e.g., residential, commercial, irrigation).

In the establishment of rates, it is important to understand how the water utility generates revenues from rates. Generally a majority of the water utility revenues are generated through the consumption charge, which is variable and dependent on water use by customers. Given this, the relationship between fixed and variable (consumption) charges should be reviewed as a part of a rate study. As would be expected for the water utility, the current rates are generating approximately 29.4% of the revenues through the fixed charge and 70.6% through the variable charge. Given the proportion of charges collected through the variable (volumetric) portion of

the rate, this further shows that the rate structure is designed to encourage conservation which is growing increasingly important to the public.

The proposed residential and commercial rate design is based on holding the fixed charge to the overall rate adjustment, updating the meter charge to updated meter replacement costs, and remaining being collected through the consumption charge for FY 2021. A cost of service adjustment in FY 2021 is recommended that would remove (eliminate) the sprinkling rate for residential, and all consumption is charged at a single rate. In addition, the irrigation rate will be set at the same rate as the rate for all other customer consumption charge. The option for a “skip bill” on fixed and meter charges when customers are not home is also eliminated.

All the rate adjustments after FY 2021 are across the board increases, where all rate components have been adjusted based on the overall percentage change in revenue needed as identified in the revenue requirement. Table ES-5 summarizes the present and proposed rate structure for residential and commercial monthly water rates from FY 2021 to FY 2027.

Table ES – 5 Present and Proposed Residential & Commercial-Monthly Water Rates								
	Present	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Proposed Adjustment		16.5%	10.0%	9.5%	9.5%	3.0%	3.0%	3.0%
Fixed Charge (per meter/month)	\$7.50	\$8.74	\$9.61	\$10.52	\$11.52	\$11.87	\$12.23	\$12.60
Meter Size (per meter/month)								
3/4"	\$0.80	\$1.10	\$1.21	\$1.32	\$1.45	\$1.49	\$1.53	\$1.58
1"	1.38	1.69	1.86	2.04	2.23	2.30	2.37	2.44
1 1/2"	2.68	3.09	3.40	3.72	4.07	4.19	4.32	4.45
2"	3.75	4.45	4.90	5.37	5.88	6.06	6.24	6.43
3"	14.10	10.29	11.32	12.40	13.58	13.99	14.41	14.84
4"	19.88	14.24	15.66	17.15	18.78	19.34	19.92	20.52
6"	22.64	22.64	24.90	27.27	29.86	30.76	31.68	32.63
Hosting Fee (per metering system) ^[1]		0.89	0.89	0.89	0.89	0.89	0.89	0.89
Consumption Charge (\$/1,000 Gal.)	\$2.43	\$2.48	\$2.73	\$2.99	\$3.27	\$3.37	\$3.47	\$3.57
Sprinkling								
Consumption Charge (\$/1,000 Gal.)	\$1.55	\$2.48	\$2.73	\$2.99	\$3.27	\$3.37	\$3.47	\$3.57

[1] Fee subject to City’s metering system.

The proposed residential and commercial water rates maintain the current rate structure. However, the sprinkling rate for residential is eliminated and all consumption will be charged at the same rate. This includes a fixed charge, meter charge based on meter size, and a consumption charge for all consumption.

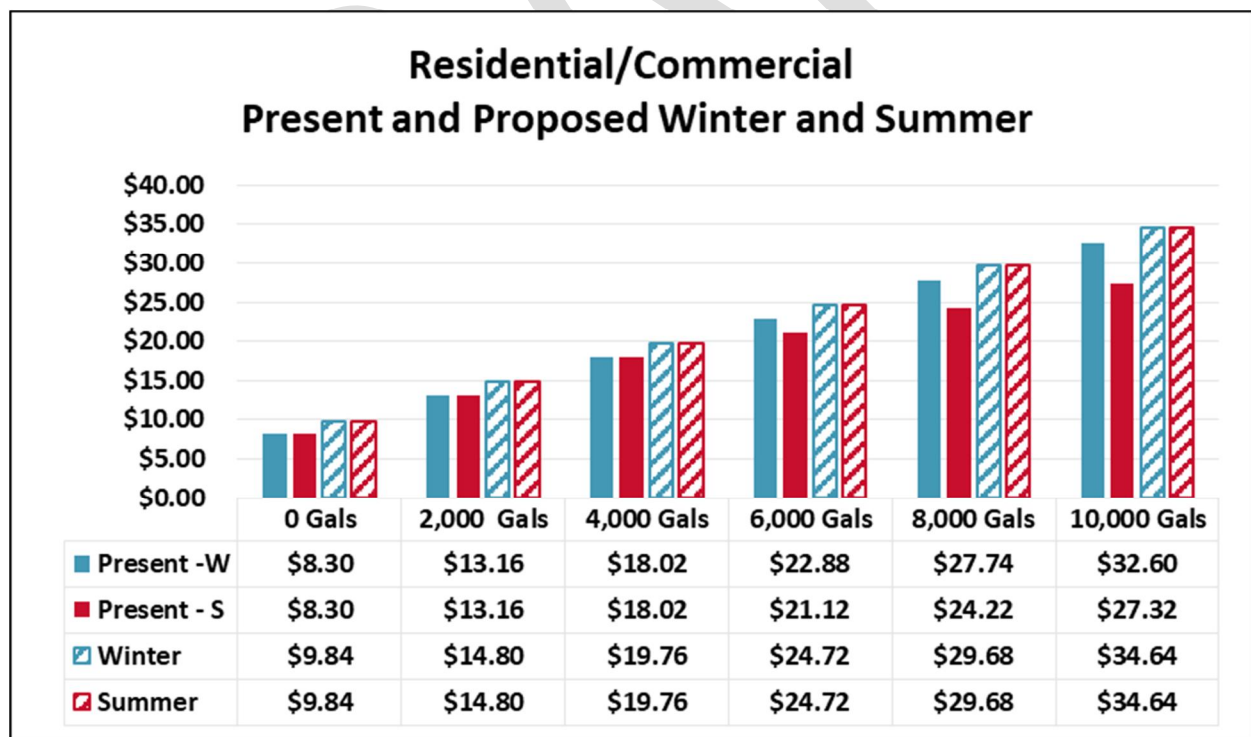
At present rates, a typical residential customer with a 3/4-inch meter and 6,000 gallons of consumption per month would pay \$22.88 monthly. Under the proposed rates, the same customer would pay \$24.72 in 2021, a \$1.84 monthly increase. Table ES-6 shows the average residential bill for the rate period of FY 2021 to FY 2027.

**Table ES – 6
Summary of the Average Residential Water Bill**

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Proposed Revenue Adjustment	16.5%	10.0%	9.5%	9.5%	3.0%	3.0%	3.0%
Present Avg. Residential Bill ^[1]	\$22.88						
Avg. Monthly Residential Bill	\$24.72	\$27.20	\$29.78	\$32.59	\$33.58	\$34.58	\$35.60
Monthly \$ Change	1.84	2.48	2.58	2.81	0.99	1.00	1.02
Cumulative \$ Change	1.84	4.32	6.90	9.71	10.70	11.70	12.72

[1] - Average bill based on 3/4-inch meter, 6,000 gallons per month.

The bill comparison graph provides a range of customer bill impacts assuming typical monthly consumption at various times of the year for FY 2021.

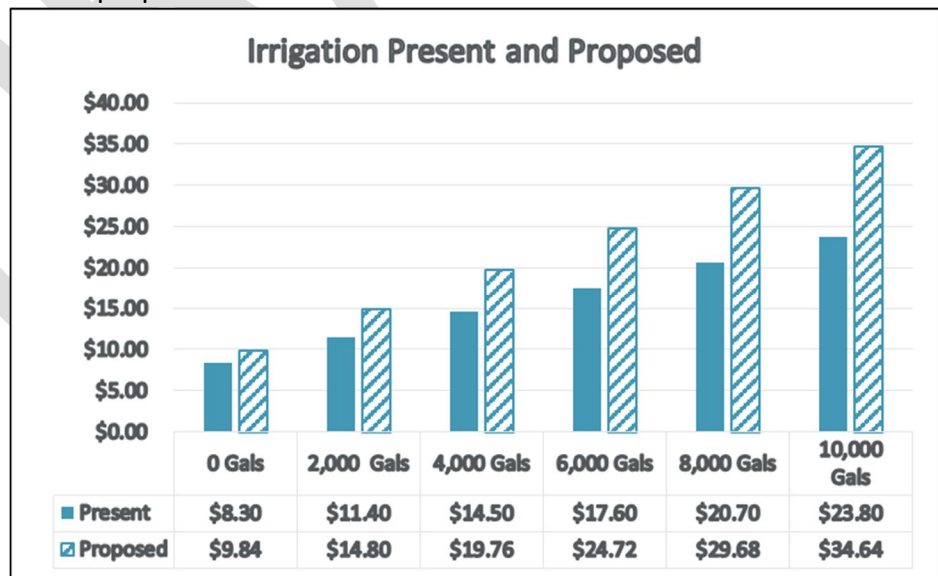


The proposed irrigation rate design is based on holding the fixed charge to the overall rate adjustment, updating the meter charge to current replacement costs, and remaining being collected through the consumption charge for FY 2021. All the rate adjustments after FY 2021 are across the board increases. Table ES-7 summarizes the present and proposed rate structure for irrigation monthly water rates from FY 2021 to FY 2027.

Table ES – 7 Present and Proposed Irrigation-Monthly Water Rates								
	Present	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Proposed Adjustment		16.5%	10.0%	9.5%	9.5%	3.0%	3.0%	3.0%
Fixed Charge (per meter/month)	\$7.50	\$8.74	\$9.61	\$10.52	\$11.52	\$11.87	\$12.23	\$12.60
Meter Size (per meter/month)								
3/4"	\$0.80	\$1.10	\$1.21	\$1.32	\$1.45	\$1.49	\$1.53	\$1.58
1"	1.38	1.69	1.86	2.04	2.23	2.30	2.37	2.44
1 1/2"	2.68	3.09	3.40	3.72	4.07	4.19	4.32	4.45
2"	3.75	4.45	4.90	5.37	5.88	6.06	6.24	6.43
Hosting Fee (per metering system) ^[1]		0.89	0.89	0.89	0.89	0.89	0.89	0.89
Consumption Charge (\$/1,000 Gal.)	\$2.43	\$2.48	\$2.73	\$2.99	\$3.27	\$3.37	\$3.47	\$3.57

[1] Fee subject to City’s metering system.

The proposed irrigation water rates maintained the current rate structure. However, the irrigation consumption rate is proposed to be the same level as residential and commercial consumption. This includes a fixed charge, meter charge based on meter size, and a consumption charge for all consumption. At present rates, a typical irrigation customer with a 3/4-inch meter and 6,000 gallons of consumption per month would pay \$17.60 monthly. Under the proposed rates, the same customer would pay \$24.72 in 2021, a \$7.12 monthly increase. The bill comparison graph provides a range of customer bill impacts assuming typical monthly consumption at various times of the year.



The proposed private fire protection rate structure is maintained and there is no adjustment in FY 2021. All the rate adjustments after FY 2021 are across the board increases based on the overall revenue adjustments identified in the revenue requirement analysis. Table ES-8 summarizes the present and proposed rate structure for private fire protection monthly rates.

Table ES – 8 Present and Proposed Private Fire Protection Monthly Rates								
	Present	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Proposed Adjustment		16.5%	10.0%	9.5%	9.5%	3.0%	3.0%	3.0%
Meter Size (Monthly Service Connection)								
2"	\$24.80	\$24.80	\$27.28	\$29.87	\$32.71	\$33.69	\$34.70	\$35.74
3"	29.25	29.25	32.18	35.24	38.59	39.75	40.94	42.17
4"	32.50	32.50	35.75	39.15	42.87	44.16	45.48	46.84
6"	40.10	40.10	44.11	48.30	52.89	54.48	56.11	57.79
8"	51.00	51.00	56.10	61.43	67.27	69.29	71.37	73.51
10"	70.35	70.35	77.39	84.74	92.79	95.57	98.44	101.39

The proposed rate designs are further reviewed and discussed in Section 4 of this report.

Summary Results of Wastewater Utility

Similar to the water rate study, the wastewater rate study determined the overall adequacy of the existing wastewater rates, on a financial stand-alone basis, at the current rate levels. That is, no funding sources other than those generated by the wastewater utility were used to fund wastewater utility expenses. For the wastewater rate study, a concerted effort was made to minimize rate impacts over the five year review period. This was accomplished by using reserve funds to finance the impact of increased expenses of, and to, the utility, slowly drawing down reserves.

Wastewater Revenue Requirement Analysis

As with the water analysis, the starting point of the wastewater revenue requirement analysis was the proposed FY 2020 budget. HDR developed a projection of revenues and expenses for future years based on assumed escalation (inflationary) factors. The wastewater study developed a 6-year period to review future rate needs based on operating and capital needs, however, the focus for purposes of rate setting was the next five-year period (FY 2021 – FY 2025). The wastewater utility includes a wholesale customer, Evergreen, which receives treatment services and no collection services or costs. In order to adequately review the cost of service for this customer the wastewater treatment and collection revenue requirement was split into these two services. A rate transition plan was developed for this five-year time period in a way that creates a smooth transition to fully funding the utility in the future.

The wastewater capital funding plan was developed in a manner similar to the water utility. The adopted FY 2020 – FY 2025 CIP was used as the starting point. HDR then worked with the City’s staff to develop a funding plan that provided the needed revenue to construct the projects but also minimized the long-term rate impacts to customers. The City’s wastewater capital improvement plan totals approximately \$20.5 million in treatment projects, and \$22.5 million in collection projects for the FY 2020 through FY 2025 rate setting period. A major component of the capital costs includes treatment projects of construction of a new EQ basin converted to future primary clarifier, install of dome covers for the secondary clarifiers, and construction of a composting facility. Collection capital costs include lift station #3, Grandview lift station, and gravity sewer replacement projects. Shown below in Table ES–9 is a summary of the wastewater capital improvement plan.

Table ES – 9						
Summary of the Wastewater Capital Improvement Plan (\$000s)						
	FY2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Treatment						
Renewal and Replacement	\$1,042	\$117	\$158	\$507	\$4,976	\$156
Growth Related Projects	584	2,382	113	259	3,107	5
Regulatory Projects	<u>0</u>	<u>403</u>	<u>3,199</u>	<u>1,621</u>	<u>150</u>	<u>1,786</u>
Total Capital Improvement Projects	\$1,626	\$2,902	\$3,470	\$2,387	\$8,233	\$1,946
Less: Outside Funding Sources						
Operating Fund Reserves	\$192	\$325	\$325	\$325	\$325	\$0
Impact Fee Funds	584	225	225	225	225	796
Assumed SRF Loans	<u>0</u>	<u>1,442</u>	<u>1,950</u>	<u>807</u>	<u>6,593</u>	<u>0</u>
Total Outside Funding	\$776	\$1,982	\$2,500	\$1,347	\$7,133	\$796
Treatment Rate Funded Capital	\$850	\$910	\$970	\$1,030	\$1,090	\$1,150
Collection						
Renewal and Replacement	\$1,368	\$2,439	\$2,389	\$3,706	\$2,252	\$414
Growth Related Projects	<u>3,235</u>	<u>1,890</u>	<u>1,032</u>	<u>2,005</u>	<u>1,359</u>	<u>423</u>
Total Capital Improvement Projects	\$4,603	\$4,330	\$3,420	\$5,711	\$3,612	\$837
Less: Outside Funding Sources						
Operating Fund Reserves	\$3,632	\$0	\$0	\$0	\$0	\$0
Developer Contribution	0	0	0	0	1,041	0
Impact Fee Funds	451	550	550	550	550	17
Assumed SRF Loans	<u>0</u>	<u>3,200</u>	<u>2,230</u>	<u>4,461</u>	<u>1,261</u>	<u>0</u>
Total Outside Funding	\$4,083	\$3,750	\$2,780	\$5,011	\$2,852	\$17
Collection Rate Funded Capital	\$520	\$580	\$640	\$700	\$760	\$820
Total Rate Funded Capital	\$1,370	\$1,490	\$1,610	\$1,730	\$1,850	\$1,970

[1] – Summation of table may reflect rounding errors due to decimal points.

Table ES-9 shows the capital funding for the projects in the CIP are funded by either operating or impact fee reserves, annually through rates, or assumed SRF loans. The City will need to closely monitor the operating and impact fee fund reserve levels to make sure it is not severely depleted due to over-use of reserve funds for capital. In addition, future known costs were included in the future years to reflect those changing costs of O&M expenses, staffing, etc. A more detailed summary of the projected changes in overall O&M are included in Section 4 of this report.

Once the wastewater utility's operating and capital expenses are summed, a comparison to the total wastewater revenues can be made to determine the size and timing of any needed rate (revenue) adjustments. The summary of the wastewater revenue requirement is shown below in Table ES-10. It indicates the need for rate adjustments in order to properly fund the wastewater utility.

Table ES – 10						
Summary of the Wastewater Revenue Requirements (\$000s)						
	Proposed	Projected				
	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Revenues						
Rate Revenues	\$4,634	\$4,634	\$4,681	\$4,727	\$4,775	\$4,822
Other Revenues	<u>77</u>	<u>31</u>	<u>35</u>	<u>39</u>	<u>36</u>	<u>30</u>
Total Revenues	\$4,711	\$4,666	\$4,716	\$4,766	\$4,810	\$4,853
Expenses						
O&M Expenses	\$3,365	\$3,383	\$3,444	\$3,799	\$3,958	\$4,071
Equip. Replacement Program	44	169	169	169	169	169
Rate Funded Capital	1,370	1,490	1,610	1,730	1,850	1,970
Debt Service Payment	1,848	2,147	2,448	2,821	3,297	3,296
Less: Impact Fees to Debt	(891)	(245)	(252)	(260)	(267)	(307)
To / (From) Reserves	<u>(1,024)</u>	<u>(141)</u>	<u>80</u>	<u>80</u>	<u>80</u>	<u>80</u>
Total Expenses	\$4,711	\$6,803	\$7,499	\$8,340	\$9,087	\$9,279
Bal./(Defic.) of Funds	\$0	(\$2,138)	(\$2,783)	(\$3,574)	(\$4,277)	(\$4,426)
Bal. / (Def.) as % of Rate Rev	0.0%	46.1%	59.5%	75.6%	89.6%	91.8%
Proposed Revenue Adjustment	0.0%	46.1%	6.5%	6.5%	6.5%	6.5%
Add'l Revenue with Rate Adj.	\$0	\$1,771	\$2,611	\$3,592	\$4,031	\$4,482
Bal. / (Def.) After Rate Adj.	\$0	(\$367)	(\$171)	\$18	(\$246)	\$56
Key Financial Targets						
Ending Operating Balance	\$4,262	\$3,349	\$2,852	\$2,545	\$1,974	\$2,030
Ending Operating Balance Target	\$840	\$876	\$891	\$978	\$1,018	\$1,046
Rate Funded Capital	\$1,370	\$1,490	\$1,610	\$1,730	\$1,850	\$1,970
Rate Funded Capital Target (2.00)	1.00	1.09	1.18	1.26	1.35	1.44
Debt Service Coverage (> 1.25)	0.70	1.34	1.52	1.56	1.43	1.55

[1] – Summation of table may reflect rounding errors due to decimal points.

Table ES–10 shows the total deficiency of revenues before any wastewater rate adjustments ranges from \$2.1 million in FY 2021 to \$4.4 million by FY 2025. The proposed revenue adjustments are designed to provide sufficient revenue to fund the annual O&M and capital needs of the wastewater utility, as well as maintaining strong financial metrics such as debt service coverage ratios and ending reserve balances. The key financial targets are met during the projected time frame based on the proposed revenue adjustments.

As was noted in the capital section, the wastewater utility is proposed to rely heavily on the reserve funds and draws approximately \$5.5 million over the projected time period to fund capital projects and minimize overall rate impacts. This was feasible given adequate current reserve levels and results in inflationary level rate adjustments. However, the annual cash flow and ending reserve balances should be reviewed each year to make sure that the uses of funds does not place the reserve below the minimum level. Additionally, as the wastewater reserves approach the minimums, the need for rate adjustments should be evaluated so as to avoid future, large rate adjustments for customers.

To implement the needed adjustments, a wastewater transition plan was developed. Provided in Table ES-11 is the proposed wastewater utility rate transition plan. In addition to FY 2020 - FY 2025, the City Council included a recommended 3% rate adjustment beyond FY 2025 to maintain the current level of service for the sewer utility.

Table ES – 11 Summary of the Wastewater Rate Transition Plan							
	FY 2021 ^[1]	FY 2022	FY 2023	FY 2024	FY 2025	Recommended	
						FY 2026	FY 2027
Proposed Revenue Adjustment	46.1%	6.5%	6.5%	6.5%	6.5%	3.0%	3.0%

[1] – The City (collection and treatment) portion is 49.4%, and Evergreen (treatment) is 18.5% based on cost of service. In total this is 46.1%. See Table ES-12.

Wastewater Cost of Service Analysis

Similar to the water cost of service analysis, a wastewater cost of service analysis is concerned with the proportional and equitable distribution of the total wastewater revenue requirement to the various wastewater customer classes of service. The cost of service analysis allocates costs between the various customer classes of service based on each customer classes proportional share of volume, strength and customer-related costs. The customer classes for the City’s study are the City’s customers, both residential and commercial, and Evergreen. Collection costs are all borne by City customers while treatment costs are allocated and distributed proportionally between the City and Evergreen based on the current agreement. In summary form, the cost of service analysis began by functionalizing the revenue requirement for the City into the treatment and collection components for City (treatment and collection) and Evergreen (treatment only). The functionalized revenue requirement was then allocated into the various cost components (e.g., volume, strength, customer related). The individual allocation totals were then proportionally distributed to the various customer classes of service based on the appropriate

distribution factor. The distributed expenses for each customer class were then aggregated to determine each customer class’s overall revenue responsibility. As a result, the cost of service proportionally allocated treatment and collection costs to the City’s customers and only treatment costs to Evergreen. Table ES–12 provides the summary of the cost of service analysis for the FY 2021 test year.

Table ES – 12 Summary of the Wastewater Utility Cost of Service Analysis (\$000's)				
Classes of Service	Present Rate Revenues	Distributed Costs	\$ Difference	% Difference
City				
Treatment	\$2,966	3,548	(582)	19.6%
Collection	<u>1,180</u>	<u>2,645</u>	<u>(1,465)</u>	<u>124.1%</u>
Total	\$4,146	\$6,193	(\$2,047)	49.4%
Evergreen	<u>488</u>	<u>578</u>	<u>(90)</u>	<u>18.5%</u>
Total	\$4,634	\$6,772	(\$1,964)	46.1%

[1] – Summation of table may reflect rounding errors due to decimal points.

The allocation of costs reflects the facilities and costs allocated to each customer class with their respective benefit from services. It is important to understand that a cost of service analysis is based on one year’s data and customer information. The usage volumes and the costs incurred by the utility will change from year to year. As such, it is appropriate to determine whether these findings are consistent over time, and adjust accordingly. Section 5 of this report provides a detailed discussion of the cost of service analysis conducted for the City. Given the results of the cost of service analysis, HDR would recommend the treatment rates be adjusted to reflect the treatment cost of service. The Technical Appendix B contains the various wastewater exhibits and additional details associated with the cost of service analysis.

Wastewater Rate Design Analysis

The proposed wastewater rate designs maintain their current rate structure. It is proposed that only the level of the wastewater rates be adjusted based on the recommendations of the study. All components of the rate structure – fixed and variable – are proposed to be increased to meet the target revenue levels based on the rate transition plan. In addition to the FY 2020 - FY 2025, the City Council included a 3% rate adjustment beyond FY 2025 to maintain the current level of service for the sewer utility. Table ES-13 summarizes the present and proposed rate structure for all customers, combined treatment and collection.

**Table ES – 13
Present and Proposed Monthly Wastewater Rates**

	Present	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Proposed Adjustment		49.4%	6.5%	6.5%	6.5%	6.5%	3.0%	3.0%
Fixed Charge (per account)	\$8.44	\$12.61	\$13.43	\$14.30	\$15.23	\$16.22	\$16.71	\$17.21
Volume Charge (\$/1,000 Gal.)	\$4.78	\$7.14	\$7.60	\$8.09	\$8.62	\$9.18	\$9.46	\$9.74

All components of the rate structure – fixed and variable – are proposed to be increased to meet the target revenue levels based on the rate transition plan. At present rates, a typical residential customer with 4,000 gallons of usage per month would pay \$27.56 monthly. Under the proposed rates, the same customer would pay \$41.17 in FY 2021, a \$13.64 monthly increase. Table ES-14 shows the average residential bill for the rate period of FY 2021 to FY 2027.

**Table ES – 14
Summary of the Average Residential Wastewater Bill**

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Proposed Revenue Adjustment	49.4%	6.5%	6.5%	6.5%	6.5%	3.0%	3.0%
Present Avg. Residential Bill ^[1]	\$27.56						
Avg. Monthly Residential Bill	\$41.17	\$43.83	\$46.66	\$49.71	\$52.94	\$54.55	\$56.17
Monthly \$ Change	13.61	2.66	2.83	3.05	3.23	1.61	1.62
Cumulative \$ Change	13.61	16.27	19.10	22.15	25.38	26.99	28.61

[1] - Average bill based on 4,000 gallons per month.

For Evergreen, the proposed adjustment is based on the cost of service results for FY 2021 of 18.5%. Provided below in Table ES-15 are the present and proposed monthly wastewater rates for Evergreen, for treatment only.

Table ES – 15
Present and Proposed Monthly Evergreen Wastewater Rates^{[1][2]}

	Present	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Proposed Adjustment		18.5%	6.5%	6.5%	6.5%	6.5%	3.0%	3.0%
Fixed Charge (per account)	\$6.22	\$7.37	\$7.85	\$8.36	\$8.90	\$9.48	\$9.76	\$10.05
Volume Charge (\$/1,000 Gal.)	\$2.50	\$2.96	\$3.15	\$3.35	\$3.57	\$3.80	\$3.91	\$4.03

[1] – Evergreen present base rate is \$6.22 [Base = \$8.44; Evergreen is 73.7% of \$8.44 = \$6.22].

[2] – Evergreen present volume rate is \$2.50 [Volume = (\$4.78 - I/I \$1.13 - Billing \$0.26 = \$3.39); Evergreen is 73.7% of \$3.39 = \$2.50].

In addition to the current rates the City has strength surcharges for when a customer goes over set limit components. Provided below in Table ES – 16 are the present and proposed monthly surcharge rates.

Table ES – 16
Proposed Wastewater Surcharge Rates^[1]

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Bio-chemical Oxygen Demand > 250 mg/l (\$ / Lbs.)	\$0.16	\$0.17	\$0.18	\$0.19	\$0.20	\$0.21	\$0.22
Suspended Solids > 250 mg/l (\$ / Lbs.)]	0.71	0.75	0.80	0.85	0.91	0.94	0.97
Phosphorous > 7 mg/l (\$ / Lbs.)	6.10	6.49	6.91	7.36	7.84	8.08	8.32
Nitrogen > 40 mg/l (\$ / Lbs.)	1.25	1.33	1.42	1.51	1.61	1.66	1.71

[1] – BOD and SS currently assessed on a different approach. Phosphorus and Nitrogen are new surcharges in FY 2021.

Summary of the Water and Wastewater Rate Study

The adequacy of the City’s water and wastewater rates were reviewed based on the current system and customer information of each utility. Based on the analyses developed herein, which included the budgeted operating and capital expenses, a comprehensive set of revenue recommendations for each utility has been developed. The following sections of the report provide a more detailed discussion of the technical analyses undertaken, along with the findings, conclusions and recommendations of the study.