CITY OF

Kyle

Water and Wastewater Cost of Service Study

Final Report / October 9, 2025

RAFTELIS

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RAFTELIS

October 9, 2025

Mr. Bryan Langley
City Manager
100 W. Center Street
Kyle, TX 78640-9450

Subject: Water and Wastewater Cost of Service Study

Dear Mr. Langley,

Raftelis Financial Consultants, Inc. (Raftelis) is pleased to provide this Water and Wastewater Cost of Service Study (Study) for the City of Kyle (City). This report summarizes the key study findings and recommendations.

The critical outcomes of the study include the following:

1. A **financial plan** that establishes the revenues necessary to sustainably fund the ongoing provision of safe and reliable water and wastewater service.
2. A **cost-of-service analysis** that assigns responsibility for water and wastewater utility costs to customer classes based on how each class uses the City's water and wastewater system.
3. **Rate recommendations** that reasonably align with the class cost of service and achieve the City's objectives.

This report summarizes our key findings and recommendations related to the development of the financial plan, cost of service analysis, and rate recommendations.

This report represents the culmination of months of work, not only on behalf of the Raftelis project team but also of City staff. We truly appreciate your and your staff's responsiveness in providing the information needed to complete the study and helpful feedback on study deliverables. It has been a pleasure working with you, and we thank you and City staff for the support provided during this study.

Sincerely,

Angie Flores

Angie Flores
Vice President

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Austin, TX 78704
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Executive Summary

Introduction

In 2024, Raftelis completed a Water and Wastewater Utility Cost of Service Rate Study (Study) to determine the necessary level of rate revenue required to meet annual operating expenses, payments on existing debt service, and funding the capital improvement program while maintaining financial performance metrics. In that study, Raftelis completed a cost-of-service analysis for Inside City Limit customers. They developed a financial planning model for the City that considered a five-year planning period.

In 2025, Raftelis updated the City's 2025 rate model with the latest data available. In this update, the primary Study objectives were to:

- Update the water and wastewater financial plan for the 5-year study period, FY 2025 through FY 2030.
- Determine rate increases required for Inside City Limit (ICL) customers
- Analyze the cost of providing water and wastewater and determine the rate adjustments for FY 2026 to Outside City Limit (OCL) customer classes.

Background

The City of Kyle (City) serves approximately 15,000 water and wastewater accounts in the greater Kyle area. The City's water and wastewater funds are separate enterprise funds that are financially self-sufficient, with funding for capital and operating requirements derived primarily from rates, interest income, and other miscellaneous sources.

Operations and Maintenance (O&M), repair and replacement of depreciating assets, capital improvement plan (CIP), and debt service reserves and expenses are recovered through the City's monthly water and wastewater user charges. User charge revenue is designed to meet revenue requirements, debt service coverage, and maintain appropriate reserves. Growth-related capital projects are partially funded with impact fees.

Assumptions

Raftelis incorporated the following key assumptions into the Study. Changes in these assumptions could have a material effect on the Study findings.

- The number of accounts for all customer classes increases by 6% through 2026 and 2% in the years following
- Consumption and peaking factors are based on a 3-year average
- Overall O&M costs are anticipated to increase between 3.0 and 6.0% annually.

The water and wastewater utility will maintain an operating reserve of 25% of annual O&M, debt service, and transfer expenses.

Financial Plan Findings and Recommendations

Key Finding: Current revenue levels are insufficient to sustainably fund the ongoing provision of safe and reliable water and wastewater service from FY 2025 to FY 2030.

Recommendations: Raftelis recommends changes to the fixed rates for water and wastewater, and varying changes by class to the volume rates. Table 1 and Table 2 show the changes in the monthly water fixed charges. ICL and OCL classes pay the same monthly fixed charges based on meter size. Table 3 and Table 4 show the Wastewater

Monthly Fixed Charges. Table 5, Table 6, Table 7, and Table 8 show the Water and Wastewater Volumetric Charges, respectively.

Table 1: Water Monthly Fixed Charge – ICL Classes

Meter Size	Existing	Recommended	$ Increase	% Increase
¾" or 5/8"	$42.24	$50.69	$8.45	20%
1"	$63.33	$75.99	$12.67	20%
1 ½"	$105.53	$126.64	$21.11	20%
2"	$211.10	$253.32	$42.22	20%
3"	$337.75	$405.30	$67.55	20%
4"	$675.51	$810.61	$135.10	20%
6"	$1,055.48	$1,266.58	$211.10	20%
8"	$2,110.94	$2,533.13	$422.19	20%

Table 2: Water Monthly Fixed Charge – OCL Classes

Meter Size	Existing	Recommended	$ Increase	% Increase
¾" or 5/8"	$52.13	$92.31	$40.18	77%
1"	$78.21	$138.50	$60.29	77%
1 ½"	$130.36	$230.85	$100.49	77%
2"	$260.71	$461.68	$200.97	77%
3"	$417.12	$738.66	$321.54	77%
4"	$834.24	$1,477.32	$643.08	77%
6"	$1,303.51	$2,308.32	$1,004.81	77%
8"	$2,607.02	$4,616.65	$2,009.63	77%

Table 3: Wastewater Monthly Fixed Charges – ICL Classes

Meter Size	Existing	Recommended	$ Increase	% Increase
All Meters	$22.86	$24.23	$1.37	6%
Residential Sewer only	$53.23	$56.42	$3.19	6%

Table 4: Wastewater Monthly Fixed Charges – OCL Classes

Meter Size	Existing	Recommended	$ Increase	% Increase
All Meters	$29.38	$39.54	$10.16	35%
Residential Sewer only	$71.16	$95.76	$24.60	35%

Table 5: ICL Water Volumetric Charges

Residential (Blocks)	Existing	Recommended	$ Increase	% Increase
0 – 4,000	$5.87	$7.04	$1.17	20%
4,001 – 8,000	$7.34	$8.81	$1.47	20%
8,001 – 12,000	$8.81	$10.57	$1.76	20%
12,001 – 16,000	$10.28	$12.34	$2.06	20%
16,001 – 20,000	$11.74	$14.09	$2.35	20%
20,001 – 30,000	$13.21	$15.85	$2.64	20%
30,001 – 50,000	$14.68	$17.62	$2.94	20%
Over 50,000	$17.61	$21.13	$3.52	20%
Multi-Family (All Volumes)	$12.12	$14.54	$2.42	20%
Commercial (All Volumes)	$10.58	$12.70	$2.12	20%
Irrigation (All Volumes)	$14.62	$17.54	$2.92	20%

Table 6: OCL Water Volumetric Charges

Residential (Blocks)	Existing	Recommended	$ Increase	% Increase
0 – 4,000	$6.92	$12.21	$5.29	76%
4,001 – 8,000	$8.64	$15.25	$6.61	76%
8,001 – 12,000	$10.36	$18.28	$7.92	76%
12,001 – 16,000	$12.09	$21.34	$9.25	76%
16,001 – 20,000	$13.80	$24.36	$10.56	76%
20,001 – 30,000	$15.55	$27.44	$11.89	76%
30,001 – 50,000	$17.27	$30.48	$13.21	76%
Over 50,000	$20.72	$36.57	$15.85	76%
Multi-Family (All Volumes)	$12.47	$40.14	$27.67	222%
Commercial (All Volumes)	$12.47	$40.14	$27.67	222%
Irrigation (All Volumes)	$14.54	$35.29	$20.75	143%

Table 7: Wastewater ICL Volumetric Charges

	Existing	Recommended	$ Increase	% Increase
Residential	$4.09	$4.34	$0.25	6%
Non-Residential	$8.23	$8.72	$0.49	6%

Table 8: Wastewater OCL Volumetric Charges

	Existing	Recommended	$ Increase	% Increase
Residential	$5.69	$7.24	$1.55	27%
Non-Residential	$6.43	$9.86	$3.43	53%
Commercial Sewer only	$6.43	$7.67	$1.24	19%

Financial Plan

The City's water and wastewater fund is a self-supporting enterprise fund. This section develops a financial plan forecast for the summary of the operating fund for the 5-year study period, FY 2025 through FY 2030. The financial plan provides the City with an outlook and recommended rate adjustments, if applicable.

The primary objective of financial planning involves comparing forecasted utility revenues under existing rates to forecasted expenditures and determining what annual adjustments to revenues are necessary to ensure the financial sustainability of the water and wastewater utility going forward. This involves three steps:

1. Forecast revenue under existing rates (Sources of Funds)
2. Forecast utility operating expenses and capital expenditures (Revenue Requirement)
3. Evaluate the sufficiency of existing revenues and adjustments needed to fund utility expenditures in a financially sustainable fashion

WATER FINANCIAL PLAN

The operating fund tracks financial activities associated with operating and maintaining the water system. The utility has an impact fee fund that supports the capital fund and tracks financial activities of capital expenditures related to serving new customer growth.

Sources of Funds

Operating fund revenue primarily derives from water rates, miscellaneous revenues, and investment income. Water service revenue represents the most significant source of revenue to the operating fund, averaging approximately 94% of total revenue. The remaining 6% is from miscellaneous revenue and investment income.

Water service revenue under existing rates is based on water customer consumption and a detailed analysis of historical utility billing records and discussions with City staff. A 3-year average consumption per connection by customer class (e.g., Residential, Commercial, Multi-Family, Irrigation) was used to forecast consumption. The number of accounts for Residential and Non-Residential accounts are projected to grow 6.0%. Miscellaneous revenues are held steady or increased slightly to be conservative and recognize the variability of such sources of income.

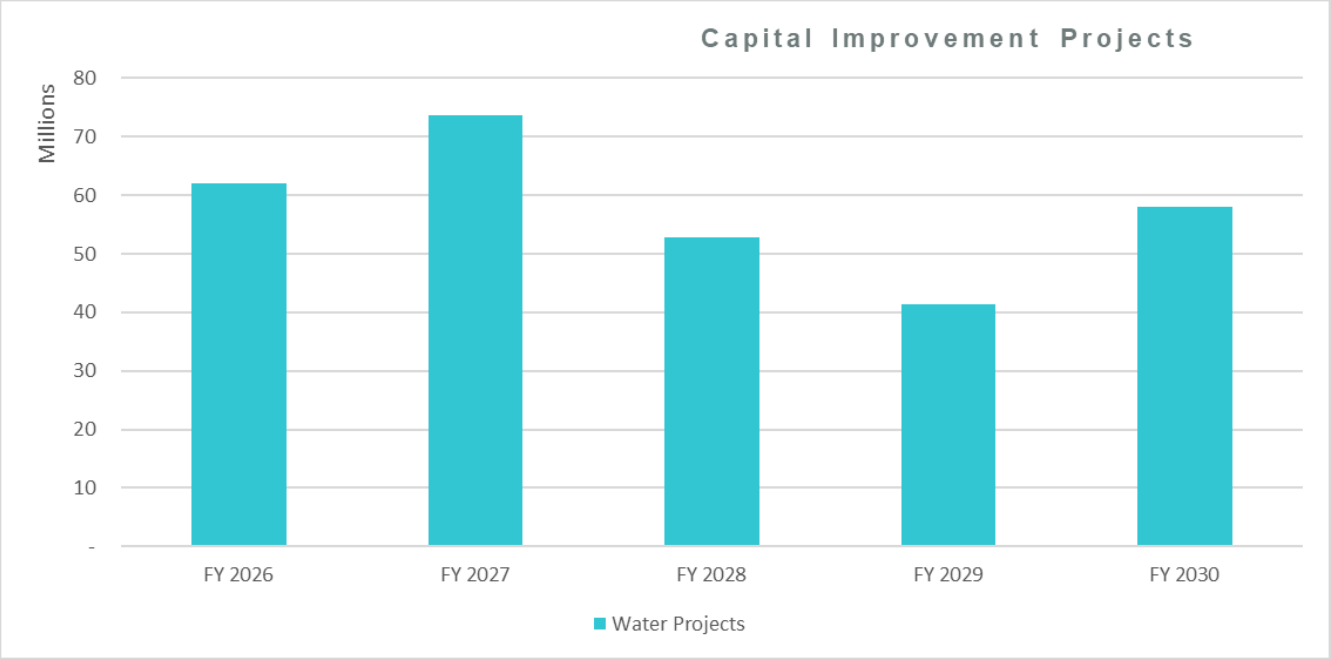
Uses of Funds

Uses of funds include O&M, debt service, and cash-funded CIP. O&M consists of personnel, materials, supplies, and contractual services to supply, treat, and distribute water to customers. O&M also includes obligations from the purchase of (ARWA) water, the cost of a raw water transmission line from (GBRA), and services provided by other departments within the City. O&M expenses are projected to increase between 3% – 6.0%

Over the last few years, the City has grown precipitously, being named one of the fastest-growing Cities in the Country. This sort of rapid growth puts growing pressure on utility operations. O&M is expected to increase approximately 23% from FY 2025 to FY 2026. Much of this increase can be attributed to increased water supply needs and the cost of sourcing and transporting this newly purchased water. Total expenditures for the system are expected to increase by an average of 23% each year throughout the Study. Much of the increase in total spending is being driven by a robust CIP comprising needed upgrades and additions to the system to keep up with the City's growth. Due to the extensive nature of the CIP, the City will need to issue debt throughout FY 2026 through FY 2030 in an amount estimated at $249 million. The City also uses impact fees and other sources to fund the CIP portion required to serve growth. The City regularly updates its Impact Fee Study to ensure that impact fee revenue

is optimized and the latest capital project costs are recovered. Figure 1 illustrates the projected CIP spending over the 5-year study period.

Figure 1: Water 5-year CIP Spending Plan ($ in millions)



Revenue Sufficiency

The final step in the financial planning process involves compiling a cash flow forecast, which identifies the revenue adjustments necessary to ensure financial sustainability. As indicated by Figure 2, revenue levels at existing rates are insufficient to sustainably fund the ongoing provision of safe and reliable water. The City will therefore need to increase rates in each year of the study to keep up with growing system expenses. The recommended revenue increase is shown below in Table 9. The rate increases required from the OCL classes are shown later in this report.

Figure 2: Financial Plan at Existing Rates ($ in millions)

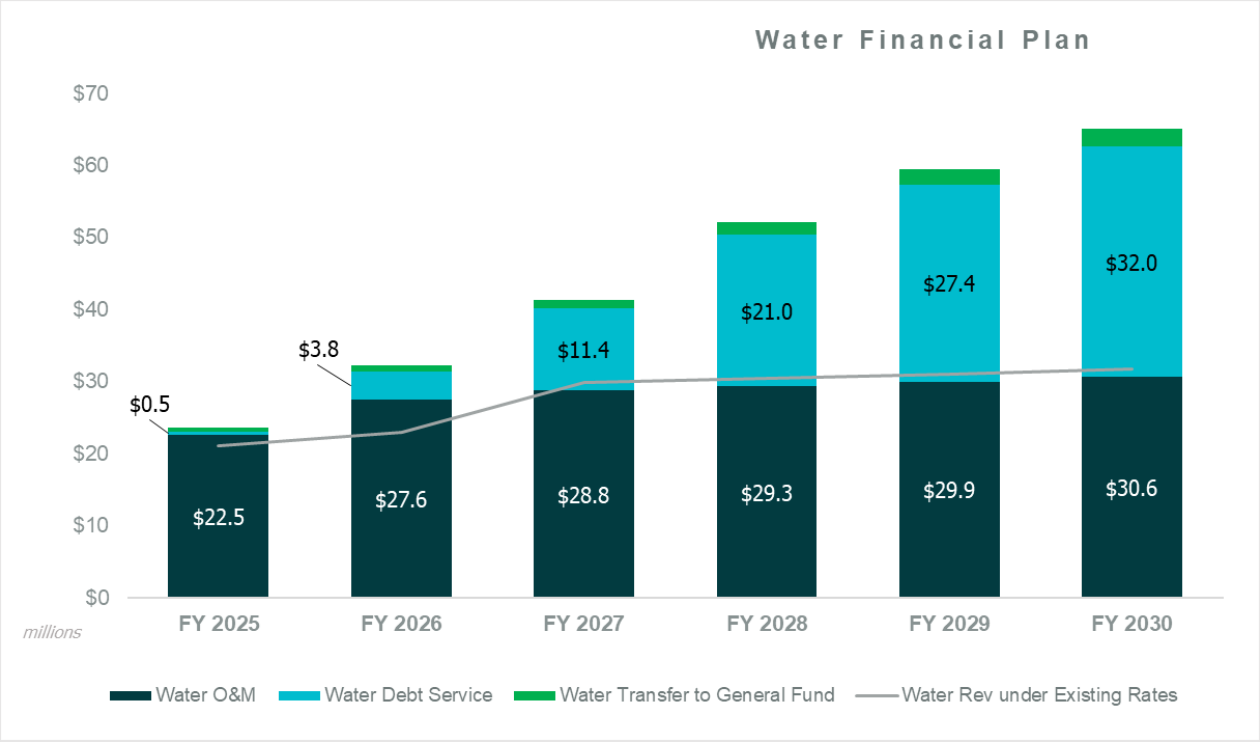


Table 9: Recommended Rate Increases

	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
ICL Water Fixed	20%	20%	25%	8%	5%
OCL Water Fixed	COS	20%	25%	8%	5%
ICL Water Volumetric	20%	20%	25%	8%	5%
OCL Water Volumetric	COS	20%	25%	8%	5%

Additional rate adjustments will be required to meet revenue requirements beyond FY 2026. At this time, Raftelis has recommended rate adjustments for FY 2026 only. It should be noted that the proposed rate increases result in a shortfall in FY 2026. At the time of the study, the City was in Stage 3 water restrictions, which resulted in reduced consumption from its inside city limit customers. To be conservative, Raftelis forecasted rates based on Stage 3 water consumption, but assumed that future years would return to normal conditions. If restrictions are lifted, revenue in FY 2026 will be higher than estimated.

With the system's continued growth and future requirements, the City will assess the need for proposed rate adjustments for FY 2027 - FY 2030. Table 10 provides a summary of the revenue sufficiency after recommended revenue adjustments.

Table 10: Water Revenues Sufficiency after recommended revenue adjustments

	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Revenues	$27,735,285	$43,667,351	$54,795,969	$62,170,018	$66,598,439
O&M	$28,406,241	$29,889,998	$31,084,997	$32,129,070	$33,089,720
Debt Service	$3,799,669	$11,365,892	$20,985,275	$27,386,858	$32,035,450
Total Expenditures	$32,205,910	$41,255,890	$52,070,272	$59,515,928	$65,125,171
Annual Surplus/(Deficiency)	($4,470,626)	$2,411,461	$2,725,697	$2,654,090	$1,473,268

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WASTEWATER FINANCIAL PLAN

The operating fund tracks financial activities associated with operating and maintaining the wastewater system and funding the capital improvement program. The utility has an impact fee fund that supports growth-related capital.

Sources of funds

Operating fund revenue is primarily derived from wastewater rates and miscellaneous revenues. Wastewater service revenue represents the most significant source of revenue to the operating fund, averaging approximately 94% of total revenue. The remaining 6% is contributed from miscellaneous revenue and investment income.

Wastewater service revenue under existing and proposed rates is based on wastewater customer billed consumption, a detailed analysis of historical utility billing records, and discussions with City staff. A 3-year average flow per connection by customer class (e.g., Residential, Commercial, Multi-Family) was used to reduce swings in consumption due to weather conditions and forecast the consumption forward based on historical usage, staff input, and accounts. The number of residential and non-residential accounts is projected to grow by 6% in the next two years and then stabilize to a slower growth rate of 2% in the following years. Miscellaneous revenues are projected to grow at a rate of 3% in each year of the Study.

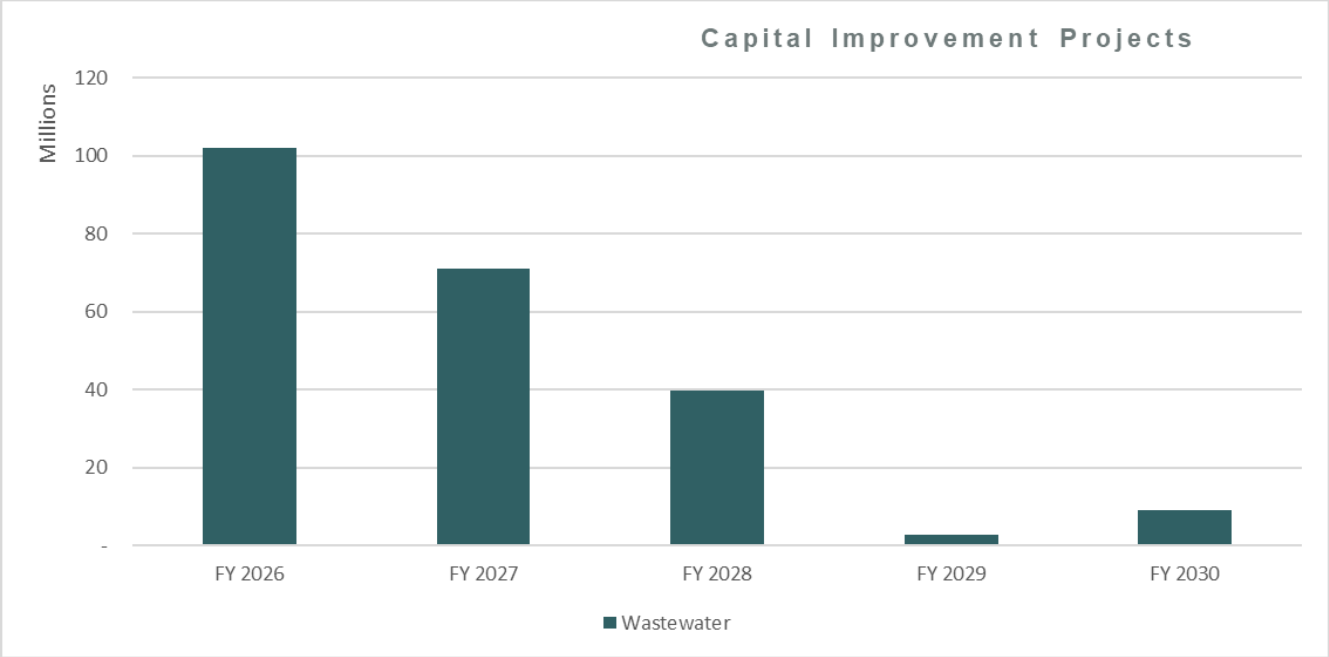
Uses of Funds

O&M, debt service, CIP, and financial performance metrics comprise operating fund revenue requirements. O&M consists of IT, Non-Departmental, Engineering, Public Works Building, Administration, Utility Billing, Wastewater Operations, and Wastewater Treatment Plant (WWTP) operations. O&M expenses are projected to increase by 3% - 6% each year of the Study.

The wastewater utility has six debt obligations. The City plans to issue $97.0 million, $65.0 million, and $33.0 million in debt in FY 2026, FY 2027, and FY 2028 to fund the necessary expansions and upgrades to the wastewater system.

The City's capital improvement program is financed using impact fees and rates. As with water, the City updates its impact fee study regularly. Figure 3 illustrates the projected CIP spending over the 5-year study period.

Figure 3: Wastewater 5-year CIP Spending Plan ($ in millions)



Revenue Sufficiency

The final step in the financial planning process involves compiling a cash flow forecast, which identifies the revenue adjustments necessary to ensure financial sustainability. As indicated by Figure 4 current revenue levels are insufficient to sustainably fund the ongoing provision of wastewater treatment services. The recommended revenue increase is shown below in Table 11.

Figure 4: Revenue Sufficiency under Existing Rates ($ in millions)

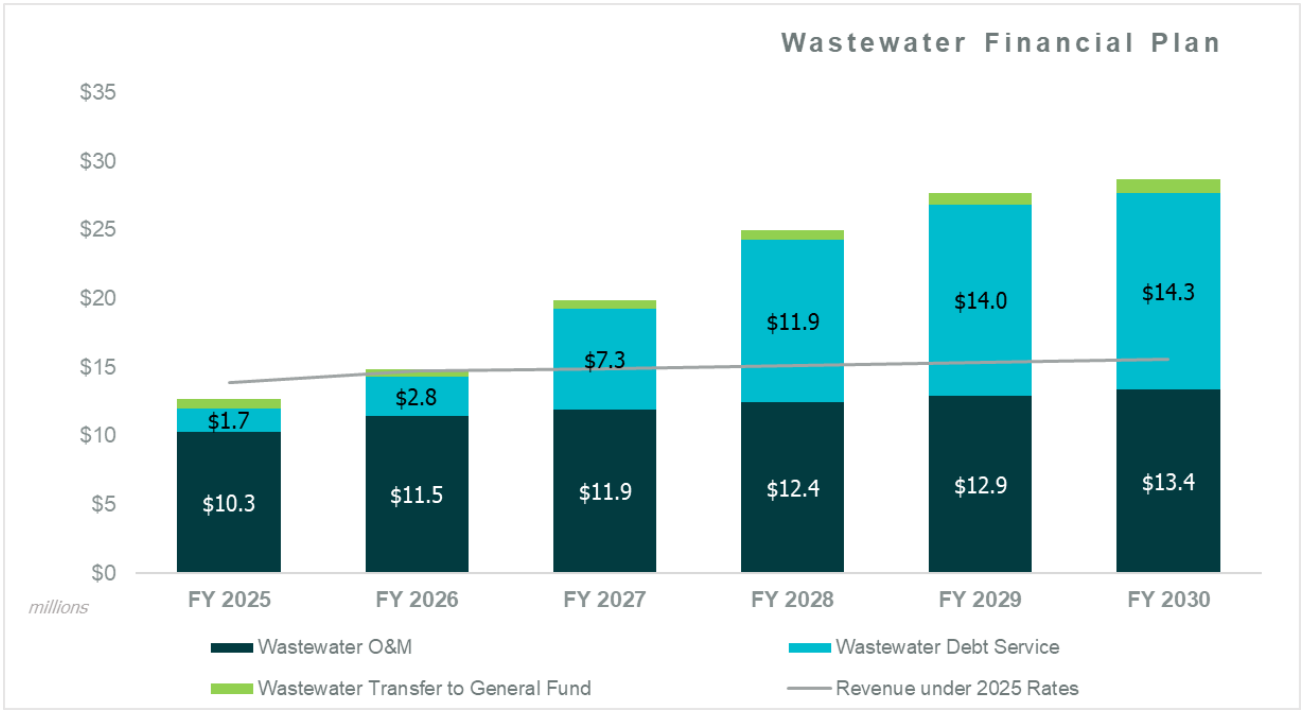


Table 11: Recommended Rate Increases

	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
ICL Wastewater Fixed rate	6%	12%	25%	20%	2%
OCL Wastewater Fixed rate	COS	12%	25%	20%	2%
ICL Wastewater Volumetric	6%	12%	25%	20%	2%
ICL Flat rate customers	6%	12%	25%	20%	2%

Raftelis is recommending the rates for FY 2026 only. Future years will be reassessed annually. Table 12 provides a summary of the revenue sufficiency under the proposed rates.

Table 12: Wastewater Revenue Sufficiency after recommended revenue adjustments

Proposed	FY 2026
Revenues	$15,653,988
O&M	$12,020,385
Debt Service	$2,830,564
Total Expenditures	$14,850,949
Annual Surplus/(Deficiency)	$803,038

OPERATING RESERVES

The City has a financial policy of maintaining 25% of its O&M, Debt service, and transfers in an operating reserve to ensure the utility's financial stability. Table 13 shows the combined financial state of the utility at recommended rates for the term of the Study. Future years are based on percentage revenue increases in Table 11. These are subject to change based on future costs of the utilities.

Table 13: Combined Utility Revenue Sufficiency and Financial Metrics

	FY 2026	FY 2027	FY 2028	FY 2029	FY2030
Beginning Balance	$27,821,953	$24,154,366	$24,238,991	$23,519,205	$24,670,732
Total Revenues	$43,389,272	$61,245,338	$76,347,296	$88,379,944	$94,582,433
O&M	$40,426,626	$42,445,960	$44,206,914	$45,887,069	$47,528,319
Debt Service	$6,630,234	$18,714,754	$32,860,168	$41,341,348	$46,299,911
Total Expenses	$47,056,860	$61,160,713	$77,067,082	$87,228,417	$93,828,230
Ending Balance	$24,154,366	$24,238,991	$23,519,205	$24,670,732	$25,424,936
Target Operating Reserve	$11,764,215	$15,290,178	$19,266,771	$21,807,104	$23,457,058

OCL Cost of Service Analysis

Introduction

The key objective of the cost of service (COS) analysis is to determine each customer class's share of the cost based on how they use the City's water and wastewater systems. The COS analysis aligns responsibility for these costs with the customer classes that cause them to create equity in the system. The principle of using cost causation as a guide for water and wastewater rate setting is well established throughout the industry and is the basis for the methodology described in the American Water Works Association's (AWWA) *Manual M1: Principles of Water Rates, Fees and Charges* (Manual M1) and Water Environmental Federation (WEF): *Financing and Charges for Wastewater Systems*.

Background & Methodology

The AWWA Manual M1 references two general approaches to determining revenue requirements: the "cash needs" approach and the "utility" approach.

The two methodologies for establishing OCL rates, the "cash needs" and the "utility" approach, are consistent with industry standards and guidelines and are appropriate methodologies for calculating OCL rates. The cash needs approach uses the total revenues required by the utility to meet its cash expenditures. It is generally used by utilities when serving customers within their service area or geographical limits. The utility basis is particularly applicable to customers located outside the geographical limits of the government-owned utility.

The utility approach provides an effective methodology for compensating the utility for the risk associated with providing service to "non-owners" of the system. The City uses the utility approach for OCL water and wastewater rates because the utility approach is often characterized as being more equitable in distributing the costs of facilities between future and current users. For OCL users, the utility basis approach is generally considered more equitable, as these users pay depreciation and return on investment only on assets that are used and useful in providing them with utility service. ICL customers are appropriately compensated for the risks associated with investing in utility assets to serve OCL customers. Therefore, the OCL cost of service is calculated under the utility basis, and the projected revenues are then deducted from the overall cash needs revenue requirements of retail customers.

Under the utility approach, OCL rates recover the following primary revenue requirements:

Operations and Maintenance Costs

- A proportionate share of direct operating & maintenance (O&M) expenses related to providing service to OCL customers.

Capital Costs

- An appropriate portion of the annual depreciation expenses associated with these assets; and,
- A return on the investment made by the City in assets that are used and useful in providing service to OCL customers.

The capital cost component of the utility method uses the original cost less depreciation (OCLD), or net book value (NBV), of the assets included in rate base. Since OCL customers pay impact fees, the rate base is adjusted to account for any assets paid for with impact fees since OCL customers helped contribute to their purchase. After calculating the adjusted value of rate base assets, a rate of return percentage must be determined to provide a fair return on the City's investment in assets serving OCL customers.

The percentage rate of return on rate base is typically calculated by summing the weighted cost of debt and equity for the utility to determine a weighted average cost of capital (WACC). The cost of debt is a straightforward calculation that involves analyzing the utility's outstanding long-term debt and corresponding interest rates to arrive at the cost of debt. For the City, the cost of debt is 4.69%.

The cost of equity is typically higher than the cost of debt. A fair minimum for this opportunity cost of capital is the return that can be earned on a long-term U.S. Treasury security. To determine the cost of equity, Raftelis began with the yield on a 30-Year U.S. Treasury bond of 4.6% on March 31, 2025. A 5.0% risk premium was added to this treasury bond yield to compensate for the risk of providing service to OCL customers. The 5.0% risk premium was adjusted downward to 3.55% by applying a beta value of .71 which was associated with publicly traded investor-owned water utilities. The beta reflects a stock's sensitivity to market movements. A beta value of 1.0 indicates variability in line with the market. This results in an estimated cost of equity of 8.15% (4.6% + 3.55%)

The final estimated WACC (i.e., return on rate base) of 6.33% was calculated assuming a capital structure consisting of 46.9% debt and 53.1% equity.

OCL WATER COST OF SERVICE

The cost of service is typically determined for a single test year. The test year establishes the total level of revenues that must be recovered from all customers, regardless of how that revenue requirement is allocated. The cost-of-service analysis then apportions revenue recovery to each customer class based on that class's use of the City's water system.

Functionalize Revenue Requirement

Functionalization of the revenue requirement involves allocating the operating and capital components to the various functions performed by the City to provide utility service to customers. Water systems may include functions such as supply, treatment, pumping, storage, transmission, distribution, services, meters, and billing and collection.

Three approaches were used to functionalize the revenue requirement: direct allocation, allocation using net plant investment, and indirect allocation.

Direct allocation is used where a specific cost can be attributed directly to a specific function. O&M costs are generally allocated to functional cost components that best reflect the function associated with that expense. For example, computer/phone user charges are associated with providing customer service to individual customers and are allocated to the billing portion of the customer cost component.

System asset investment is common throughout the industry. Capital costs are generally allocated using plant investment, based on the presumption that the City will reinvest in the utility systems in proportion to the existing level of investment. The result is a smoother allocation of capital costs over time relative to allocating capital costs on a project-specific basis. Raftelis reviewed the fixed asset records of each utility and assigned each asset to the functional categories to allocate the City's capital expenditures.

Indirect allocation was used for costs incurred to support all functions, which are assumed to be incurred in proportion to all other costs allocated directly.

OCL Water Revenue Requirement

Test year revenue requirement for the water OCL customers equals $6,103,871 and is summarized using the utility approach in Table 14 below.

Table 14: Water OCL Test Year Revenue Requirement

Line No.	Description	Operating Expense	Capital Cost	Total COS
1	O&M	$ 4,134,938	$ -	$ 4,134,938
2	Depreciation		1,732,606	1,732,606
3	Return on Rate Base		236,328	236,328
4	Total Revenue Requirement	$ 4,134,938	$ 1,968,934	$ 6,103,871

Allocate Functionalized Revenue Requirement to Cost Drivers

Once costs have been functionalized, they must be allocated to cost components. Cost components represent the drivers of utility costs or the types of customer demand that drive the design, operation, and—in turn—the cost of the water system.

A water system is designed to treat and distribute water during periods of average customer demand and peak demand. Peak demand occurs when many customers use water simultaneously, such as in the morning as they prepare for the day. Like the interstate highway system, a water system must be designed to meet the average demands (such as in the middle of the day) and peak demands (such as during rush hour traffic). If peak demand is twice that of average demand, water infrastructure capacity must be double the size. Put another way, if no peak demand existed, a much smaller, less costly system could be built to serve customers.

Given that additional costs are incurred to serve peak demand, the question becomes who should pay for those incremental costs and how much they should pay. The base-extra capacity methodology is the most common method for assigning such costs for water. The base-extra capacity method allocates maximum day and maximum hour costs based on the incremental demand above the average day. Thus, customers whose demand drives the need for the larger system are allocated a greater share of costs.

The cost drivers related to customer demand are as follows:

- Base – demand on an average day
- Maximum Day Extra Capacity – maximum day demand excluding average day,
- Maximum Hour Extra Capacity – maximum hour demand excluding maximum day demand and average day demand

In addition, there are costs incurred to serve a customer regardless of how much water they use. These customer-related components are as follows:

- Bills – costs driven by providing customer service (i.e., billing, collection, the provision of customer service)
- Meters and Services – costs are driven by installing and maintaining customer meters and service lines.

Determination of Allocation Factors

Based on the functional costs being allocated, there may be one-way, two-way, or three-way allocations between base, max day, and max hour.

Purchased water is a function of the amount of water customers use annually, regardless of peak demand. Typically, it is allocated 100% to base demand. Because Kyle's purchased water is treated, it was allocated 50% to base demand and 50% to maximum day.

Storage and distribution system costs, which meet customers' peak demands, are split between base demand, maximum day demand, and maximum hour demand. This split is based on assumed system design criteria of 1.75 and 2.9 times the average day demand for maximum day and maximum hour, respectively.

For the maximum day, it is assumed that the water system is designed to deliver water at 1.75 times the average day (base) rate on the maximum day. In other words, the water system needs incremental capacity to deliver water on a maximum day compared to an average day. Accordingly, costs incurred to support base and maximum day service are allocated between base and maximum day based on the proportion of each relative to the overall capacity requirement. 1.0 is related to base service, and 0.75 is maximum day service. This results in an allocation of 57.28% (1.00/1.75) and 42.72% (0.75/1.75) for base and maximum days, respectively.

A similar approach is used for costs incurred to support base, maximum day, and maximum hour service. Maximum hour demand represents the incremental demand above maximum day demand. Based on the design criteria outlined above, the maximum hour allocation would be 39.80% (1.15 / 2.90). Base and maximum day would be 34.48% (1.00 / 2.90) and 25.72% (0.75 / 2.90).

Meters and services costs are a function of the number of customers at each meter size. These costs are allocated to equivalent meters, which recognize differences in capacity and cost for meters of different sizes.

Allocation of Water Cost of Service

Table 15 provides the allocation of FY 2026 O&M expenses to functional cost components. O&M costs are generally allocated to functional cost components that best reflect the function associated with that expense. Transmission and reservoir expenses are associated with the storage and transmission of raw water and are allocated to the base, and maximum day cost components. Expenses not specifically assigned to a cost component are allocated in proportion to all other expense allocations, such as administrative costs.

Table 15: Water Allocation of O&M Expense

Line No.	Description	Total	Admin	Source of Supply	Pumping	Water Plant	Storage	Transmission	Distribution	Meters	Bills
	Operations and Maintenance										
1	11500 - IT	$ 294,167	$ 294,167	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	19000 - Non-Departmental	$ 398,660	$ 398,660	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
4	16200 - Engineering	$ 172,379	$ 32,029	$ 11,660	$ 8,473	$ 6,505	$ 70,758	$ 13,810	$ 29,145	$ -	$ -
5	28000- Public Works Building	$ 193,795	$ 193,795	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	81000 - Administration	$ 1,071,782	$ 1,071,782	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	81200 - Utility Billing	$ 850,026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 850,026
8	82000 - Water Operations	$ 9,778,722	$ 908,468	$ 661,430	$ 480,654	$ 369,042	$ 4,013,963	$ 783,387	$ 1,653,311	$ 908,468	$ -
9	82100 - Water Supply	$ 15,646,709	$ -	$ 15,646,709	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	**Total O&M By Function**	$ 28,406,241	$ 2,898,902	$ 16,319,798	$ 489,127	$ 375,548	$ 4,084,721	$ 797,196	$ 1,682,455	$ 908,468	$ 850,026

Table 16 illustrates the allocations of water assets to each design parameter. The percentage of capital assets to the Base Extra Capacity functions will be used to allocate capital costs to customer classes.

Table 16: Allocation of Water System Assets

Line No.	Category	Total	Common to All Customers		
			Base	Max Day	Max Hour
1	Storage	$ 9,646,363	$ 3,326,332	$ 2,102,188	$ 4,217,842
2	Water Plant	$ 886,883	$ 543,438	$ 343,444	$ -
3	Source of Supply	$ 1,589,549	$ 1,589,549	$ -	$ -
4	Transmission	$ 1,882,636	$ 1,153,587	$ 729,049	$ -
5	Distribution	$ 3,973,239	$ 1,370,083	$ 865,870	$ 1,737,287
6	Pumping	$ 1,155,110	$ 707,795	$ 447,315	$ -
7	Other Water Assets	$ 4,366,465	$ 1,983,299	$ 1,024,163	$ 1,359,003
8	**Total Rate Base**	$ 23,500,244	$ 10,674,082	$ 5,512,029	$ 7,314,132

Allocation of Costs to Customer Classes

Water customers have been separated into OCL Residential, OCL Commercial, and OCL Irrigation. The classes group together customers with similar service requirement characteristics and provide a means for allocating costs to customers.

Water Units of Service

Class service requirements include average daily water use projections, maximum day and maximum hour demands, and metering and billing requirements. Class-based cost responsibility relates to the quantity of water used under average day load conditions. Class responsibility for extra capacity costs varies between maximum day and maximum hour demands. Average day usage and capacity factors represent the estimated relationship between individual class peak demand and average day usage and are used to develop extra capacity requirements for maximum day and maximum hour demands. Estimated capacity factors are based on analyzing each class's monthly usage characteristics.

Raftelis calculated peaking factors using three years of historical data, smoothing out any outliers and creating normal usage characteristics for each customer class. Table 17 summarizes estimated OCL class units of service and percentage use of the system.

Table 17: OCL Water Units of Service

Line No.	Description	Common to All Customers				
		Base	Max Day	Max Hour	Meters	Bills
		(1,000 gallons)	(1,000 gallons)	(1,000 gallons)	(no. meters)	(no. bills)
1	Residential OCL	181,925	381,452	199,526	2,720	32,602
2	Commercial OCL	2,293	10,783	8,490	14	67
3	Irrigation OCL	7,534	27,840	20,306	30	162
4	Total OCL	191,752	420,074	228,322	2,765	32,832
5	Total ICL	1,082,889	2,197,968	1,115,079	15,008	159,276
6	Total OCL	191,752	420,074	228,322	2,765	32,832
7	Total Units (1,000 Gal)	1,274,641	2,618,042	1,343,401	17,773	192,107
8	OCL Percent of System	15.04%	16.05%	17.00%	15.56%	17.09%

OCL Unit Cost of Service

Table 18 shows each functional cost component's utility basis OCL Cost of Service (COS). Unit costs are calculated by dividing the functionalized costs of service utility basis revenue requirement total by applicable retail service units. The unit costs of service at the bottom of Table 18 is then multiplied by each customer class (e.g., residential, commercial) unit of service to develop their respective Class COS.

Table 18: OCL Water COS by Functional Cost Component

Unit Cost Component	Total	Base (1,000 gallons)	Max Day (1,000 gallons)	Max Hour (1,000 gallons)	Meters (no. meters)	Bills (no. bills)
O&M	$4,134,938	$2,588,842	$1,285,144	$81,494	$95,154	$84,303
Depreciation	$1,732,606	$535,526	$341,388	$468,459	$387,233	$0
Return on Rate Base	$236,328	$101,650	$55,987	$78,692	$0	$0
Utility Basis Rev. Req.	$6,103,871	$3,226,018	$1,682,518	$628,645	$482,387	$84,303
Unit Cost		$16.82	$4.01	$2.75	$174.49	$2.57

Water Customer Class Cost of Service

Total unit COS, applied to class service requirements, results in the allocated class COS, and Table 19 shows the recommended rate adjustments by customer class. The total OCL cost of service shows an increase of 77.1%. Raftelis recommends rate adjustments for all OCL classes due to the need for increased revenue and realigning each class with the appropriate proportion of cost burden.

Table 19: OCL Water Customer Class COS Adjustments

Class	Allocated Cost of Service	Revenue Under Existing Rates	Revenue Change	Overall Change %
Residential OCL	$5,696,243	$3,242,742	$2,453,501	75.7%
Commercial OCL	$107,758	$35,260	$72,498	205.6%
Irrigation OCL	$299,870	$121,247	$178,623	147.3%
Total	**$6,103,871**	**$3,399,250**	**$2,620,318**	**79.6%**

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OCL WASTEWATER COST OF SERVICE

In developing an equitable schedule of charges for wastewater service, the cost of service is allocated to the City's customer classes according to class-specific service requirements. The allocation takes into account the volume of wastewater contributed, the strength of wastewater, and the number of customers. Cost of service allocations are made for a test year representative of the period for which resultant rates are expected to be in effect.

Wastewater cost of service uses the same five-step process as water for determining the cost of service. The difference is the cost functions performed by the City to provide wastewater utility service to customers. Wastewater functions include treatment, collection, lift stations, and meters.

Wastewater Revenue Requirements

Test year revenue requirements for the wastewater OCL customers equal $2,312,200 and are summarized using the Utility approach in Table 20 below.

Table 20: Wastewater OCL Test Year Revenue Requirement

Line No.	Description	Operating Expense	Capital Cost	Total COS
1	O&M	$ 1,175,716	$ -	$ 1,175,716
2	Depreciation		578,742	578,742
3	Return on Rate Base		557,742	557,742
4	Total Revenue Requirement	$ 1,175,716	$ 1,136,485	$ 2,312,200

Allocation of Functionalized Revenue Requirement to Cost Drivers

Once costs have been functionalized, they must be allocated to cost components. Cost components represent the drivers of utility costs or the types of customer demand that drive the design, operation, and—in turn—the cost of the wastewater system.

The wastewater system is designed to collect, treat, and discharge customer sewage. The cost drivers related to customers are as follows:

- Volume – volume of customer sewage discharged
- Strength – concentration of strength in the system measured in biochemical oxygen demand (BOD) and total suspended solids (TSS).

In addition to these demand categories are costs incurred to serve a customer regardless of how much wastewater they use. These customer-related components are as follows:

- Bills – costs driven by providing customer service (i.e., billing, collection, the provision of customer service)
- Meters and Services – shared costs with water and driven by maintaining customer meters and collection lines

Determination of Allocation Factors

Treatment costs are driven by the volume of customer sewage discharged by customers and the strength of pollutants, which must be removed via the physical and biological processes at the treatment plant. Strength costs vary with the strengths of biochemical oxygen demand (BOD), and total suspended solids (TSS) contributed. Treatment costs were allocated based on 50% to volume, 25% to biochemical oxygen demand (BOD), 25% to total suspended solids (TSS) contributed.

Collection system costs are driven by the volume of sewage discharged by customers both directly, via indoor water use, and indirectly, via the infiltration and inflow (I/I). Minor costs on the collection system are attributed to strength. These costs were allocated 90% to volume, 5% to BOD, and 5% to TSS.

Billing costs are related to the provision of billing, collection, and customer service, which is a function of the number of wastewater customers. Accordingly, these costs were allocated 100% to the bills cost driver.

Allocation of Wastewater Cost of Service Allocation

Table 21 shows the FY 2026 allocation of O&M expense to functional cost components. O&M expenses are generally allocated to the functional cost component that reflects the design parameter associated with the expense. Treatment-related expenses are associated with wastewater treatment and are allocated to volume, BOD, and TSS cost components. The collection system's main expenses are associated with the cost of collecting wastewater from customers and delivering wastewater to the treatment plant. Expenses not specifically assigned to a cost component are allocated proportionately to all other expense allocations, such as administrative costs.

Table 21: OCL Wastewater Allocation of O&M Expense

Category	Total	Volume	BOD	TSS	Bills
Admin	$2,496,948	$1,141,410	$570,705	$570,705	$214,128
Wastewater Pumping	$1,597,345	$798,672	$399,336	$399,336	$0
Wastewater Plant	$3,798,037	$1,899,019	$949,509	$949,509	$0
Collection	$1,713,353	$856,676	$428,338	$428,338	$0
Lift Stations	$1,598,011	$799,006	$399,503	$399,503	$0
Billing	$816,691	$0	$0	$0	$816,691
Total	$12,020,385	$5,494,783	$2,747,391	$2,747,391	$1,030,819

Wastewater system assets are generally allocated to the functional cost component that reflects the design parameter associated with the asset. Treatment plant assets are designed to treat wastewater and are allocated equally to volume, BOD, and TSS cost components. Collection main assets, for example, are associated with collecting wastewater from customers and delivering it to the treatment plant. These costs are allocated equally between volume cost and local collector sewer cost components. Table 22 illustrates the wastewater assets allocations to each design parameter. The percentage of capital assets to volume and strength will be used to allocate capital costs to retail customers.

Table 22: OCL Allocation of Wastewater System Asset Depreciation

Category	Total	Volume	BOD	TSS
Wastewater Pumping	$14,671	$14,671	$0	$0
Wastewater Plant	$623,392	$311,696	$155,848	$155,848
Common Collection	$1,157,768	$1,157,768	$0	$0
Local Collection	$1,736,652	$1,736,652	$0	$0
Other WW Assets	$884,546	$601,466	$141,540	$141,540
Total	$4,443,622	$3,848,846	$297,388	$297,388

Allocation of Costs to Customer Classes

Wastewater customers have been separated into Residential, Non-Residential, and Commercial Sewer Only. The classes group together customers with similar service requirement characteristics and provide a means for allocating costs to customers. As with water, the multi-family class was separated in the wastewater cost-of-service.

Wastewater Units of Service

Historical data and information provided from utility records were used to estimate projected service units. Wastewater collected and treated consists of:

- Contributed sanitary and industrial wastewater flow, and
- Infiltration/inflow (I/I) of groundwater into the sewers.

Contributed wastewater flow is that portion of annual water use or other discharge of each customer class that enters the wastewater system. Estimates of class-specific contributed volume is based upon a 3-year average flow per connection. The winter average[1] is used and, therefore, excludes volume that does not reach the wastewater system, such as volume used for lawn sprinkling and other outdoor use. The difference in volume is the I/I of groundwater in the sewer system. It is estimated that flow entering the sewers through I/I will average approximately 18.5% of total wastewater flow reaching the treatment plant. Each customer class should bear its proportionate share of costs associated with I/I, as the wastewater system must be able to adequately convey and process total wastewater flow. I/I is allocated to customer classes on the premise that 100% of the total is distributable based on volume contributed by each customer.

Total strength units are based on the City's projection of strength concentrations in wastewater contributed to the system during the FY 2025 test year. The average wastewater BOD concentration is estimated at 270 milligrams per liter (mg/L) and TSS 330 mg/L. The wastewater utility's share of customer-related billing and collection costs associated with wastewater billing is allocated based on the number of bills. Table 23 summarizes estimated class units of service.

Table 23: Estimated Wastewater Units of Service

Line No.	Description	Volume (1,000 gallons)	BOD (lbs.)	TSS (lbs.)	Bills (no. bills)
1	Residential	120,339	271,155	331,411	34,087
2	Non Residential	2,546	5,738	7,013	67
3	Commercial Sewer Only	6,620	14,918	18,233	84
4	Total OCL	129,506	291,810	356,657	34,239
5	Total Retail	864,848	1,948,727	2,381,778	163,042
6	Total OCL	129,506	291,810	356,657	34,239
7	Total Units	994,354	2,240,537	2,738,434	197,280
8	OCL Percent of System	13.02%	13.02%	13.02%	17.36%

[1] Each year, the City takes the average water use for the months of November, December, and January to calculate usage for the year.

Wastewater Unit Costs of Service

Table 24 shows the development of the Utility basis COS for each functional cost component. Unit costs are calculated by dividing functionalized costs of service total cash basis revenue requirement total by applicable units of service.

Table 24: OCL Wastewater COS by Functional Cost Component

Unit Cost Component	Total	Volume (1,000 gallons)	BOD (lbs)	TSS (lbs)	Bills (no. bills)
O&M	$1,175,716	$326,751	$335,031	$335,031	$178,903
Depreciation	$578,742	$501,278	$38,732	$38,732	$0
Return on Rate Base	$557,742	$379,249	$89,247	$89,247	$0
Utility Basis Rev. Req.	$2,312,200	$1,207,278	$463,010	$463,010	$178,903
Unit Cost		$9.32	$1.59	$1.30	$5.23

Wastewater Customer Class Cost of Service

Total unit COS, applied to class service requirements, results in the allocated class COS, and Table 25 shows the recommended rate adjustments by customer class.

Table 25: Wastewater Revenue Adjustments

Class	Allocated Cost of Service	Revenue Under Existing Rates	Revenue Change	Overall Change %
Residential OCL	$2,160,470	$1,549,610	$610,798	39.4%
Non-Residential OCL	$42,298	$18,154	$24,144	133.0%
Sewer Only OCL	$109,495	$150,482	($40,987)	(27.2%)
Total	$2,312,200	$1,718,245	$593,955	34.6%

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Conclusion

The rate changes described in this report will affect customers based on their individual water and wastewater consumption. The following sections illustrate how these changes will impact customers at various consumption levels. Ultimately, the actual effects on customers will differ according to their specific water usage.

WATER CUSTOMER IMPACTS

The following graphs show the impacts to the residential classes.

Inside City Limit Residential

Based on 5,500 gallons, a residential customer will see a $15.35 monthly increase in their water bill and a $2.72 increase in the wastewater bill. The following figures show the impact of each service.

Figure 5: ICL Water Residential Customer Impact

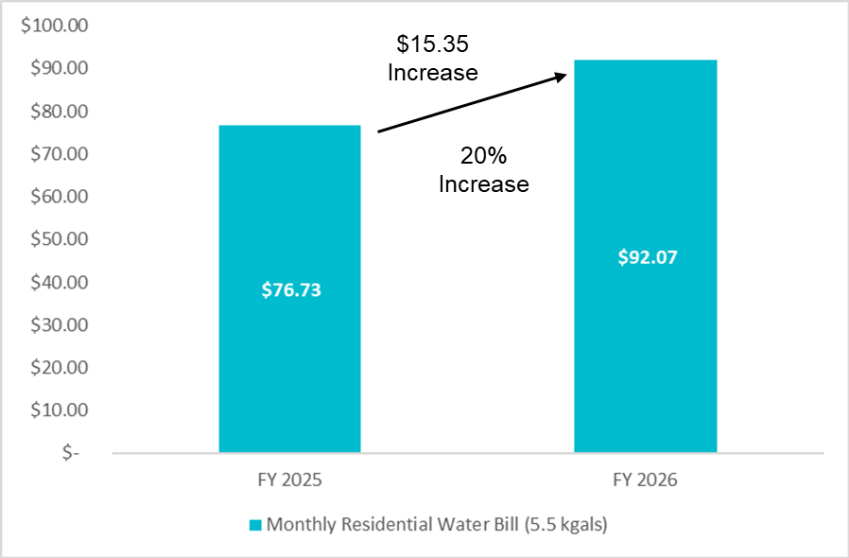
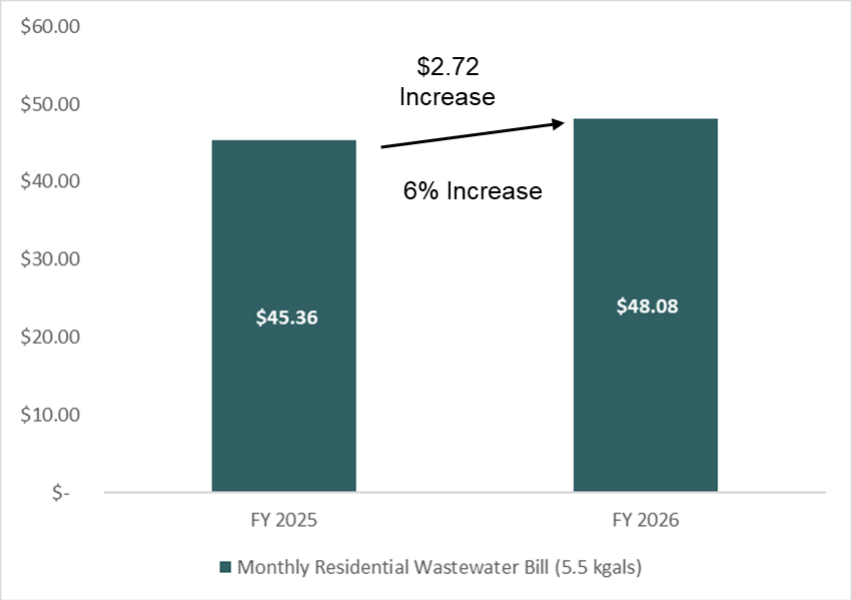


Figure 6: ICL Wastewater Residential Customer Impact



Other Inside City Limit Classes

The following figures show the increases to other ICL classes, including Multi-Family, Commercial, and Irrigation. Each figure shows the average usage used to calculate each monthly bill.

Figure 7: ICL Water Multi-Family Customer Impact

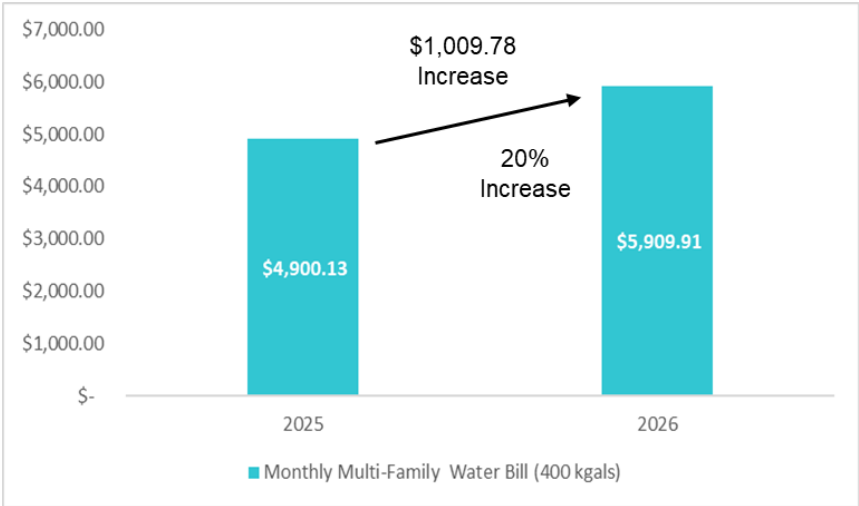


Figure 8: ICL Water Commercial Customer Impact

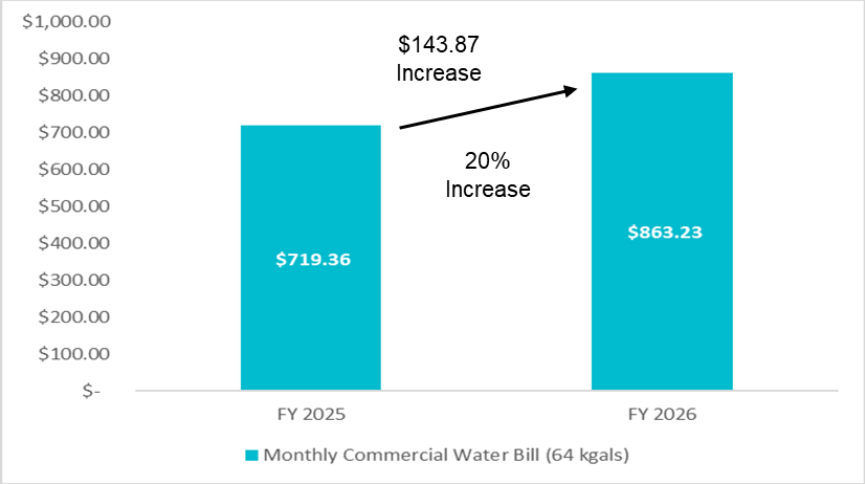


Figure 9: ICL Irrigation Customer Impact

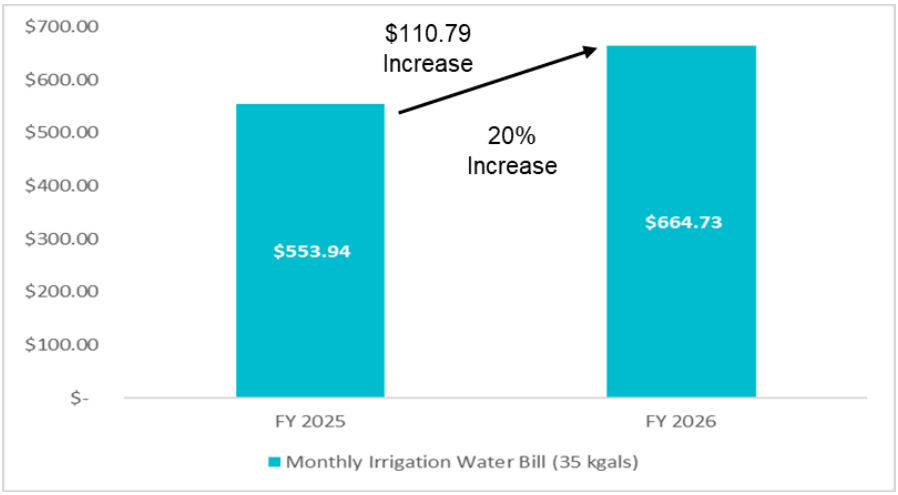
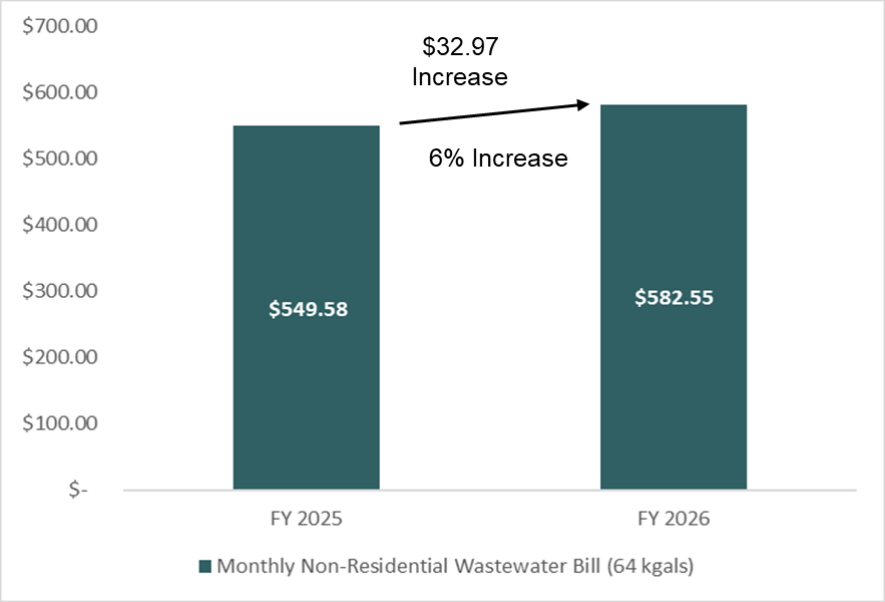


Figure 10: ICL Non-Residential Wastewater Customer Impact



Outside City Limit Residential

Based on 5,500 gallons, a residential customer will see a $71.27 monthly increase in their water bill and a $22.57 increase in their wastewater bill.

Figure 11: OCL Water Residential Customer Impact

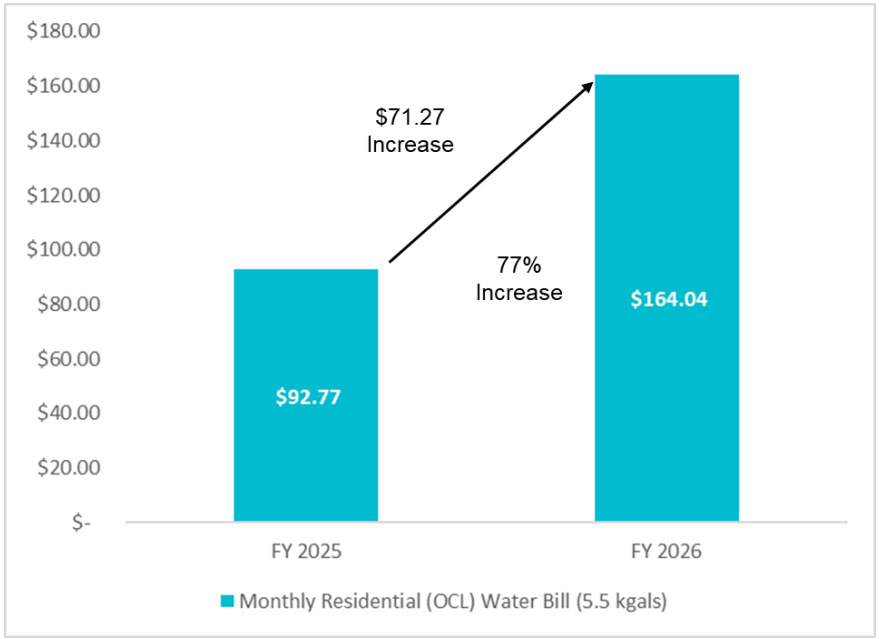
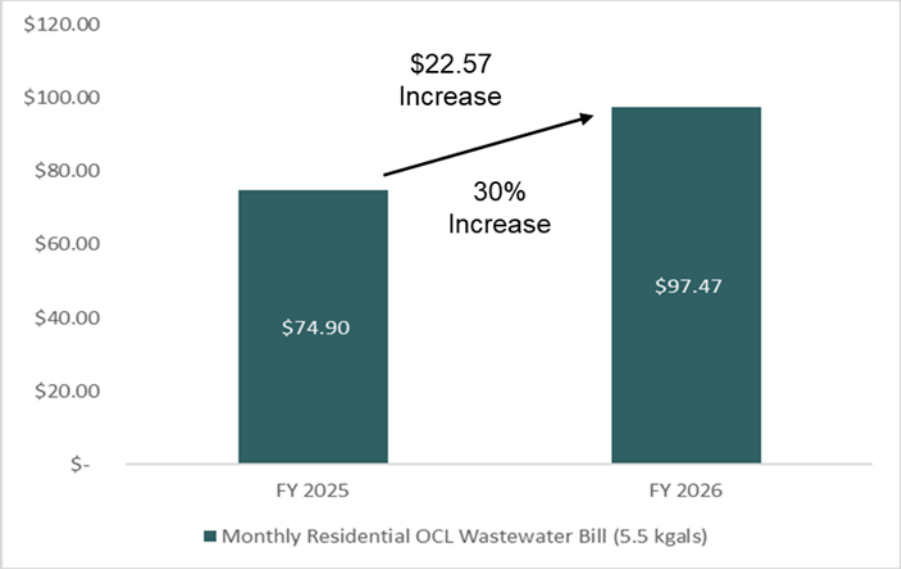


Figure 12: OCL Wastewater Residential Customer Impact



Other Outside City Limit Classes

The following figures show the increases to other OCL classes, including Multi-Family, Commercial, and Irrigation. Each figure shows the average usage used to calculate each monthly bill.

Figure 13: OCL Multi-Family Customer Impact

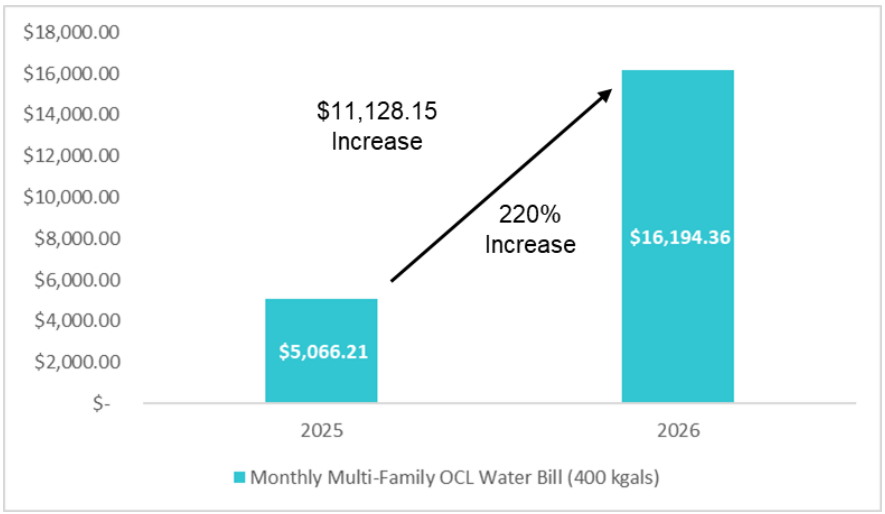


Figure 14: OCL Commercial Customer Impact

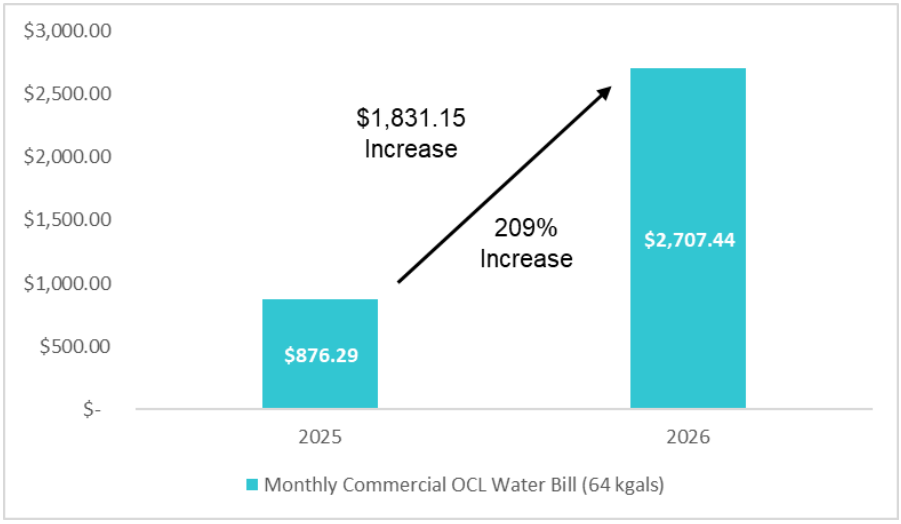


Figure 15: OCL Water Irrigation Customer Impact

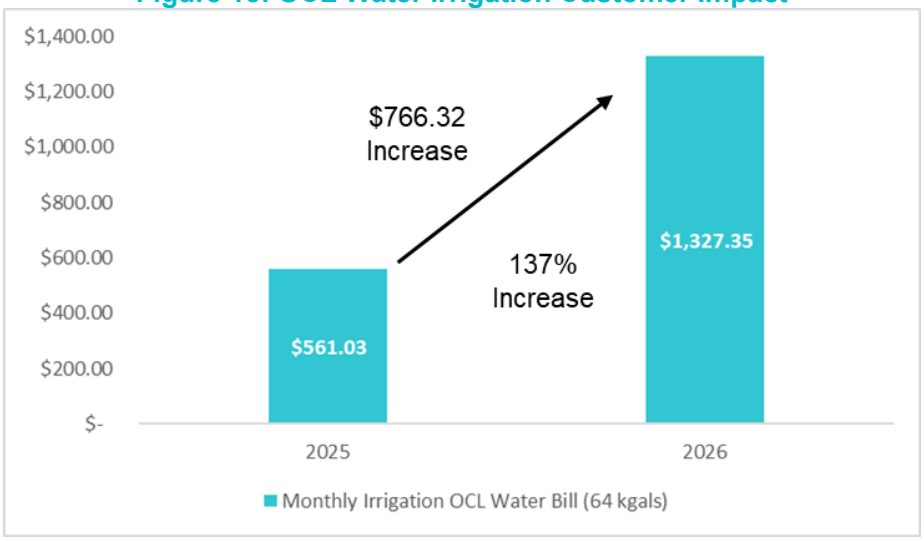


Figure 16: OCL Wastewater Non-residential Customer Impact