



CITY OF HAYWARD

Water, Recycled Water, and Wastewater Rate Study

EXECUTIVE SUMMARY / APRIL 10, 2023



**CITY OF
HAYWARD**
HEART OF THE BAY



April 10, 2023

Alex Ameri
Director of Public Works
City of Hayward
77 B Street
Hayward, CA 94541

Subject: Water, Recycled Water, and Wastewater Rate Study Report

Dear Alex Ameri,

Raftelis Financial Consultants, Inc. (Raftelis) is pleased to provide this report for the City of Hayward's (City) Water, Recycled Water, and Wastewater Rate Study.

The major objectives of the Rate Study include:

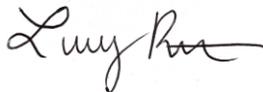
- » Developing a long-term financial plan that sufficiently funds operating expenses, capital replacement and improvement costs, and prudent reserve balances
- » Calculating rates that fully recover costs to serve customers, while minimizing rate impacts, and promoting affordability for essential needs
- » Preparing a Study Report, or administrative record, that clearly and comprehensively explains each step of the rate study process

This report details the long-term financial plan, cost of service analysis, and proposed rates for the City's water utility. The financial plan identifies the projected revenue needs and revenue adjustments over the next 10 years, which inform five years of proposed rates.

Sincerely,



Nancy Phan
Project Manager



Lindsay Roth
Consultant

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1. Executive Summary

1.1. Study Background

In 2022, the City of Hayward (City) contracted with Raftelis to conduct a Water, Recycled Water, and Wastewater Rate Study, which includes the development of a long-term financial plan and rate calculation. The study culminates in two years of rate recommendations based on the results of the financial planning exercise. This Executive Summary outlines the rate proposal and contains a description of the rate study process, methodology, and recommendations for the City's water, recycled water, and wastewater rates.

1.2. Rate Objectives

Raftelis worked with City staff to prioritize objectives for the proposed water, recycled water, and wastewater rates. These prioritized objectives include improving fairness and equity between customer classes and minimizing impacts on customers. The rates for all utilities were increased by the revenue adjustments recommended as a result of the financial planning results. While the study shows rate recommendations for five years, the City will be implementing two years of rates for each utility.

1.3. Current Rates

1.3.1. Water

The City's current water rates were implemented on October 1, 2022 and include a bi-monthly service charge based on meter size, a bi-monthly fire protection service charge based on fire line diameter (for only those customers requiring private fire service), and a tiered usage rate charged for every hundred cubic feet (ccf¹) of water used. **Table 1-1** shows the current bi-monthly service charges by meter size.

Table 1-2 shows the current bi-monthly fire service charges by fire line diameter. Fire lines are designed to provide water in the volume and at the pressure required to operate private fire sprinklers. Larger fire line sizes require more capacity, thus the rates increase proportionally to the increased need in capacity.

Table 1-3 shows the current water usage rates by customer class and bi-monthly tiers.

¹ One ccf is equal to 748 gallons of water. The first "c" in ccf is the Latin word for hundred, "centum".

Table 1-1: Current Bi-Monthly Service Charges

Line	A	B
	Meter Size	Bi-Monthly Charges
1	5/8" Low Income	\$11.28
2	3/4" Low Income	\$15.74
3	1" Low Income	\$24.66
4	5/8"	\$32.22
5	3/4"	\$44.96
6	1"	\$70.45
7	1 1/2"	\$134.16
8	2"	\$210.61
9	3"	\$452.70
10	4"	\$809.46
11	6"	\$1,663.14
12	8"	\$3,574.36
13	10"	\$5,358.18

Table 1-2: Current Bi-Monthly Fire Service Charges

Line	Fire Line Diameter	Bi-Monthly Charges
1	Low Income	\$6.85
2	5/8"	\$6.85
3	3/4"	\$6.93
4	1"	\$7.14
5	1 1/2"	\$7.89
6	2"	\$9.20
7	3"	\$13.90
8	4"	\$21.99
9	6"	\$51.01
10	8"	\$101.08
11	10"	\$176.39

Table 1-3: Current Water Usage Rates (\$/ccf)

Line	A Customer Class	B Bi-Monthly Tiers (ccf)	C Usage Charges (\$/ccf)
1	Residential		
2	Tier 1	8	\$6.23
3	Tier 2	18	\$7.40
4	Tier 3	18+	\$9.09
5			
6	Commercial / Industrial		
7	Tier 1	110	\$6.76
8	Tier 2	110+	\$7.94
9			
10	Irrigation		
11	Tier 1	170	\$8.00
12	Tier 2	170+	\$10.18
13			
14	Hydrant	Uniform	\$7.53

1.3.2. Recycled Water

The City’s current recycled water rates were implemented on October 1, 2020 and include a bi-monthly service charge based on meter size and a uniform usage rate charged for every ccf of recycled water used. **Table 1-4** shows the current bi-monthly service charges by meter size. The bi-monthly service charges are the same as the water utility’s bi-monthly service charges by meter size. **Table 1-5** shows the current water usage rates by customer class and bi-monthly tiers.

Table 1-4: Current Bi-Monthly Recycled Water Service Charges

Line	A Meter Size	B Bi-Monthly Charges
1	5/8"	\$32.22
2	3/4"	\$44.96
3	1"	\$70.45
4	1 1/2"	\$134.16
5	2"	\$210.61
6	3"	\$452.70

7	4"	\$809.46
8	6"	\$1,663.14
9	8"	\$3,574.36
10	10"	\$5,358.18

Table 1-5: Current Recycled Water Usage Rates (\$/ccf)

Line	A Customer Class	B Bi-Monthly Tiers	C Usage Charge (\$/ccf)
1	Recycled Water	Uniform	\$5.16

1.3.3. Wastewater

The City’s current wastewater rates were implemented on October 1, 2022 and include a bi-monthly service charge for residential customers, a usage rate for coded commercial customers charged for every ccf of water used, and a usage rate for critical commercial customers charged for every ccf of wastewater flow and for every pound of carbonaceous biochemical oxygen demand (cBOD) and every pound of total suspended solids (TSS). **Table 1-6** shows the current bi-monthly residential service charges by customer class. **Table 1-7** shows the current usage rates for coded commercial customers. **Table 1-8** shows the current usage rates for critical commercial customers for flow, cBOD, and TSS.

Table 1-6: Current Bi-Monthly Residential Wastewater Charges

Line	A Residential Customers	B Current Charge
1	Standard Residential	\$77.16
2	Multi-Family (charge per unit)	\$68.68
3	Mobile Home (charge per unit)	\$54.02
4	Economy (5 to 8 units of metered water usage)	\$36.14
5	Lifeline (0 to 4 units of metered water usage)	\$18.08

Table 1-7: Current Wastewater Usage Charges for Coded Commercial Customers

Line	Coded Users	A	B Current Rate (\$/ccf)
1	With Irrigation Meters		
2	Meat Products		\$13.42
3	Slaughterhouse		\$15.44
4	Dairy Products Processor		\$11.07
5	Canning & Packing		\$7.88
6	Grain Mills		\$10.39
7	Bakeries		\$12.01
8	Fats & Oils		\$7.48
9	Beverage Bottling		\$7.11
10	Food Manufacturer		\$26.49
11	Pulp & Paper Products Manufacturer		\$9.12
12	Inorganic Chemicals		\$12.67
13	Paint Manufacturer		\$19.75
14	Leather Tanning		\$26.01
15	Fabricated Metal		\$3.76
16	Eating Places (w/o grease interceptor)		\$11.80
17	Commercial Laundry		\$7.04
18	Industrial Laundry		\$10.94
19	Eating Places (w/ grease interceptor)		\$9.11
20	Other Domestic Strength Users - Commercial/Institutional/Govt		\$6.97
21	Without Irrigation Meters		
22	Meat Products		\$12.08
23	Slaughterhouse		\$13.90
24	Dairy Products Processor		\$9.96
25	Canning & Packing		\$7.09
26	Grain Mills		\$9.35
27	Bakeries		\$10.81
28	Fats & Oils		\$6.73
29	Beverage Bottling		\$6.40
30	Food Manufacturer		\$23.84
31	Pulp & Paper Products Manufacturer		\$8.20
32	Inorganic Chemicals		\$11.41
33	Paint Manufacturer		\$17.78
34	Leather Tanning		\$23.40
35	Fabricated Metal		\$3.39
36	Eating Places (w/o grease interceptor)		\$10.62
37	Commercial Laundry		\$6.33

38	Industrial Laundry	\$9.84
39	Eating Places (w/ grease interceptor)	\$8.20
40	Other Domestic Strength Users - Commercial/Institutional/Govt	\$6.28

Table 1-8: Current Wastewater Usage Charges for Critical Commercial Customers

	A	B
Line	Critical Users	Current Rate (\$/ccf or lb)
1	Volume – Cost per ccf	\$3.32
2	cBOD – Cost per pound	\$0.77
3	Suspended Solids – Cost per pound	\$1.03

1.4. Process and Approach

Raftelis held several meetings with City staff to discuss and understand objectives, characteristics, and challenges of the City’s water, recycled water, and wastewater utilities to provide the recommendations and results in this report. Raftelis confirmed various assumptions and inputs and used an iterative process to view several scenarios to determine the recommended financial plan and rates for service. City staff discussed capital project requirements and water purchase cost estimates over a 10-year horizon, which are two primary drivers of the future revenue needs of the utilities. Raftelis then designed and presented financial plans for each utility to analyze various rate scenarios to fully fund each utility’s revenue requirements through fair, equitable, and defensible cost-based rates.

The proposed financial plans detailed in this report follow industry standards for long-term financial planning. The financial plans rely on reasonable assumptions based on industry indices, such as general inflation based on the Consumer Price Index (CPI), and input from City staff. Raftelis worked closely with City staff to determine the most accurate methodology to project future revenues and expenses to reinforce sound fiscal management practices.

The financial plans include the current fiscal year (FY) 2023 and the five-year period between FY 2024 to FY 2028. Each fiscal year begins on July 1 and ends on June 30. For example, FY 2023 is defined as the year beginning on July 1, 2022 and ending June 30, 2023. The proposed rates were developed for implementation on October 1, 2023 in FY 2024 and in October every year thereafter.

1.5. Legal Requirements²

1.5.1. California Constitution – Article XIII D, Section 6 (Proposition 218)

Proposition 218 was enacted by voters in 1996 to ensure, in part, that fees and charges imposed for ongoing delivery of a service to a property (property-related fees and charges) are proportional to, and do not exceed, the cost of providing service. Water, recycled water, and wastewater service fees and charges are property-

² Raftelis does not practice law, nor does it provide legal advice. The above discussion provides a general overview of Raftelis’ understanding as rate practitioners and is labeled “legal framework” for literary convenience only. The City should consult with its legal counsel for clarification and/or specific guidance.

related fees and charges subject to the provisions of California Constitution Article XIII D, Section 6 (Proposition 218). The principal requirements, as they relate to public utility service fees and charges are as follows:

1. Revenues derived from the fee or charge shall not exceed the costs required to provide the property-related service.
2. Revenues derived by the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.
3. The amount of the fee or charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.
4. No fee or charge may be imposed for a service unless that service is actually used or immediately available to the owner of property.
5. A written notice of the proposed fee or charge shall be mailed to the record owner of each parcel not less than 45 days prior to a public hearing, when the agency considers all written protests against the charge.

As stated in the M1 Manual, “water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers.” Raftelis follows industry standard rate setting methodologies set forth by the AWWA M1 Manual to ensure that the results of this study meet Proposition 218 requirements and create rates that do not exceed the proportionate cost of providing water service.

1.5.2. California Constitution – Article X, Section 2

Article X, Section 2 of the California Constitution states the following:

“It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.”

Article X, Section 2 of the State Constitution establishes the need to preserve the state’s water supplies and to discourage the waste or unreasonable use of water by encouraging conservation. Public agencies are constitutionally mandated to maximize the beneficial use of water, prevent waste, and encourage conservation.

In addition, Section 106 of the California Water Code declares that the highest priority use of water is for domestic purposes, with irrigation water secondary. To meet the objectives of Article X, Section 2 and the California Water Code, a water purveyor may utilize its water rate design to incentivize the efficient use of water. The City established tiered water rates (also known as “inclining tier” or “inclining block”) water rates to incentivize customers to use water in an efficient manner. The inclining tier rates (as well as rates for uniform rate classes) need to be based on the proportionate costs incurred to provide water to, and within, each customer class to achieve compliance with Proposition 218.

Tiered water rate structures, when properly designed and differentiated by customer class, allow a water utility to send conservation price signals to customers while proportionately allocating the costs of service. Due to a necessity in reducing water waste and increasing efficiency, tiered water rates are ubiquitous,

especially in relatively water-scarce regions like California. Tiered rates meet the requirements of Proposition 218 if the tiered rates reflect the proportionate cost of providing service within each tier.

1.6. Financial Plan Results and Recommendations

1.6.1. Water

1.6.1.1. Factors Affecting Revenue Requirements

The following items affect the water utility’s revenue requirement (i.e., costs) and thus its water rates. The utility’s expenses include O&M expenses, capital projects, debt service, and reserve funding.

- Water Supply Costs:** The City purchases all of its potable water from the San Francisco Public Utilities Commission (SFPUC). For FY 2024, the estimated cost of purchasing water from SFPUC is \$36.7 million, approximately 65% of the City’s water operating budget. This purchase cost is expected to increase to \$45.2 million by FY 2032. SFPUC costs are projected to increase on average by 3.5% per year during the study period. However, rate increases implemented by SFPUC can be unpredictable. Since the cost of purchasing water from SFPUC makes up most of the City’s annual water operating budget, an unexpected rate increase has the potential to significantly impact the City’s ratepayers and financial position.
- Capital Funding:** The water utility has approximately \$47.7 million in planned capital expenditures from FY 2024 through FY 2028 and \$86.7 million over the study’s financial planning horizon (through FY 2032). Planned capital project costs are anticipated to be entirely funded through net rate revenues and existing and future reserves.
- Reserve Funding:** The City’s current reserve policy consists of a reserve target equal to approximately 25% of annual O&M expenses, 100% of the rolling average of five years of rate-funded CIP, and 25% of commodity rate revenues. **Table 1-9** shows a summary of the existing reserve policy and the reserve target for FY 2024.

Table 1-9: Existing Reserve Policy and FY 2024 Targets

	A	B	C
Line	Reserve Targets	Recommended Target Policy	FY 2024 Target
1	Operating	25% O&M Expenses	\$14,387,534
2	Capital	One Year of 5-year Average CIP	\$9,549,009
3	Rate Stabilization	25% of Commodity Revenues	\$11,973,031
4	Total		\$35,909,573
5			
6	<i>Days Cash on Hand</i>		<i>191</i>

1.6.1.2. Financial Plan Results

Table 1-10 shows the proposed revenue adjustments that allows the City to maintain financial sufficiency, fund operating and capital expenses, and achieve recommended cash reserves for the water utility. The proposed adjustments apply to the City’s rate revenues, which were projected for future years assuming no growth in customer accounts or demand during the study period. Water demand in FY 2022 represents the estimated baseline use for the City’s customers, which has stabilized after the last multi-year drought. Other

agencies throughout California have observed similar stabilization and hardening of water demand in recent years. We assume no growth in customer demand throughout the period in order to conservatively project future rate revenues.

The proposed revenue adjustments represent the increase to total rate revenues required to recover the water utility’s costs. The proposed water rates are based on an across-the-board increase in the City’s existing rates, so the revenue adjustments also represent the expected impact to each customer.

Table 1-10: Proposed Water Revenue Adjustments

Line	Revenue Adjustments	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
1	Effective Month	October	October	October	October	October
2	Percent Adjustment	10%	10%	5%	5%	5%

Figure 1-1 shows the five-year financial plan for FY 2024 through FY 2028. The stacked bars represent the costs of the water utility: O&M expenses, which include SFPUC costs, make up the largest portion (blue bars). Debt service (orange bars) are minimal, and CIP costs (yellow bars) represent the costs of the rate funded capital program. Net cash flow (green bars) is negative in FY 2024 and FY 2025 and is therefore not shown on the figure during those years. This means that the City will draw from reserves to fund a portion of expenses in those years. Current revenues (solid line) equal the projected revenues at the City’s existing water rates and proposed revenues (dotted line) equal the projected revenues with the proposed revenue adjustments in **Table 1-10** applied.

Figure 1-1: Water Financial Plan

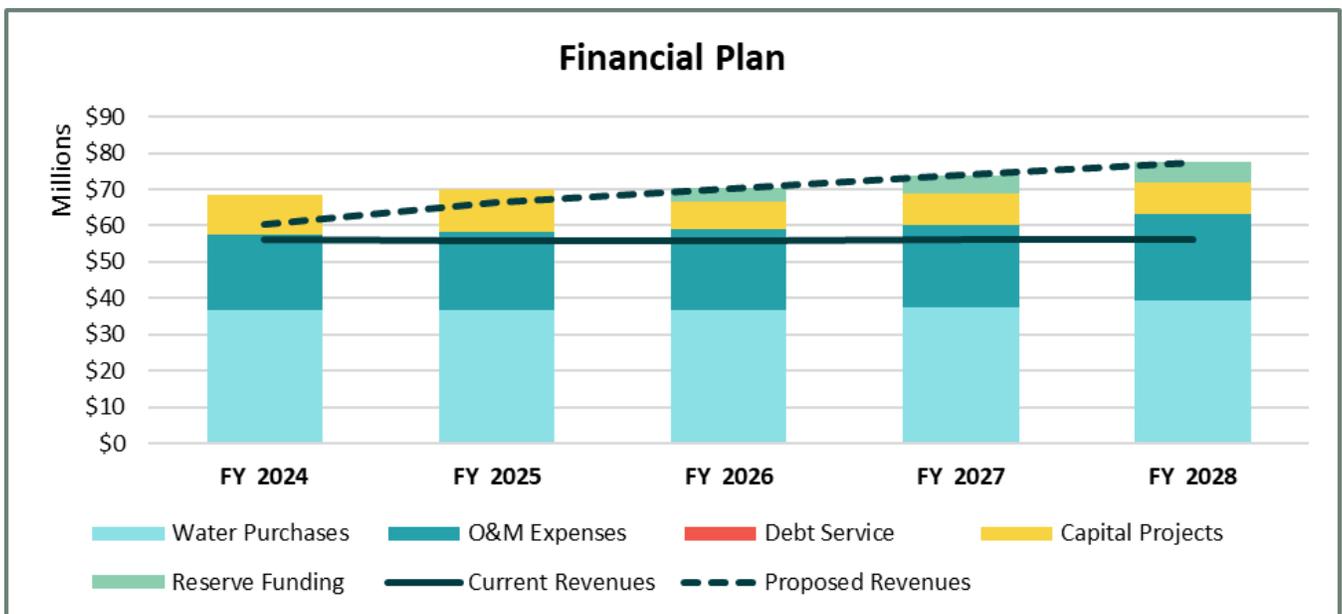


Figure 1-2 shows the combined ending fund balances (green bars) for two of the City’s water funds (Operating and Capital Replacement) from FY 2023 to FY 2032. Although the study period and resulting rate schedule is projected for five years, the City plans to build its reserves over a longer planning horizon to

minimize customer impacts. The reserve target (dark blue line) is determined based on the recommended reserve policy targets in **Table 1-9**. The ending fund balances fall slightly below the reserve target from FY 2024 through FY 2027 but increase to target by FY 2028.

Figure 1-2: Water Fund Balances

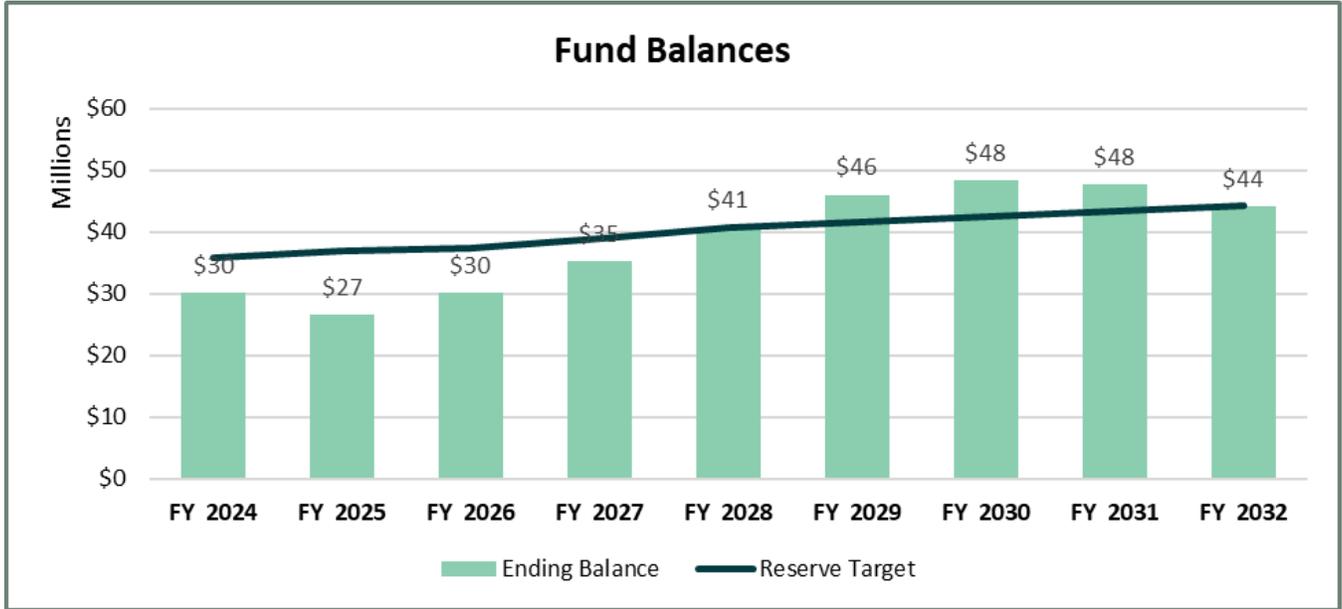
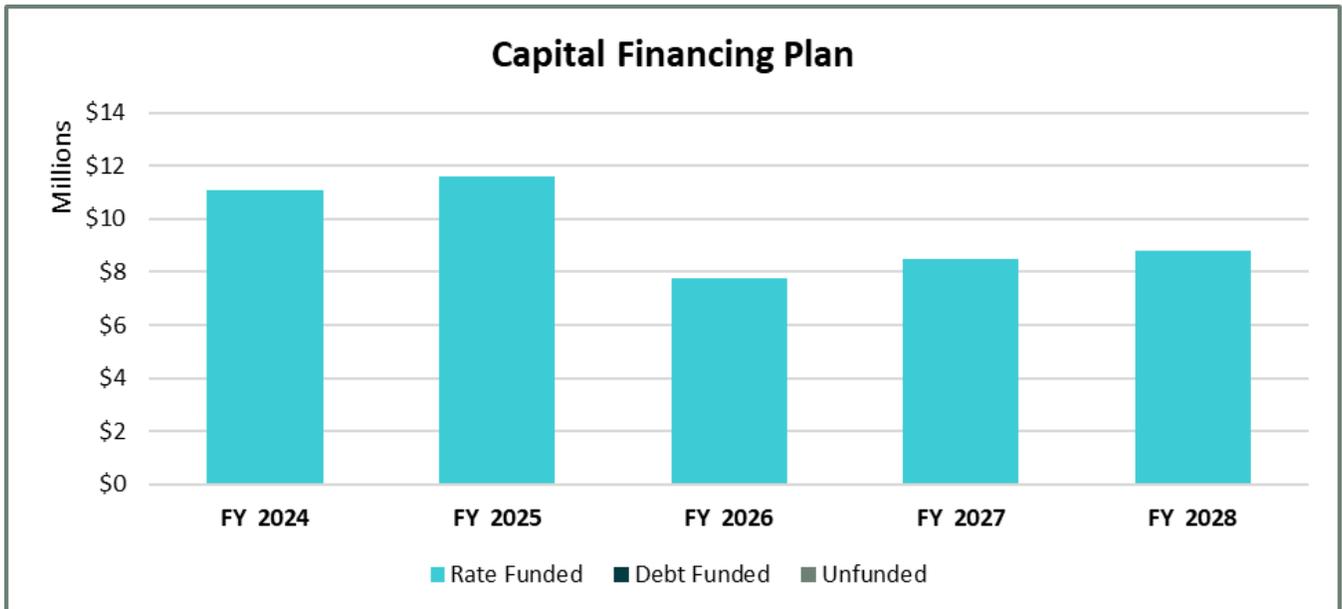


Figure 1-3 shows the five-year CIP expenditures from FY 2024 through FY 2028. All planned CIP expenses for the five-year period are anticipated to be entirely cash funded through rate revenues and existing capital reserves.

Figure 1-3: Water Capital Financing Plan



1.6.1.3. Proposed Water Rates

Table 1-11, Table 1-12, and Table 1-13 shows the proposed bi-monthly service charges, bi-monthly fire service charges, and water usage rates, respectively, for FY 2024 through FY 2025 based on the above recommendations. Rates are all determined by increasing the current rates by the proposed revenue adjustments.

Table 1-11: Proposed Bi-Monthly Water Service Charges

	A	B	C
Line	Meter Size	Proposed FY 2024	Proposed FY 2025
1	5/8" Low Income	\$12.41	\$13.66
2	3/4" Low Income	\$17.32	\$19.06
3	1" Low Income	\$27.13	\$29.85
4	5/8"	\$35.45	\$39.00
5	3/4"	\$49.46	\$54.41
6	1"	\$77.50	\$85.25
7	1 1/2"	\$147.58	\$162.34
8	2"	\$231.68	\$254.85
9	3"	\$497.97	\$547.77
10	4"	\$890.41	\$979.46
11	6"	\$1,829.46	\$2,012.41
12	8"	\$3,931.80	\$4,324.98
13	10"	\$5,894.00	\$6,483.40

Table 1-12: Proposed Bi-Monthly Fire Service Charges

	A	B	C
Line	Fire Line Diameter	Proposed FY 2024	Proposed FY 2025
1	5/8"	\$7.54	\$8.30
2	3/4"	\$7.63	\$8.40
3	1"	\$7.86	\$8.65
4	1 1/2"	\$8.68	\$9.55
5	2"	\$10.12	\$11.14
6	3"	\$15.29	\$16.82
7	4"	\$24.19	\$26.61
8	6"	\$56.12	\$61.74
9	8"	\$111.19	\$122.31
10	10"	\$194.03	\$213.44

Table 1-13: Proposed Bi-Monthly Water Usage Rates (\$/ccf)

Line	A Customer Class	B Bi-Monthly Tiers (ccf)	C Proposed FY 2024	D Proposed FY 2025
1	Residential			
2	Tier 1	8	\$6.86	\$7.55
3	Tier 2	18	\$8.14	\$8.96
4	Tier 3	18+	\$10.00	\$11.00
5				
6	Commercial / Industrial			
7	Tier 1	110	\$7.44	\$8.19
8	Tier 2	110+	\$8.74	\$9.62
9				
10	Irrigation			
11	Tier 1	170	\$8.80	\$9.68
12	Tier 2	170+	\$11.20	\$12.32
13				
14	Hydrant	Uniform	\$8.29	\$9.12

1.6.1.4. Rate Survey

The City prepared a survey of bi-monthly Single Family Residential and Commercial customer bills for several local agencies and agencies that also purchase 100% of their potable water from SFPUC.. **Figure 1-4** and **Figure 1-5** shows the Single Family bill comparison for a 5/8” meter using 12 ccf of water per bi-monthly billing period.

Figure 1-4: Single Family Water Bill Comparison with Non-SFPUC Agencies

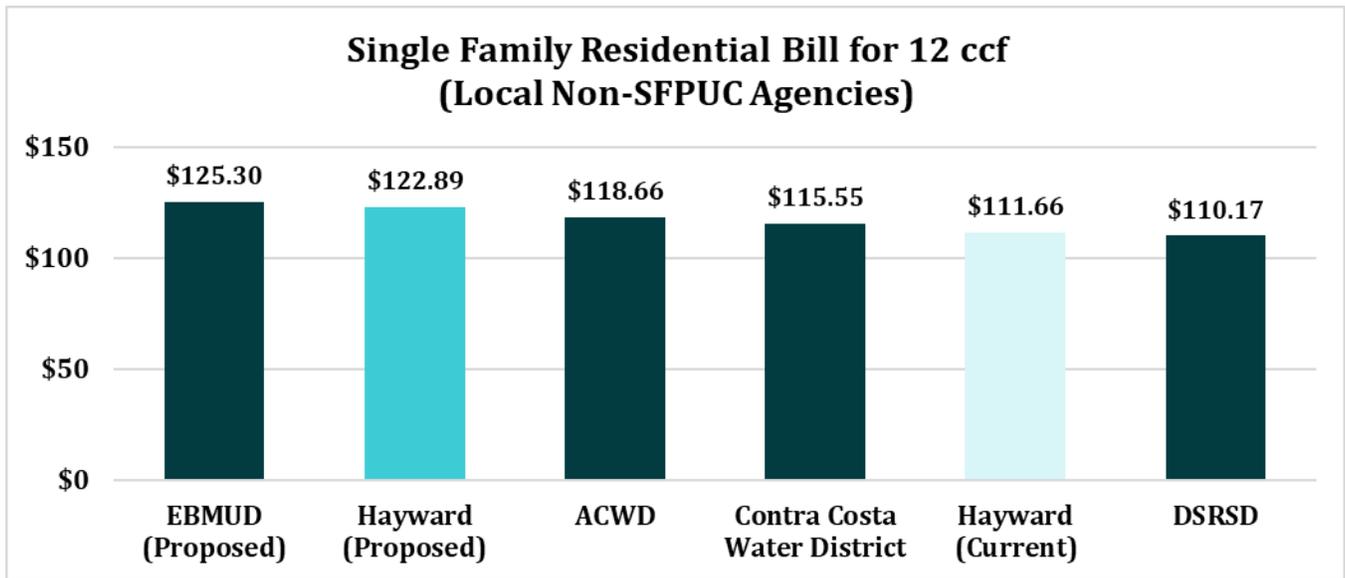


Figure 1-5: Single Family Water Bill Comparison with SFPUC Agencies

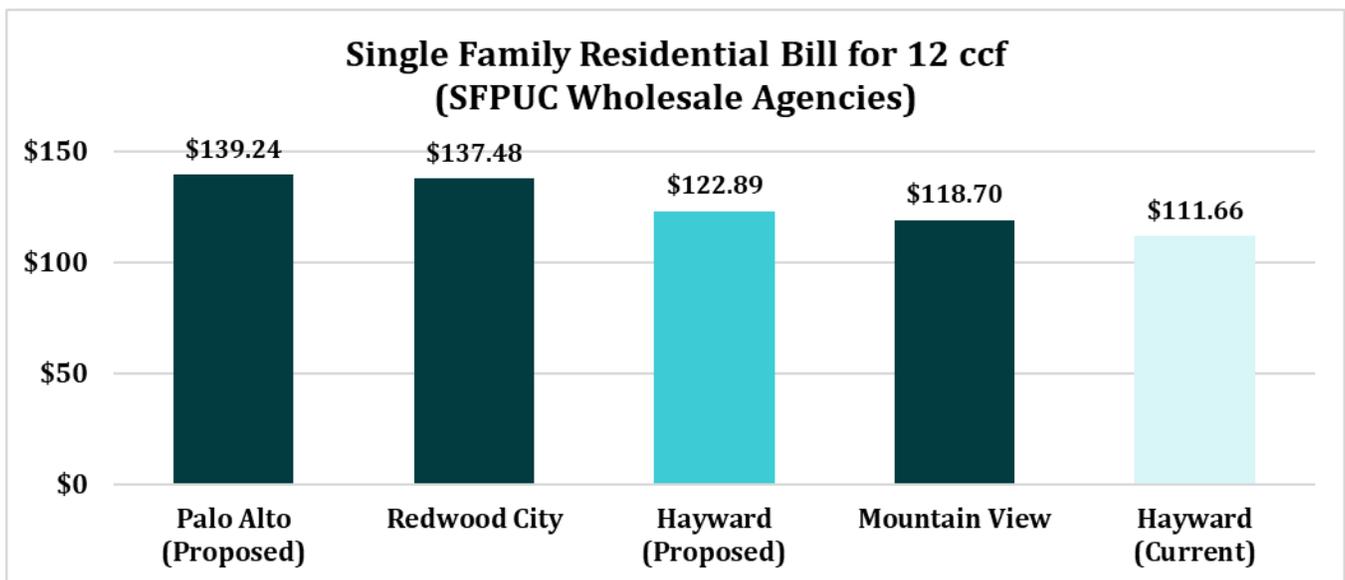


Figure 1-6 and Figure 1-7 show the Commercial bill comparison for a 1” meter using 110 ccf of water per bi-monthly billing period. Water bills for the City’s customers are generally higher than those of local agencies. However, this is mainly due to the cost of purchasing SFPUC water. Compared to the agencies in the area that also deliver SFPUC water, the City’s water bills are at the lower end.

Figure 1-6: Commercial Water Bill Comparison with Local Non-SFPUC Agencies

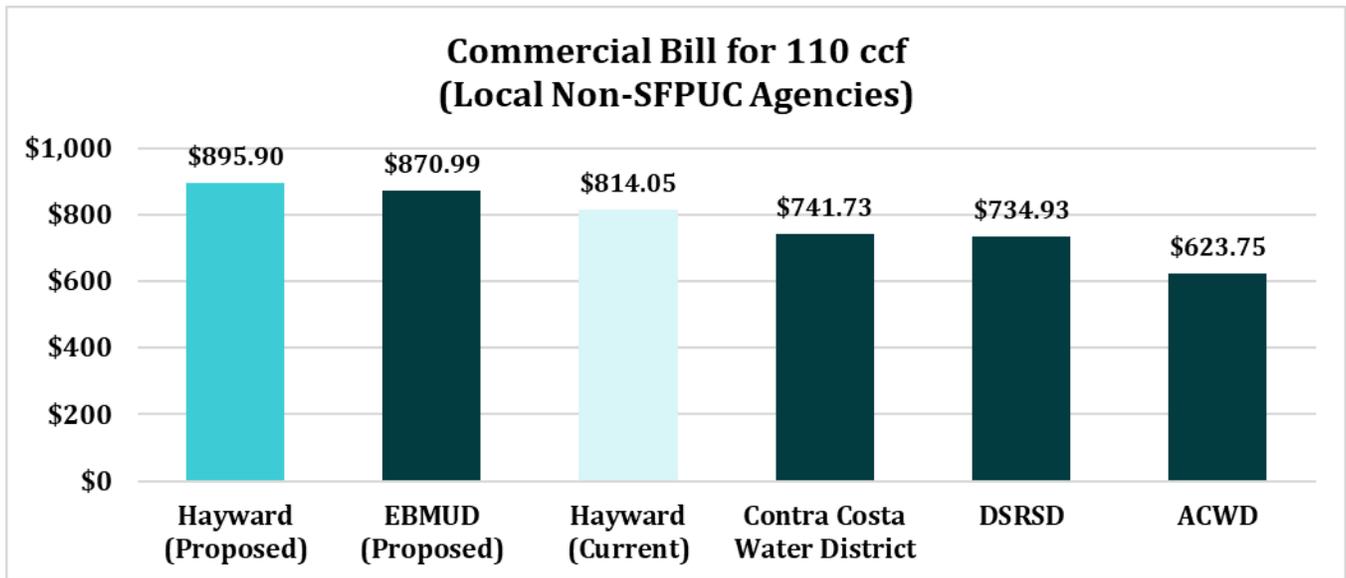
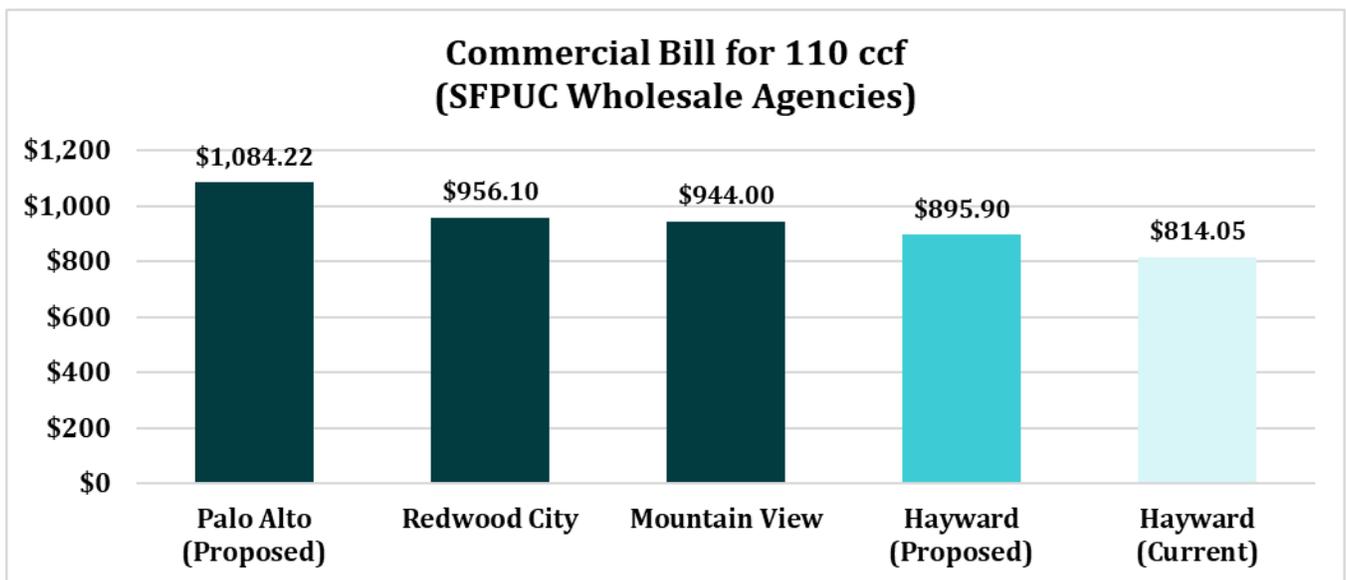


Figure 1-7: Commercial Water Bill Comparison with SFPUC Agencies



1.6.2. Recycled Water

1.6.2.1. Factors Affecting Revenue Requirements

The following items affect the recycled water utility’s revenue requirement (i.e., costs) and thus its rates. The utility’s expenses include O&M expenses, debt service, and reserve funding.

- Debt Service Payments:** The recycled water utility currently spends 56% of its total expenses on annual debt service payments for their 2021 SRF Loan. While the payments remain constant, they will continue well past the end of the 10-year financial planning horizon. It is important for the recycled water utility to recover sufficient rate revenue to maintain sufficient debt service coverage into the future.

- Reserve Funding:** As a new utility, the recycled water funds will need to build up reserves over time. The recycled water utility does not have a formally adopted reserve policy. Reserves targets are adopted to ensure enough cash on hand to meet routine cash flow needs, navigate emergencies in the event of asset failure or natural disaster, and to protect ratepayers from rate spikes. The recommended reserve policy is discussed in the following section.

1.6.2.2. Recommended Reserve Policy

Raftelis worked with City staff to understand the needs of the recycled water utility and to develop a recommendation for the reserve policy, which is listed in Table 1-14. Our recommendation includes the following:

- Operating:** The City bills customers on a bi-monthly billing cycle, which can impact cash flows since revenues are collected six times, while expenses may be incurred twelve times per year (monthly). The recommended operating reserve target allows the City to maintain adequate cash flow throughout the year and to fund planned O&M expenses, as well as any unexpected operating costs that may arise. Because recycled water revenues are more volatile, the operating reserve target is set higher than the operating reserve target for water and wastewater.
- Rate Stabilization:** While recycled water expenses are expected to remain fairly stable for the financial planning period, a rate stabilization reserve would create a financial safety net in the event of facility failure or natural disaster. The recommended rate stabilization reserve target will help reduce the need for unreasonable rate increases and smooth out water rates. Similarly, the reserve target for recycled water is higher since recycled water usage, which is primarily for irrigation purposes, is typically more volatile than that of water or wastewater consumption.

In total, the recommended reserve policy calls for a target balance of approximately \$758k in FY 2024.

Table 1-14: Recommended Recycled Water Reserve Policy

	A	B	C
Line	Reserve Targets	Recommended Target Policy	FY 2024 Target
1	Operating	60% O&M Expenses	\$308,727
2	Rate Stabilization	60% of Commodity Revenues	\$449,614
3	Total		\$758,342

1.6.2.3. Financial Plan Results

Table 1-15 shows the proposed revenue adjustments that allows the City to maintain financial sufficiency, fund operating expenses, and achieve recommended cash reserves for the recycled water utility. The proposed adjustments apply to the City’s rate revenues, which were projected for future years assuming no growth in customer accounts or demand during the study period. Recycled water demand in FY 2022 represents estimated baseline use for the City’s customers. We assume no growth in customer demand throughout the period in order to conservatively project rate revenues and to consider the potential of near-term drought conditions.

Table 1-15: Proposed Recycled Water Revenue Adjustments

	A	B	C	D	E	F
Line	Revenue Adjustments	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
1	Effective Month	October	October	October	October	October
2	Percent Adjustment	35%	10%	5%	5%	0%

Figure 1-8 shows the five-year financial plan for FY 2024 through FY 2028. The stacked bars represent the costs of the recycled water utility: O&M expenses are the blue bars and debts service is the orange bars. Net cash flow (green bars) falls below zero in FY 2026, meaning that the City will draw from reserves to fund a portion of expenses in those years. Current revenues (solid line) equal the projected revenues at the City’s existing recycled water rates and proposed revenues (dotted line) equal the projected revenues with the proposed revenue adjustments in Table 1-15 applied.

Figure 1-8: Recycled Water Financial Plan

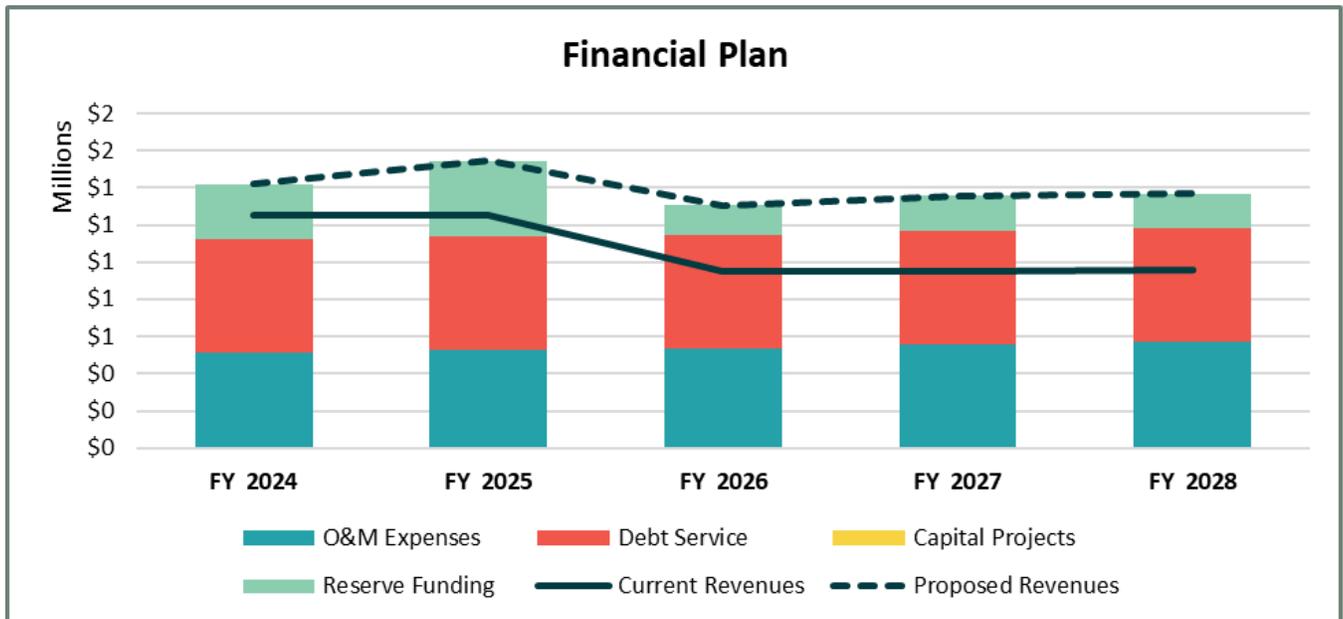
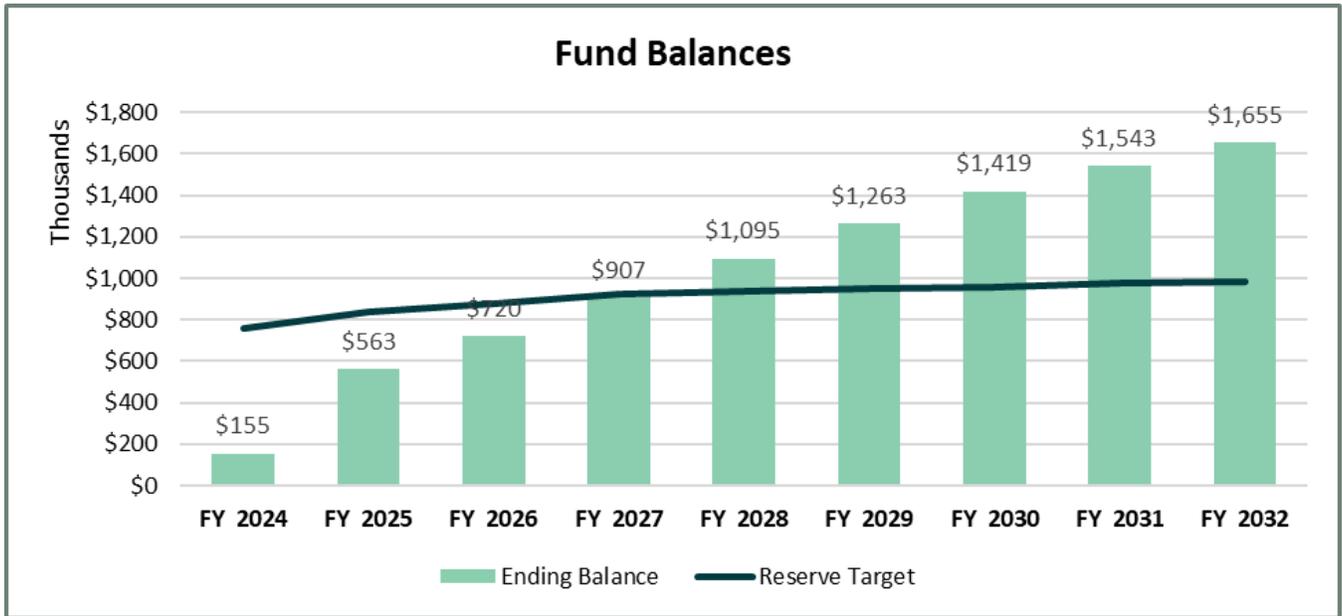


Figure 1-9 shows the combined ending fund balances (green bars) for the City’s Recycled Water fund from FY 2024 to FY 2032. Although the study period and resulting rate schedule is projected for five years, the City plans to build its reserves over a longer planning horizon to minimize customer impacts. The reserve target (dark blue line) is determined based on the recommended reserve policy targets in Table 1-14. The ending fund balances fall below the reserve target in each year from FY 2024 through FY 2027 but will increase to achieve the target in FY 2028. The City will be able to build its reserves in the out years to establish and operate the recycled water utility independently of the water and wastewater utilities.

Figure 1-9: Recycled Water Fund Balances



1.6.2.4. Proposed Recycled Water Rates

Table 1-16 and Table 1-17 show the proposed bi-monthly service charges and recycled water usage rates, respectively, for FY 2024 through FY 2025 based on the above recommendations. Rates for all years are increased based on the corresponding revenue adjustments in Table 1-15. Because the current rates were increased by the proposed revenue adjustments, all customer impacts will be equal to that year’s revenue adjustment.

Table 1-16: Proposed Bi-Monthly Recycled Water Service Charges

Line	A		B		C	
	Meter Size		Proposed FY 2024		Proposed FY 2025	
1	5/8"		\$35.45		\$39.00	
2	3/4"		\$49.46		\$54.41	
3	1"		\$77.50		\$85.25	
4	1 1/2"		\$147.58		\$162.34	
5	2"		\$231.68		\$254.85	
6	3"		\$497.97		\$547.77	
7	4"		\$890.41		\$979.46	
8	6"		\$1,829.46		\$2,012.41	
9	8"		\$3,931.80		\$4,324.98	
10	10"		\$5,894.00		\$6,483.40	

Table 1-17: Proposed Recycled Water Usage Rates (\$/ccf)

Line	A		B		C	
	Commodity Rates (\$/ccf)		Proposed FY 2024		Proposed FY 2025	
1	Recycled Water		\$6.76		\$7.44	

1.6.2.5. Rate Survey

The City prepared a survey of bi-monthly Recycled Water customer bills for several local agencies. Since not all agencies have recycled water utilities, the City also compared their recycled water rate to other local agencies' non-residential or irrigation rates for potable water, which would be used for the same purpose.

Figure 1-10 shows the comparison to other recycled water rates, and **Figure 1-11** shows the comparison to non-residential and irrigation rates.

Figure 1-10: Recycled Water Usage Rate Comparison

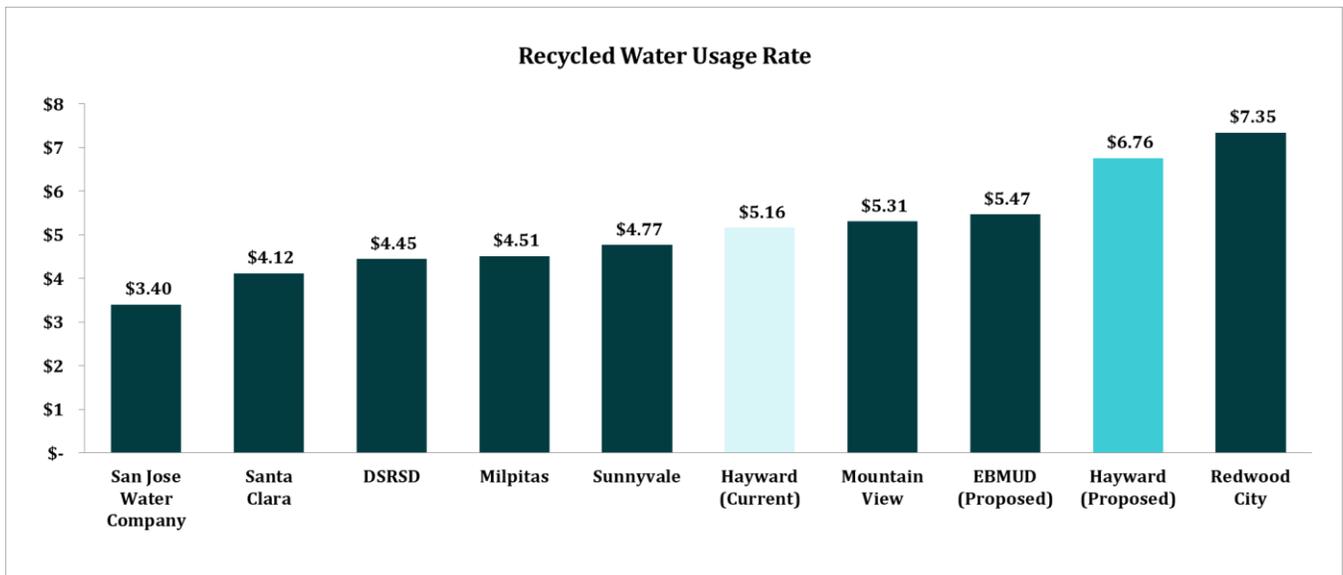
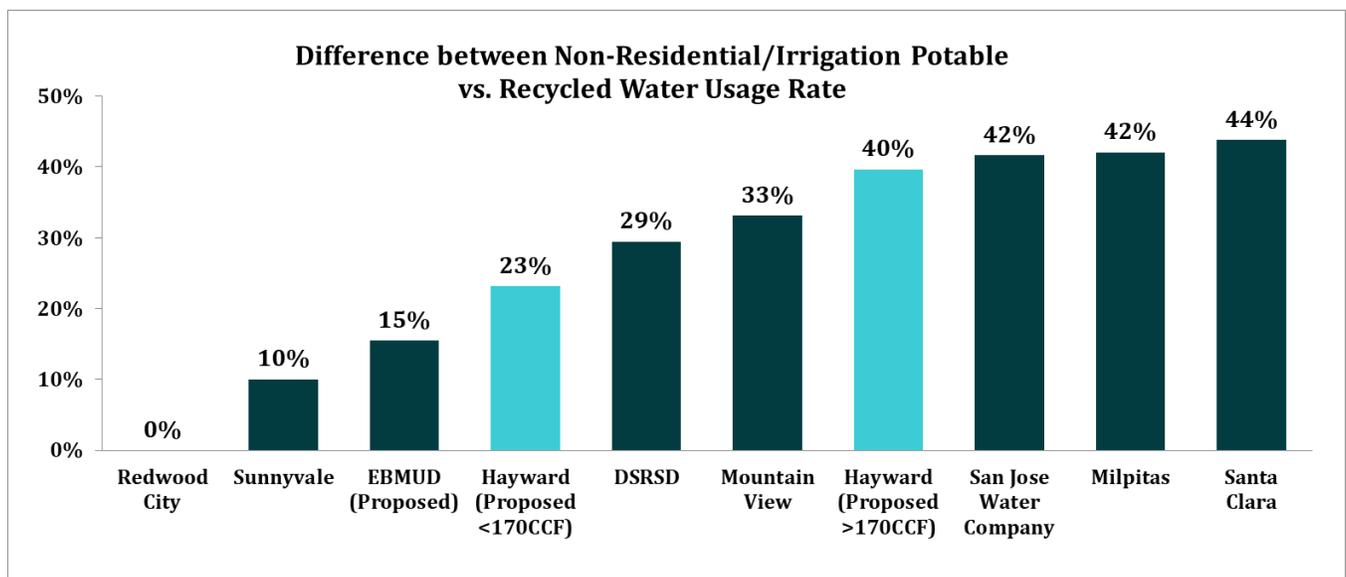


Figure 1-11: Non-Residential/Irrigation Potable Rate Comparison



1.6.3. Wastewater

1.6.3.1. Factors Affecting Revenue Requirements

The following items affect the wastewater utility’s revenue requirement (i.e., costs) and thus its wastewater rates. The utility’s expenses include O&M expenses, capital project costs, debt service, and reserve funding.

- Capital Funding:** The wastewater utility has approximately \$97.5 million in planned capital expenditures from FY 2024 through FY 2028 and \$137.2 million over the study’s financial planning horizon (from FY 2024 through FY 2032). Much of the planned CIP expenditures is for the new Water Pollution Control Facility (WPCF) project, with \$54.1 million being funded from the Sewer Replacement Fund from FY 2025 to FY 2028. Planned capital project costs are anticipated to be funded by a mix of State Revolving Fund (SRF) loan proceeds, Water Infrastructure Finance and Innovation Act (WIFIA) loan proceeds, and rate revenue.
- Reserve Funding:** Reserve targets are adopted to ensure enough cash on hand to meet routine cash flow needs, provide adequate funding for planned repairs and replacements (R&R) CIP, navigate emergencies in the event of asset failure or natural disaster, and to protect ratepayers from rate spikes. The recommended reserve policy is discussed in the following section.

1.6.3.2. Recommended Reserve Policy

Raftelis worked with City staff to understand the needs of the wastewater utility and to develop a recommendation for the reserve policy, which is listed in **Table 1-18**. Our recommendation includes the following components:

- Operating:** The City bills customers on a bi-monthly billing cycle, which can impact cash flows since revenues are collected six times, while expenses may be incurred twelve times per year (monthly). The recommended operating reserve target allows the City to maintain adequate cash flow throughout the year and to fund planned O&M expenses, as well as any unexpected operating costs that may arise.
- Capital:** Capital expenditures over the planning horizon represent a significant portion of the City’s annual costs. However, capital spending can often be unpredictable and subject to changing schedules and costs estimates. Since the City is expecting to cash fund a large portion of the wastewater CIP, maintaining adequate reserves is even more critical. The recommended capital reserve target provides the City with cash on hand to adequately fund each year’s planned rate funded capital projects.
- Rate Stabilization:** The recommended rates stabilization reserve target will help reduce the need for unreasonable rate increases and smooth out wastewater rates, even in the instance of unexpected increases in operating or capital costs.

In total, the recommended reserve policy calls for a target balance of approximately \$21.1 million in FY 2024. The recommended policy matches the current water reserve policy.

Table 1-18: Recommended Wastewater Reserve Policy

	A	B	C
Line	Reserve Targets	Recommended Target Policy	FY 2024 Target
1	Operating	25% O&M Expenses	\$5,298,440
2	Capital	One Year of 5-year Average CIP	\$8,672,738
3	Rate Stabilization	25% of Service Charges	\$7,128,638
4	Total		\$21,099,815
5			

1.6.3.3. Financial Plan Results

Table 1-19 shows the proposed revenue adjustments that allows the City to maintain financial sufficiency, fund operating and capital expenses, and achieve recommended cash reserves for the wastewater utility. The proposed adjustments apply to the City’s rate revenues, which were projected for future years assuming no growth in customer accounts or demand during the study period. We assume no growth in customer demand throughout the period in order to conservatively project future rate revenues. The proposed revenue adjustments are applied across all existing charges for each year of the rate study.

Table 1-19: Proposed Wastewater Revenue Adjustments

Line	A	B	C	D	E	F
	Revenue Adjustments	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
1	Effective Month	October	October	October	October	October
2	Percent Adjustment	7%	7%	7%	7%	7%

Figure 1-12 shows the five-year financial plan for FY 2024 through FY 2028. The stacked bars represent the costs of the wastewater utility: O&M expenses (gray bars), debt service (orange bars), and rate-funded CIP costs (yellow bars). Net cash flow (green bars) falls below zero in all years of the rate study, meaning that the City will draw from reserves to fund a portion of expenses in those years. Current revenues (solid line) equal the projected revenues at the City’s existing water rates and proposed revenues (dotted line) equal the projected revenues with the proposed revenue adjustments in Table 1-19 applied.

Figure 1-12: Wastewater Financial Plan

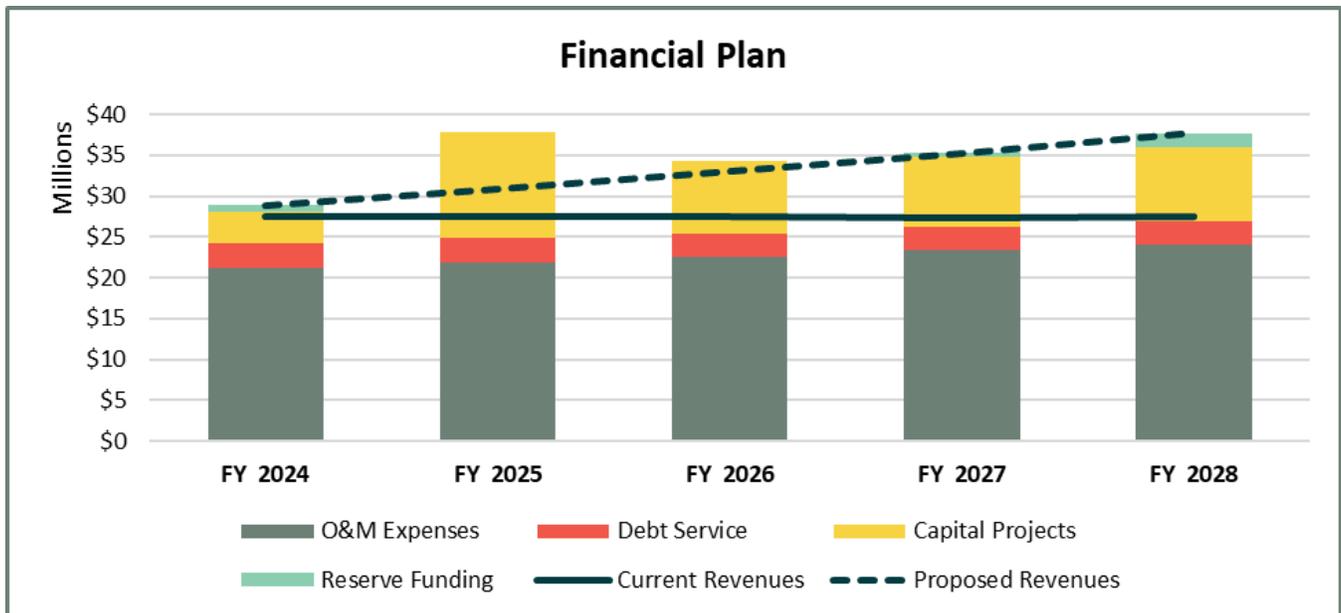


Figure 1-13 shows the combined ending fund balances (green bars) for the City’s Wastewater Operating Fund and Wastewater Replacement Fund from FY 2024 through FY 2032. Although the study period and resulting

rate schedule is projected for five years, the City plans to build its reserves over a longer planning horizon to minimize customer impacts. The reserve target (dark blue line) is determined based on the recommended reserve policy targets in **Table 1-18**. The ending fund balances fall slightly below the reserve target in each year from FY 2025 through FY 2028, but will increase to achieve the target in FY 2029. The City will build its wastewater reserves in preparation for the WIFIA and SRF loan debt service later on in the planning period.

Figure 1-13: Wastewater Fund Balances

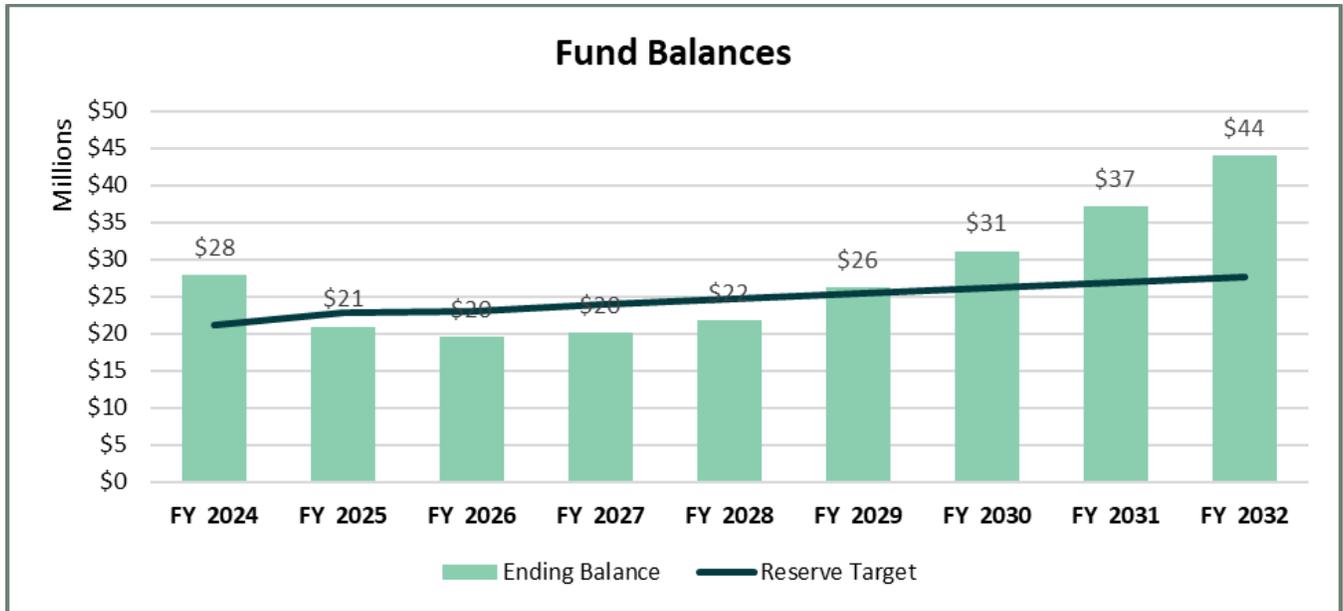
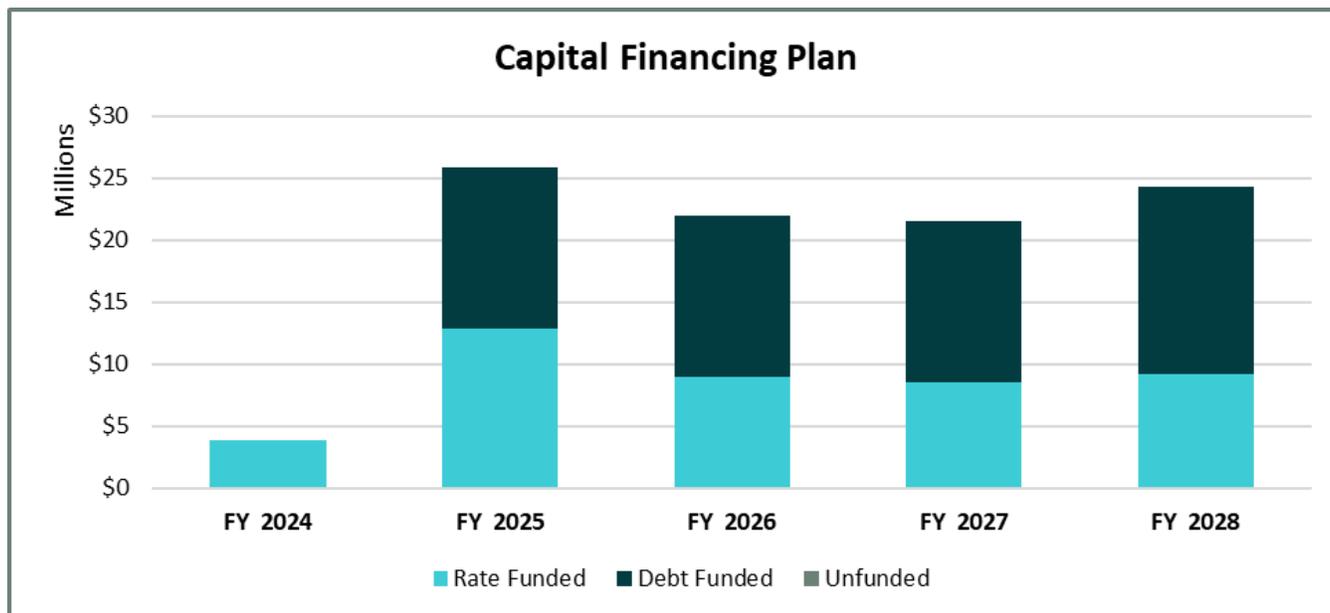


Figure 1-14 shows the five-year CIP expenditures from FY 2024 through FY 2028. CIP expenditures will be funded by a combination of debt proceeds and rate revenue and existing capital reserves

Figure 1-14: Wastewater Capital Financing Plan



1.6.3.4. Proposed Wastewater Rates

Table 1-20, Table 1-21, and Table 1-22 show the proposed bi-monthly charges, coded user usage charges, and critical user usage charges, respectively, for FY 2024 through FY 2025 based on the above recommendations. Rates for all years are determined by increasing current rates by the corresponding revenue adjustments in Table 1-19. Since the current wastewater rates are being increased by the revenue adjustments, all bill impacts will mirror the proposed revenue adjustments.

Table 1-20: Proposed Bi-Monthly Residential Wastewater Charges

Line	Residential Customers	A	B	C
			Proposed FY 2024	Proposed FY 2025
1	Standard Residential		\$82.58	\$88.38
2	Multi-Family (charge per unit)		\$73.50	\$78.66
3	Mobile Home (charge per unit)		\$57.82	\$61.88
4	Economy (5 to 8 units of metered water usage)		\$38.68	\$41.40
5	Lifeline (0 to 4 units of metered water usage)		\$19.36	\$20.72

Table 1-21: Proposed Wastewater Usage Charges for Coded Commercial Customers

Line	Coded Users	A	B	C
			Proposed FY 2024	Proposed FY 2025
1	With Irrigation Meters			
2	Meat Products		\$14.36	\$15.37
3	Slaughterhouse		\$16.53	\$17.69
4	Dairy Products Processor		\$11.85	\$12.68
5	Canning & Packing		\$8.44	\$9.04
6	Grain Mills		\$11.12	\$11.90

7	Bakeries	\$12.86	\$13.77
8	Fats & Oils	\$8.01	\$8.58
9	Beverage Bottling	\$7.61	\$8.15
10	Food Manufacturer	\$28.35	\$30.34
11	Pulp & Paper Products Manufacturer	\$9.76	\$10.45
12	Inorganic Chemicals	\$13.56	\$14.51
13	Paint Manufacturer	\$21.14	\$22.62
14	Leather Tanning	\$27.84	\$29.79
15	Fabricated Metal	\$4.03	\$4.32
16	Eating Places (w/o grease interceptor)	\$12.63	\$13.52
17	Commercial Laundry	\$7.54	\$8.07
18	Industrial Laundry	\$11.71	\$12.53
19	Eating Places (w/ grease interceptor)	\$9.75	\$10.44
20	Other Domestic Strength Users - Commercial/Institutional/Govt	\$7.46	\$7.99
21	Without Irrigation Meters		
22	Meat Products	\$12.93	\$13.84
23	Slaughterhouse	\$14.88	\$15.93
24	Dairy Products Processor	\$10.66	\$11.41
25	Canning & Packing	\$7.59	\$8.13
26	Grain Mills	\$10.01	\$10.72
27	Bakeries	\$11.57	\$12.38
28	Fats & Oils	\$7.21	\$7.72
29	Beverage Bottling	\$6.85	\$7.33
30	Food Manufacturer	\$25.51	\$27.30
31	Pulp & Paper Products Manufacturer	\$8.78	\$9.40
32	Inorganic Chemicals	\$12.21	\$13.07
33	Paint Manufacturer	\$19.03	\$20.37
34	Leather Tanning	\$25.04	\$26.80
35	Fabricated Metal	\$3.63	\$3.89
36	Eating Places (w/o grease interceptor)	\$11.37	\$12.17
37	Commercial Laundry	\$6.78	\$7.26
38	Industrial Laundry	\$10.53	\$11.27
39	Eating Places (w/ grease interceptor)	\$8.78	\$9.40
40	Other Domestic Strength Users - Commercial/Institutional/Govt	\$6.72	\$7.20

Table 1-22: Proposed Wastewater Usage Charges for Critical Commercial Customers

	A	B	C
Line	Critical Users	Proposed FY 2024	Proposed FY 2025
1	Volume – Cost per 100 cubic feet	\$3.45	\$3.69
2	CBOD – Cost per pound	\$0.82	\$0.88
3	Suspended Solids – Cost per pound	\$1.11	\$1.18

1.6.3.5. Rate Survey

The City prepared a survey of bi-monthly Single Family Residential and Restaurant with grease interceptor customer bills for several local agencies, shown respectively in **Figure 1-15** and **Figure 1-16**.

Figure 1-15: Single Family Wastewater Bill Comparison with Local Agencies

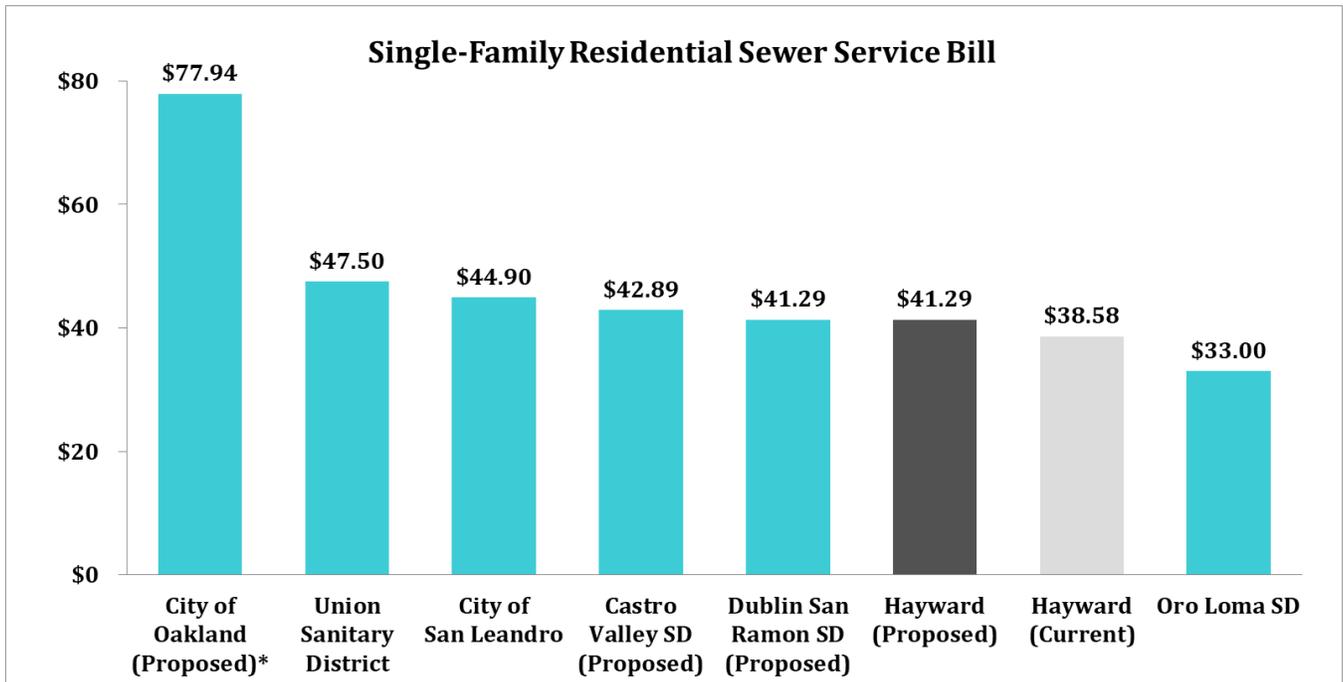
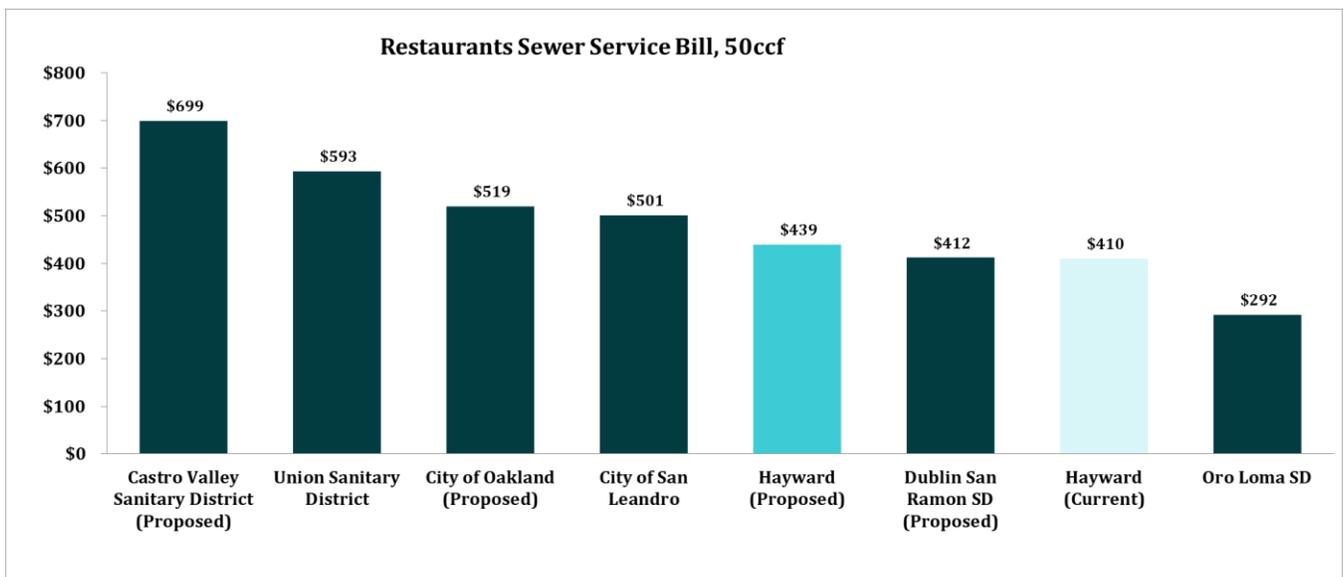


Figure 1-16: Restaurant with Grease Interceptor Wastewater Bill Comparison with Local Agencies



1.7. Connection Fees

In addition to the rate study, the City engaged Raftelis to conduct an analysis of its water, recycled water, and wastewater connection fees. Connection fees are one-time fees, collected as a condition of establishing a new connection to the City's water, recycled water, and/or wastewater system or the expansion of an already existing connection. The purpose of these fees is to pay for development's share of the costs of utility facilities. These fees are designed to be proportional to the demand placed on the system by the new or expanded connection. The recommended connection fees for the service area do not exceed the estimated reasonable costs of providing the facilities for which they are collected and are of proportional benefit to the property being charged. This report documents the data, methodology, and results of the capacity fee study.

1.7.1. Economic and Legal Framework

For publicly owned water systems, most of the assets are typically paid for by the contributions of existing customers through rates, charges, and taxes. In service areas that incorporate new customers, the infrastructure developed by previous customers is generally extended towards the service of new customers. Existing customers' investment in the existing system capacity allows newly connecting customers to take advantage of unused surplus capacity. To enhance economic equality among new and existing customers, new connectors will typically buy-into the existing and pre-funded facilities effectively putting them on par with existing customers. In other words, the new users are buying into the existing system through a payment for the portion of facilities that has already been constructed in advance of new development.

1.7.1.1. Economic Framework

The basic economic philosophy behind connection fees is that the costs of providing service should be paid for by those that are served by the utility. To affect fair distribution of the value of the system, the charge should reflect a reasonable estimate of the cost of providing capacity to new users, and not unduly burden existing users through a comparable rate increase. The philosophy that service should be paid for by those that receive utility from the system is often referred to as "growth-should-pay-for-growth." Accordingly, many utilities make this philosophy one of their primary guiding principles when developing their capacity fee structure. For water utilities, the principal is summarized in the American Water Works Association (AWWA) Manual M1, Water Rates and Related Charges:

- A critical step in developing System Development Charges (SDC s) is to identify the objectives to be achieved by the SDC program, which might include some or all of the following: Require new development to pay its own way—that is, "growth pays for growth."
- Equitably recover capacity-related capital costs from current and future customers to achieve equity between the different generations of ratepayers (intergenerational equity).

1.7.1.2. Legal Framework

In establishing connection fees, it is important to understand and comply with local laws and regulations governing the establishment, calculation, and implementation of connection fees. The following sections summarize the regulations applicable to the development of connection fees for the City.

1.7.1.2.1. California Government Code Requirements

Connection fees must be established based on a reasonable relationship to the needs and benefits to the development or growth. Courts have long used a standard of reasonableness to evaluate the legality of development charges. The basic statutory standards governing connection fees are embodied by California

Government Code Sections 66013, 66016, 66022 and 66023. Government Code Section 66013, in particular, contains requirements specific to determining utility development charges:

“Notwithstanding any other provision of law, when a local agency imposes fees for water connections or sewer connections, or imposes capacity charges, those fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed, unless a question regarding the amount the fee or charge in excess of the estimated reasonable cost of providing the services or materials is submitted to, and approved by, a popular vote of two-thirds of those electors voting on the issue.”

1.7.2. Methodologies

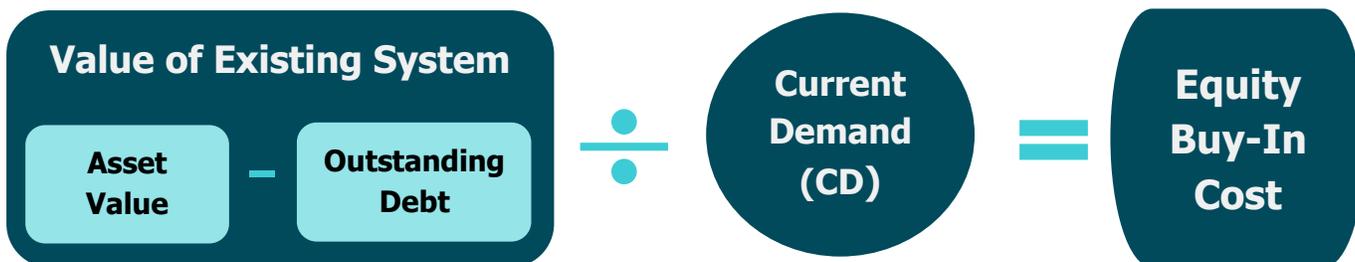
Raftelis utilizes four general methodologies that are widely accepted to calculate connection fees: the equity buy-in, capacity buy-in, incremental cost, and hybrid methods. The appropriate method is determined based on the unique circumstances of each local agency or district. In addition to addressing the local needs of the City, the method is intended to address any legal requirements and current public policy in the state of California. The following methodologies will detail how Raftelis will evaluate the cost of capital to provide service capacity and allocate these costs equitably to various service connections.

1.7.2.1. Equity Buy-In Approach

The equity buy-in method focuses on total value and current demand of the existing system. This method is utilized when existing users have developed and maintained a utility system that can accommodate further growth. Since existing customers have already financed the costs associated with developing the current system new customers will pay their respective portion of the net investment. The net equity investment, or value of the existing system, is then divided by the current demand (CD) of the system to determine the buy-in cost per unit of capacity (UOC).

For example, if the current system has 1,000 units of usage in a typical year and the new connection would average an equivalent additional unit of usage, the new connection will cost 1/1000 of the total value of the existing system. By following this method, the new customer has bought into the current system by paying their portion of the overall system based on their strain or capacity access of the system. This places them in an equal financial position to the preexisting customers. The process for this method is shown in **Figure 1-17**.

Figure 1-17: Equity Buy-In Method



As shown, the value of the system typically includes asset value less any outstanding debt principal. Reserves are included because they increase the value to the system and are typically used to pay for upgrades or maintenance to the system. Likewise, debt obligations are secured by the value of the system and used to pay

for the assets of the system. Once the value of the existing system is determined, this is divided by the current demand (CD) and the buy-in cost is determined for various connection types.

An important step in this method is to determine the value of the assets. System valuation is typically determined using one of four methods shown below: Original Cost, Original Cost Less Depreciation, Replacement Cost, and Replacement Cost Less Depreciation.

Original Cost (OC). Original cost is the amount paid when initially purchased. The main advantage of using this method is its simplicity as it is held constant from the date of purchase of assets regardless of changing costs throughout its useful life. The drawback of this method is that it does not accurately reflect current financial costs to repair or replace these assets due to factors such as inflation. Considering that the current existing system is developed over a long-term time horizon to serve the needs of a service area as it grows, it will be difficult or misleading to properly assess the value of the system based on costs at the time of purchase.

Replacement Cost (RC). Changes in the value of the dollar over time, at least as considered by the impacts of inflation, can be recognized by replacement cost asset valuation. The replacement cost represents the cost of duplicating the existing utility facilities (or duplicating its function) at current prices. Unlike the original cost approach, the replacement cost method recognizes price level changes that may have occurred since plant construction. The most accurate replacement cost valuation would involve a physical inventory and appraisal of system components in terms of their replacement costs at the time of valuation. However, with original cost records available, a reasonable approximation of replacement cost system value can most easily be ascertained by trending historical original costs. This approach employs the use of cost indices to express actual capital costs experienced by the utility in terms of current dollars. An obvious advantage of the replacement cost approach is that it considers changes in the value of money over time.

Original Cost Less Depreciation (OCLD) or Replacement Cost Less Depreciation (RCLD).

Considerations of the current value of utility facilities may also be materially affected by the effects of age and depreciation. Depreciation takes into account the anticipated losses in system value caused by wear and tear, decay, inadequacy, and obsolescence. To provide appropriate recognition of the effects of depreciation on existing utility facilities, both the original cost and replacement cost valuation measures can also be expressed on an OCLD and RCLD basis. These measures are identical to the aforementioned valuation methods, with the exception that accumulated depreciation is computed for each asset account based upon its age or condition and deducted from the respective total original cost or replacement cost to determine the OCLD or RCLD measures of plant value.

1.7.2.2. Capacity Buy-In Approach

The capacity buy-in approach is based on the same premise as that for the equity buy-in approach – that new customers are entitled to service at the same rates as existing customers. The difference between the two approaches is that for the capacity buy-in approach, for each major asset, the value is divided by its capacity. This approach has a major challenge as determining the capacity of each major asset is problematic, as different components of the system may have differing capacities. **Figure 1-18** shows the framework for calculating the capacity buy-in fee.

Figure 1-18: Capacity Buy-In Method

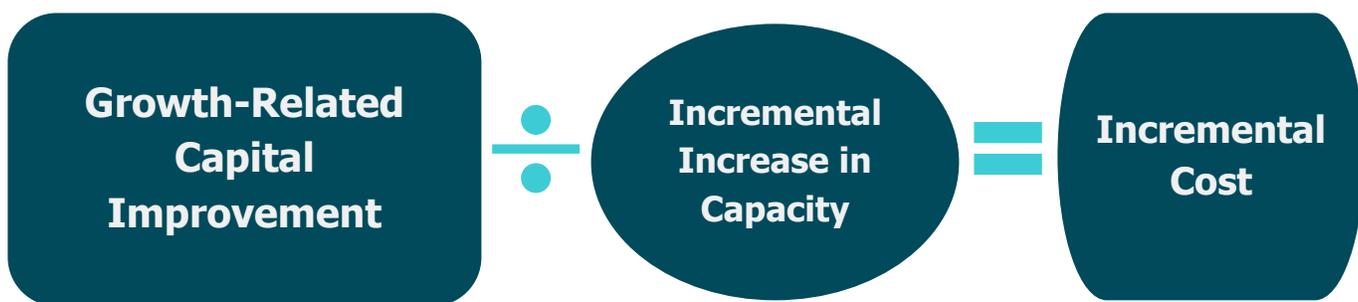


1.7.2.3. Incremental Cost Approach

The incremental method is based on the premise that new development (new users) should pay for the additional capacity and expansions necessary to serve the new development. This method is typically used where there is little or no capacity available to accommodate growth and expansion of the existing system is needed to service the new development. Under the incremental method, growth-related capital improvements are allocated to new development based on their estimated usage or capacity requirements, irrespective of the value of past investments made by existing customers.

For instance, if it costs X dollars (\$X) to provide 100 additional units of capacity of average usage and a new connector uses one of those units of capacity, then the new user would pay \$X/100 to connect to the system. In other words, new customers pay the incremental cost of capacity. As with the equity buy-in approach, new connectors will effectively acquire a financial position that is on par with existing customers. Use of this method is generally considered to be most appropriate when a significant portion of the capacity required to serve new customers must be provided by the construction of new facilities. **Figure 1-19** shows the framework for calculating the incremental cost fee.

Figure 1-19: Incremental Cost Method



1.7.2.4. Hybrid Approach

The hybrid approach is typically used where some capacity is available to serve new growth, but additional expansion is still necessary to accommodate new development. Under the hybrid approach the capacity fee is based on the summation of the existing capacity and any necessary expansions that benefit new users.

In utilizing this methodology, it is important that system asset costs are not double counted when combining costs of the existing system with future costs from expanding the system. Asset costs that are included in the incremental costs should be excluded from the existing system. Capital Improvement Program (CIP). CIP

costs that expand system capacity to serve future customers may be included proportionally to the percentage of the cost specifically required for expansion of the system.

1.7.3. Proposed Methods

For the water and wastewater utilities, the City decided upon using the hybrid methodology. This is because these systems have some capacity available, but there is additional expansion anticipated that will be necessary to accommodate new growth. The recycled water connection fees are calculated using the capacity buy-in method. As recycled water is a new utility with a new system, this methodology accounts for anticipated growth and increased use of the system. Additionally, the recycled water Master Plan will be published next year, allowing for more insight when updating the connection fees in the future.

1.7.4. Water Connection (or Facilities) Fees

For the buy-in component of the water connection fee, the total buy-in costs included the replacement cost of the fixed assets and cash balance for FY 2023 minus the outstanding debt principal for the water utility. The total system value was divided by the existing system capacity per equivalent meter units. The incremental component costs included the total of 10 years of expansion CIP from FY 2023 to FY 2032. The weighted facilities value was divided by the existing system capacity per equivalent meter units (EMUs) to determine the facilities fee by EMU. The City staff recommended water connection fees increase the current connection fees by 10%. This is so that the City can phase in the connection fees over several years to reach the calculated fees and prevent large fee increases to customers. **Table 1-23** shows the current water connection fees, the proposed calculated water connection fees, and the staff recommended water connection fees.

Table 1-23: Proposed Water Connection Fees

Line	A Connection Fees	B Current	C Calculated	D Staff Recommended
1	5/8"	\$6,484	\$7,964	\$7,133
2	3/4"	\$9,730	\$11,946	\$10,703
3	1"	\$16,210	\$19,910	\$17,831
4	1 1/2"	\$32,420	\$39,820	\$35,662
5	2"	\$51,870	\$63,712	\$57,057
6	3"	\$103,740	\$139,370	\$114,114
7	4"	\$162,100	\$250,866	\$178,310
8	6"	\$324,200	\$517,660	\$356,620
9	8"	\$518,720	\$1,114,960	\$570,592
10	10"	\$745,660	\$1,672,440	\$820,226

1.7.5. Recycled Water Connection Fees

The total buy-in costs for the recycled water utility include all capital investments to date. The total system value is divided by the capacity per EMU to calculate the connection fee. Since recycled water system has initial high costs and relatively few customers, and thus calculated fee would have been very high. The City staff recommended recycled water connection fees match the staff recommended water connection fees. **Table 1-24** shows the current recycled water connection fees, the proposed calculated recycled water connection fees, and the staff recommended recycled water connection fees.

Table 1-24: Proposed Recycled Water Connection Fees

Line	A Connection Fees	B Current	C Calculated	D Staff Recommended
1	5/8"	\$6,484	\$34,056	\$7,133
2	3/4"	\$9,730	\$51,084	\$10,703
3	1"	\$16,210	\$85,140	\$17,831
4	1 1/2"	\$32,420	\$170,280	\$35,662
5	2"	\$51,870	\$272,448	\$57,057
6	3"	\$103,740	\$595,980	\$114,114
7	4"	\$162,100	\$1,072,764	\$178,310
8	6"	\$324,200	\$2,213,640	\$356,620

1.7.6. Wastewater Connection Fees

For the buy-in component of the wastewater connection fee, the total buy-in costs included the replacement cost of the fixed assets and cash balance for FY 2023 minus the outstanding debt principal for the wastewater utility. The total system value was divided by the existing system capacity per equivalent meter units. The incremental component costs included the total of 10 years of expansion CIP from FY 2023 to FY 2032. The weighted facilities value was divided by the estimated wastewater flow per EMU to determine the facilities fee by EMU. The City staff recommended wastewater connection fees increase the current wastewater connection fees by 25%. **Table 1-25** shows the current wastewater connection fees, the proposed calculated wastewater connection fees, and the staff recommended wastewater connection fees.

Table 1-25: Proposed Wastewater Connection Fees

Line	A Connection Fees	B Current	C Calculated	D Staff Recommended
1	Single Family	\$7,700	\$15,530	\$9,625
2	Multi-Family (89% of SFR)	\$6,853	\$13,822	\$8,567
3	ADU (40% of SFR)	\$6,853	\$6,212	\$3,850
4	Commercial, Industrial, All Other			
5	Per gpd of discharge	\$21.508	\$43.380	\$26.885
6	Per lb per year of cBOD	\$8.527	\$17.198	\$10.659
7	Per lb per year of SS	\$9.173	\$18.501	\$11.467
8	Minimum	\$7,700	\$15,530	\$9,625