CITY OF

HAYWARD

Water Rate Study

Executive Summary / May 2021

RAFTELIS

CITY OF HAYWARD
HEART OF THE BAY

This page intentionally left blank to facilitate two-sided printing.

RAFTELIS

May 27, 2021

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

Subject: Water 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 Rate Study.

The major objectives of the Water Rate Study include:

- Developing a long-term financial plan that sufficiently funds operating expenses, capital replacement and improvement costs, and prudent reserve balances
- Conducting a cost of service analysis that fairly and equitably allocates costs among customer classes
- Designing water 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,

Sanjay Gaur
Vice President

Kevin Kostiuk
Manager

Nancy Phan
Senior Consultant

Lindsay Roth
Associate Consultant

Table of Contents

List of Tables

List of Figures

List of Appendices

This page intentionally left blank to facilitate two-sided printing.

Executive Summary

Study Background

In 2021, the City of Hayward (City) contracted with Raftelis to conduct a Water Rate Study, which includes the development of a long-term financial plan, cost of service (COS) analysis, and rate design for the City's water utility. The study culminates in five years of cost-based water rate recommendations based on the results of the financial planning exercise and the COS analysis. This Executive Summary outlines the rate proposal and contains a description of the rate study process, methodology, and recommendations for the City's water rates.

Objectives of the Study

The major components and objectives of the water rate study include:

1. Developing a long-term financial plan that meets the water utility's revenue requirements, including operations and maintenance (O&M) expenses and the capital improvement plan (CIP), while adequately funding reserves in accordance with industry best practices and the City's historical practices.
2. Conducting a COS analysis that establishes a nexus between the cost to serve customers and the responsibility of each class, in compliance with Proposition 218 and based on industry standards.
3. Reviewing the current water rate structure and evaluating potential rate structure modifications, which include revising tier definitions, customer classes, and fixed and variable revenue recovery.
4. Developing five years of water rates that comply with Proposition 218 and ensure financial sufficiency to fund operating and capital costs over the study period.

Rate Objectives

Raftelis worked with City staff to prioritize objectives for the proposed water rates. These prioritized objectives include improving fairness and equity between customer classes, simplifying the rate structure to enhance customer understanding, ensuring affordability for essential needs, and minimizing impacts to customers. The COS analysis reflects the updated cost allocations based on the City's most recent financial data, resulting in equitable and fair water rates that represent the cost to serve each customer class. The proposed rate structure modifications are recommended to best meet these rate objectives. All proposed changes to the water rate structure were analyzed to minimize financial impacts to the City's customers to the greatest extent possible.

Current Rates

The City's current water rates were implemented January 1, 2021 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 (ccf[1]) of water used. The City's current rates also distinguish between two different jurisdictions: Inside City and Outside City. Currently, customers located outside city limits are charged a 15% surcharge for both their fixed charges and volumetric rates.

Table 0-1 shows the current bi-monthly service charges by meter size. **Table 0-2** shows the current bi-monthly fire service charges by fire line diameter. **Table 0-3** 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 0-1: Current Bi-Monthly Service Charges

Line	A Meter Size	B Inside City Charges	C Outside City Charges	D Hydrant Service
1	Low Income	$11.20	$12.96	
2	5/8"	$32.00	$36.80	
3	3/4"	$43.51	$50.04	$12.00
4	1"	$65.91	$75.80	
5	1 1/2"	$144.31	$165.96	
6	2"	$254.00	$292.10	
7	3"	$641.00	$737.15	$124.00
8	4"	$1,269.80	$1,460.27	$194.00
9	6"	$2,240.00	$2,576.00	$388.00
10	8"	$3,101.00	$3,566.15	
11	10"	$3,734.80	$4,295.02	

Table 0-2: Current Bi-Monthly Fire Service Charges

Line	A Fire Line Diameter	B Inside City Charges	C Outside City Charges
1	2" and smaller	$25.00	$28.75
2	4"	$29.00	$33.35
3	6"	$42.00	$48.30
4	8"	$42.00	$48.30
5	10"	$50.00	$57.50

Table 0-3: Current Water Usage Rates ($/ccf)

Line	A Customer Class	B Bi-Monthly Tiers (ccf)	C Inside City Charges	D Outside City Charges
1	**Single Family**			
2	Tier 1	8	$5.80	$6.67
3	Tier 2	25	$7.14	$8.21
4	Tier 3	25+	$8.41	$9.67
5				
6	**Residential 2-4**			
7	Tier 1	8	$6.43	$7.39
8	Tier 2	25	$7.15	$8.22
9	Tier 3	25+	$8.52	$9.80
10				
11	**Multi-Family 5+**			
12	Tier 1	8	$6.97	$8.02
13	Tier 2	20	$7.23	$8.31
14	Tier 3	20+	$7.94	$9.13
15				
16	**Non-Residential**			
17	Tier 1	200	$6.95	$7.99
18	Tier 2	200+	$8.29	$9.53

Process and Approach

Raftelis held several meetings with City staff to discuss and understand objectives, characteristics, and challenges of the City's water utility to provide the recommendations and results detailed 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 water rates for service. City staff discussed the 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 utility. Raftelis then designed and presented a COS and rate model to analyze various rate scenarios to fully fund the utility's revenue requirements through fair, equitable, and defensible cost-based rates.

The proposed financial plan detailed in this report follows industry standards for long-term financial planning. The financial plan relies 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 plan includes the current fiscal year (FY) 2021 and the five-year period between FY 2022 to FY 2026. Each fiscal year begins on July 1 and ends on June 30. For example, FY 2021 is defined as the year beginning on July 1, 2020 and ending on June 30, 2021. The proposed rates were developed for implementation on October 1, 2021 in FY 2022 and in October every year thereafter through FY 2026.

The COS analysis and resulting water rates are developed using the principles established by the American Water Works Association's (AWWA) *Principles of Water Rates, Fees, and Charges, 7th edition* (M1 Manual). The water rates developed in this study were designed based on the industry standard Base-Extra Capacity methodology and the legal requirements set forth in the following section. This methodology allocates costs consistent with demand patterns of each customer class and for tiered rates, the demand patterns of each tier.

Legal Requirements[2]

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 service fees and charges are property-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 water 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.

[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.

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.

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.

Cost-Based Rate-Setting Methodology

To develop water rates that comply with Proposition 218, meet industry standards, and accomplish the City's goals for the study, Raftelis follows the four major steps discussed below.

Revenue Requirement Calculation

The first step in the rate-making process is to determine the adequate and appropriate level of funding for a given utility. This is referred to as determining the "revenue requirement" for the base year, which for this study is FY 2022 which runs from July 1, 2021 to June 30, 2022. This analysis considers the short-term and long-term service objectives of the utility over a given planning horizon, including capital facilities, O&M, and financial reserve policies to determine the adequacy of a utility's existing rates to recover its costs. Several factors affect these projections, including the number of customers served, water use trends, non-recurring revenues, conservation, use restrictions, inflation, interest rates, capital financing needs, and other changes in operating and economic conditions, among others.

Cost of Service Analysis

The annual cost of providing water service is distributed among customer classes commensurate with their service requirements. A COS analysis involves the following:

1. Categorize costs into system functions – utilizing an agency's approved budget, financial reports, operating data, engineering data, and CIP, a rate study generally categorizes (i.e., functionalizes) the operating and capital costs of the water system among major system functions. Examples of system functions include but are not limited to water supply, storage, treatment, and transmission and distribution.
2. Allocate functionalized costs to the appropriate system cost components – cost components represent the major pieces of a water system that the agency incurs specific costs related to, with one or more functions attributable to one or more system component. For example, transmission costs (system function) are allocated to base and maximum day (cost components) since transmission lines are sized to accommodate both average (base) demands and maximum day (peak) demands. The City's water system cost components include supply, base delivery, maximum day, maximum hour[3], meter servicing, fire protection, conservation, and customer service and billing.
3. Determine units of service and unit costs for cost components – each cost component is associated with a specific unit of service; costs within each component are divided by the total units of service to determine the unit cost. For example, water supply costs are associated with total annual use. Dividing total annual costs by total annual use yields the unit cost of water supply.
4. Distribute cost components to customer classes – the costs of the system, allocated by system component unit costs, are distributed to customer classes and tiers in proportion to their respective demands and burdens on the system using the units of service and unit costs for each component.

Rate Design and Derivation

Rates do more than simply recover costs. Within the legal framework and industry standards, properly designed rates should support and optimize a blend of objectives, such as conservation, affordability for essential needs, and revenue stability, among others. Rates can act as a public information tool in communicating these objectives to customers.

Preparation of Administrative Record and Rate Adoption

Rate adoption is the last step of the rate-making process. Raftelis documents the rate study results in this report (also known as an administrative record), which reflects the basis upon which the rates were calculated, the rationale and justifications behind the proposed charges, any changes to rate structures, and anticipated financial impacts to ratepayers.

Financial Plan Results and Recommendations

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 project costs, debt service, and reserve funding.

- **Water Supply Costs:** The City purchases all of its water from the San Francisco Public Utilities Commission (SFPUC). For FY 2022, the estimated cost of purchasing water from SFPUC is $31.5 million, approximately 67% of the City's water operating budget. This purchase cost is expected to increase to $44.1 million by FY 2030. SFPUC costs are projected to increase on average by 5% per year during the study period. However, rate increases

[3] Collectively maximum day and maximum hour costs are known as peaking costs or extra-capacity costs.

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 $71.8 million in planned capital expenditures from FY 2022 through FY 2026 and $125.1 million over the study's financial planning horizon (from FY 2022 through FY 2030). Planned capital project costs are anticipated to be entirely cash funded through net rate revenues and existing and future reserves.

- **Reserve Funding:** The City's water utility does not have a formally adopted reserve policy. 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 current informal policy is an operating reserve target equal to approximately one year of revenue as working capital as long as achieving the target in a given year would not necessitate an uncommonly high-rate increase. The recommended reserve policy is discussed in the following section.

Recommended Reserve Policy

Raftelis worked with City staff to understand the needs of the water utility and to develop a recommendation for the reserve policy, which is listed in **Table 0-4**. 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, apart from water supply purchases. However, capital spending can often be unpredictable and subject to changing schedules and cost estimates. Since the City is expecting to cash fund the entirety of the water 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 capital projects.
- **Rate Stabilization** – although water purchase costs are expected to increase by 5% per year on average, City staff expressed concern over the potential financial risks of an unanticipated rate increase from SFPUC. The recommended rate stabilization reserve target will help reduce the need for unreasonable rate increases and smooth out water rates, even in the instance of an unexpected increase in water purchase costs.

In total, the recommended reserve policy calls for a target balance of approximately $37.75 million or 353 days cash on hand. This compares similarly to the utility's existing informal policy of one year (365 days) of revenue, while identifying specific reserve components to convey cash needs to ratepayers.

Table 0-4: Recommended Reserve Policy

	A	B	C
Line	Reserve Targets	Recommended Target Policy	FY 2022 Target
1	Operating	25% O&M Expenses	$11,812,352
2	Capital	One Year of 5-year Average CIP	$14,361,187
3	Rate Stabilization	25% of Commodity Revenues	$11,579,597
4	**Total**		**$37,753,136**
5			
6	*Days Cash on Hand*		*353*

Financial Plan Results

Table 0-5 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 2020 represents 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 and to consider the potential of near-term drought conditions.

The proposed revenue adjustments represent the increase to total rate revenues required to recover the water utility's costs and not the expected impact to each customer class. Water rates developed for the base year (FY 2022) reflect the results of the COS analysis, which impacts each customer class, and tier, differently. The proposed revenue adjustment for FY 2022 is zero, meaning that the resulting rates shown in the following sections are revenue neutral and are intended to recover the same amount of revenue the City's water utility currently collects. Revenue adjustments in subsequent years are applied across all charges, classes, and tiers proportional to the base year rates.

Table 0-5: Proposed Water Revenue Adjustments

	A	B	C	D	E	F
Line	Revenue Adjustments	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
1	Effective Month	October	October	October	October	October
2	Percent Adjustment	0%	3%	7%	7%	5%

Figure 0-1 shows the five-year financial plan for FY 2022 through FY 2026. 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) falls below zero in FY 2023 and 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 water rates and proposed revenues (dotted line) equal the projected revenues with the proposed revenue adjustments in **Table 0-5** applied.

Figure 0-1: Financial Plan

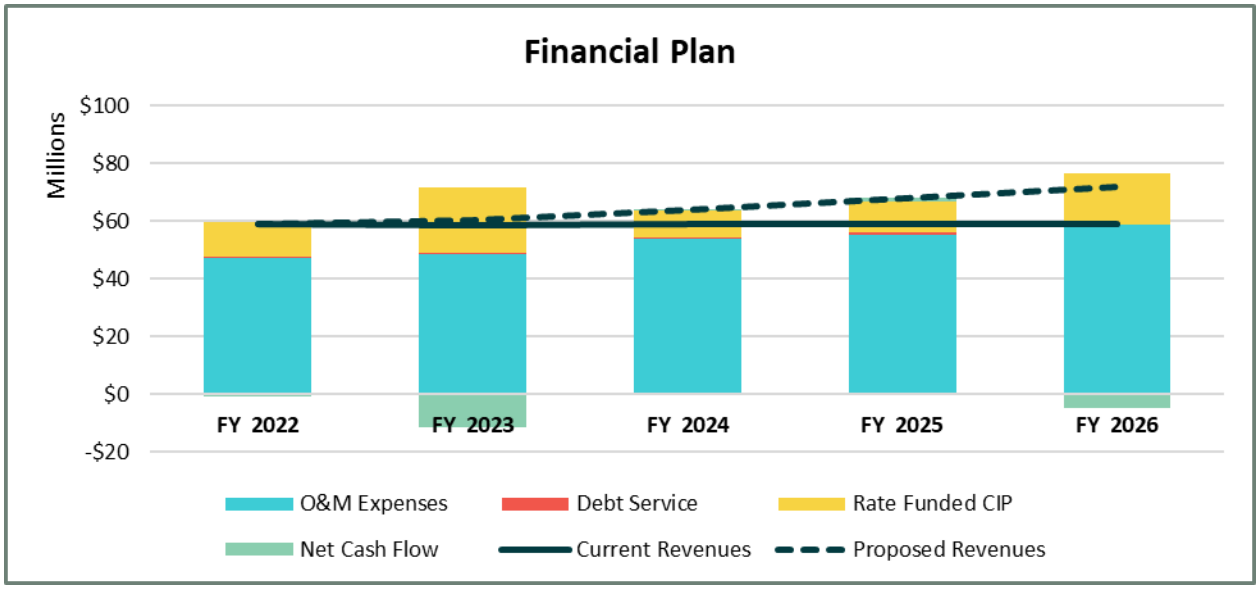


Figure 0-2 shows the combined ending fund balances (green bars) for the City's three water funds (Operating, Capital Replacement, and Capital Improvement) from FY 2022 to FY 2030. Although the study period and resulting rate schedule is projected for five years, the City plans to build its reserves over 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 0-4**. The ending fund balances fall slightly below the reserve target in each year from FY 2023 through FY 2028 but will increase to achieve the target in FY 2029.

Figure 0-2: Fund Balances

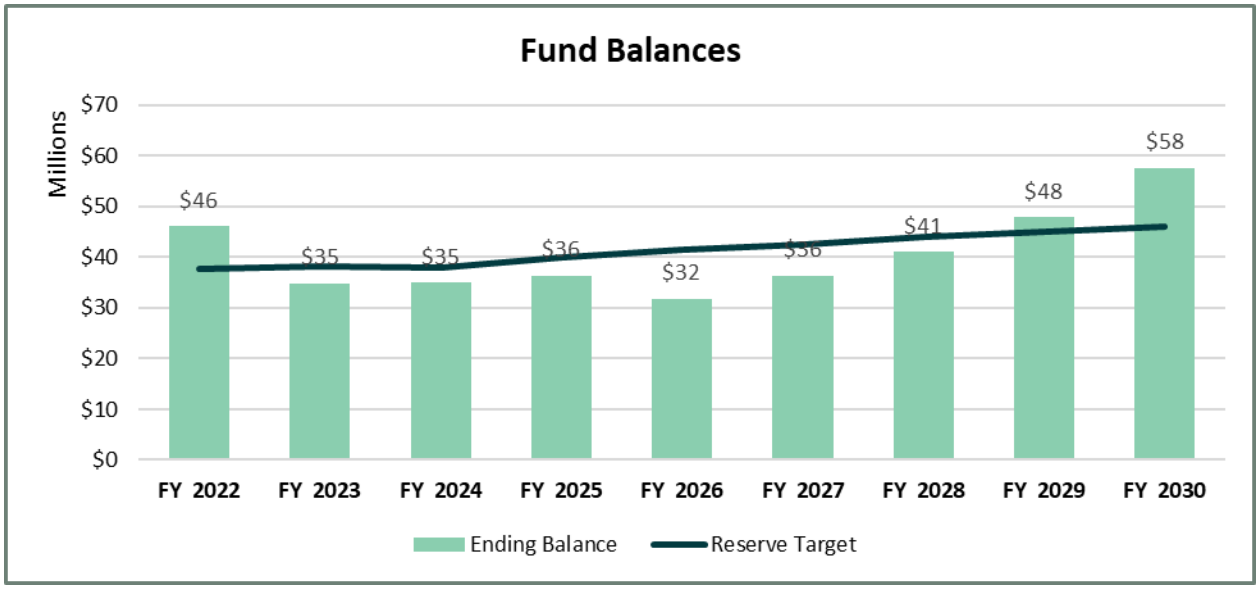
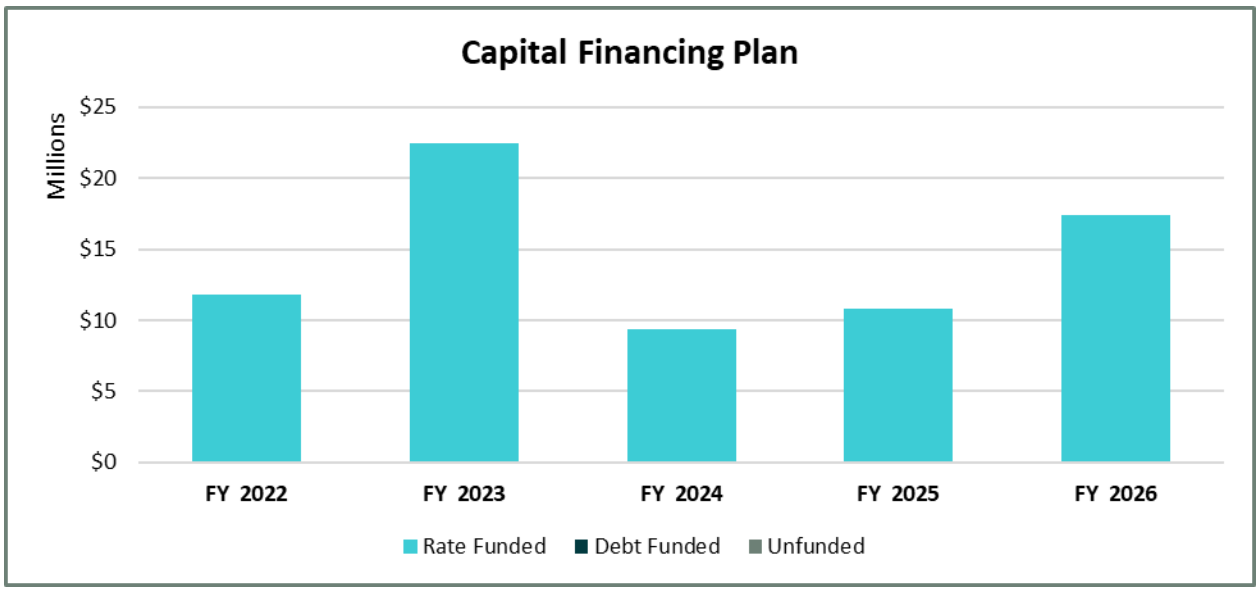


Figure 0-3 shows the five-year CIP expenditures from FY 2022 through 2026. All planned CIP expenses for the five-year period are anticipated to be entirely cash funded through rate revenues and existing capital reserves.

Figure 0-3: Capital Financing Plan



Recommended Rate Structure Modifications

Raftelis worked with City staff to determine the appropriate water rate structure to meet the City's objectives, reflect new-normal customer demand patterns, and improve equity where possible. The existing rate structure is generally maintained (i.e., three-tier rates for Residential customers and two-tier rates for Non-Residential), however, we recommend the following rate structure modifications:

- **Harmonize Residential Rate Classes**: Combining Single Family, 2-4 Dwelling Units, and Multi-Family 5+ Units into one Residential class will simplify the rate structure, which enhances customer understanding and may reduce an administrative burden on City staff. Additionally, a single Residential rate class ensures equity among groups of similar users by providing each household with the same allotment of water in each tier, and particularly the first tier, which represents the indoor needs of residential customers.
- **Revised Tier Definitions for Residential Customer Classes:** Tier 1 is proposed to remain at 8 ccf of water bi-monthly, which represents low winter water use, on average, for the Residential class. The proposed Tier 2 is equal to 18 ccf of water, which represents peak summer use, on average, for the class. The revised Tier 2 definition reflects long-term reductions in average Residential water use. Tier 1 provides water for essential use, whereas Tier 2 provides water for irrigation purposes. All use greater than 18 ccf will fall into the proposed Tier 3.
- **Separate Non-Residential Classes for Commercial/Industrial and Irrigation Users:** Based on our analysis of City water demand patterns, Irrigation customers produce a significantly higher peak on the water system, relative to Commercial/Industrial users. This is consistent across similar agencies, and the industry, as irrigation demands are highly seasonal. To ensure that Irrigation users pay their fair share of system capacity costs, we recommend separating Non-Residential into these two distinct classes.
- **Revised Tier Definitions for Commercial/Industrial Users:** We propose to amend the Tier 1 definition to 110 ccf, which represents the average bi-monthly use of the Commercial/Industrial class.
- **Revised Tier Definitions for Irrigation Users:** We propose to amend the Tier 1 definition to 170 ccf, which represents the average bi-monthly use of the Irrigation class.
- **Eliminate Outside City Surcharge:** The City's existing rate structure includes a 15% surcharge for Outside City customer rates, which accounts for 0.1% of the total water rate revenue. While the surcharge would be justified, eliminating the surcharge will simplify the rate structure to enhance customer understanding and reduce administrative burden. City staff currently updates the Outside City cost analysis during every rate study process. Due to the immaterial amount of revenue derived from the surcharge, implementing this change will result in negligible financial impacts.

Proposed Water Rates

Table 0-6, **Table 0-7**, and

Table 0-8 show the proposed bi-monthly service charges, bi-monthly fire service charges, and water usage rates, respectively, for FY 2022 FY 2026 based on the above recommendations. Rates for FY 2022 are determined based on the results of the COS analysis and are revenue neutral (i.e., no gross revenue increase relative to FY 2021). Rates for all subsequent years are determined based on the corresponding revenue adjustments in **Table 0-5**.

The City's existing water rates include an adopted policy to provide a discounted rate for low income customers. Customers that qualify for this discount are charged a reduced bi-monthly water service charge, equal to 35% of the service charge for the ⅝" meter size. Revenues that are not generated from rates (non-rate or miscellaneous revenues) are discretionary funds that the City may use to provide discounts to specific customers. Raftelis worked with City staff to identify the non-rate revenues used to provide a discount to eligible low income customers.

Based on the City's historical revenues and adopted budget, it expects to receive approximately $250,000 in water installation fees in FY 2022. Based on discussion with City staff, these fees are charged to install new services and to upsize existing services, but do not directly pay for infrastructure. This revenue is used in our analysis to provide the same discount to low income customers based on the City's existing policy to the approximately 1,835 customers that currently qualify.

Table 0-6: Proposed Bi-Monthly Water Service Charges

Line	A Meter Size	B Proposed FY 2022	C Proposed FY 2023	D Proposed FY 2024	E Proposed FY 2025	F Proposed FY 2026
1	Low Income	$10.95	$11.28	$12.07	$12.92	$13.56
2	⅝"	$31.28	$32.22	$34.48	$36.90	$38.75
3	¾"	$43.65	$44.96	$48.11	$51.48	$54.06
4	1"	$68.39	$70.45	$75.39	$80.67	$84.71
5	1 ½"	$130.25	$134.16	$143.56	$153.61	$161.30
6	2"	$204.47	$210.61	$225.36	$241.14	$253.20
7	3"	$439.51	$452.70	$484.39	$518.30	$544.22
8	4"	$785.88	$809.46	$866.13	$926.76	$973.10
9	6"	$1,614.69	$1,663.14	$1,779.56	$1,904.13	$1,999.34
10	8"	$3,470.25	$3,574.36	$3,824.57	$4,092.29	$4,296.91
11	10"	$5,202.11	$5,358.18	$5,733.26	$6,134.59	$6,441.32

Table 0-7: Proposed Bi-Monthly Fire Service Charges

Line	A Fire Line Diameter	B Proposed FY 2022	C Proposed FY 2023	D Proposed FY 2024	E Proposed FY 2025	F Proposed FY 2026
1	⅝"	$6.65	$6.85	$7.33	$7.85	$8.25
2	¾"	$6.72	$6.93	$7.42	$7.94	$8.34
3	1"	$6.93	$7.14	$7.64	$8.18	$8.59
4	1 ½"	$7.66	$7.89	$8.45	$9.05	$9.51
5	2"	$8.93	$9.20	$9.85	$10.54	$11.07
6	3"	$13.49	$13.90	$14.88	$15.93	$16.73
7	4"	$21.34	$21.99	$23.53	$25.18	$26.44
8	6"	$49.52	$51.01	$54.59	$58.42	$61.35
9	8"	$98.13	$101.08	$108.16	$115.74	$121.53
10	10"	$171.25	$176.39	$188.74	$201.96	$212.06

Table 0-8: Proposed Bi-Monthly Water Usage Rates ($/ccf)

Line	A Customer Class	B Bi-Monthly Tiers (ccf)	C Proposed FY 2022	D Proposed FY 2023	E Proposed FY 2024	F Proposed FY 2025	G Proposed FY 2026
1	**Residential**						
2	Tier 1	8	$6.04	$6.23	$6.67	$7.14	$7.50
3	Tier 2	18	$7.18	$7.40	$7.92	$8.48	$8.91
4	Tier 3	18+	$8.82	$9.09	$9.73	$10.42	$10.95
5							
6	**Commercial / Industrial**						
7	Tier 1	110	$6.56	$6.76	$7.24	$7.75	$8.14
8	Tier 2	110+	$7.70	$7.94	$8.50	$9.10	$9.56
9							
10	**Irrigation**						
11	Tier 1	170	$7.76	$8.00	$8.56	$9.16	$9.62
12	Tier 2	170+	$9.88	$10.18	$10.90	$11.67	$12.26
13							
14	**Hydrant**	Uniform	$7.31	$7.53	$8.06	$8.63	$9.07

Customer Impacts

Figure 0-4 shows the proposed FY 2022 bi-monthly bill impacts for Single Family Residential and Commercial customers. Each graph shows the percentage of customer bills within a class that will experience an impact in a certain dollar range. For example, 13% of Single Family Residential bi-monthly bills will see a decrease and 43% will see an impact of $2 or less. 87% of Commercial bills will see a decrease and 12% will see a moderate increase of $15 or less.

Figure 0-4: Distribution of Bi-Monthly Bill Impacts (FY 2022)

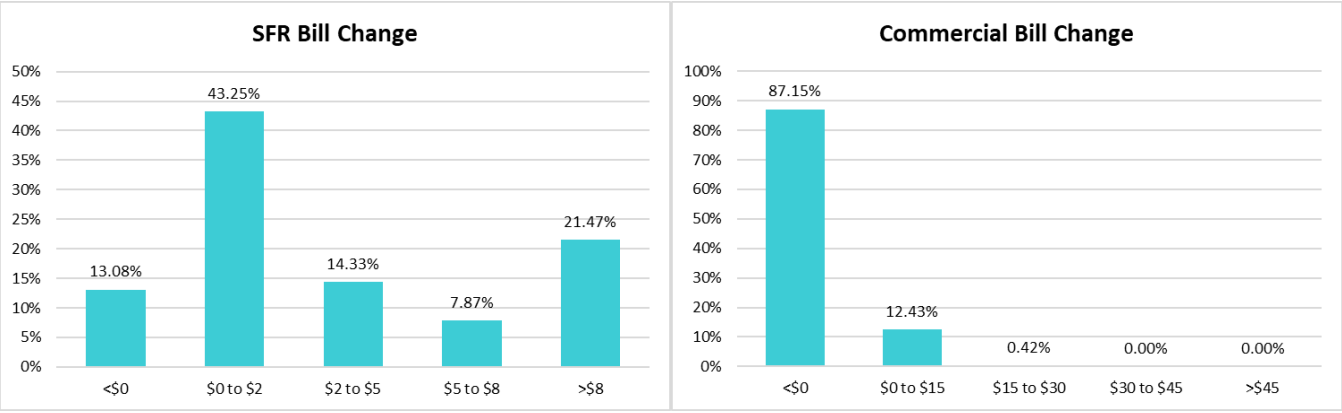
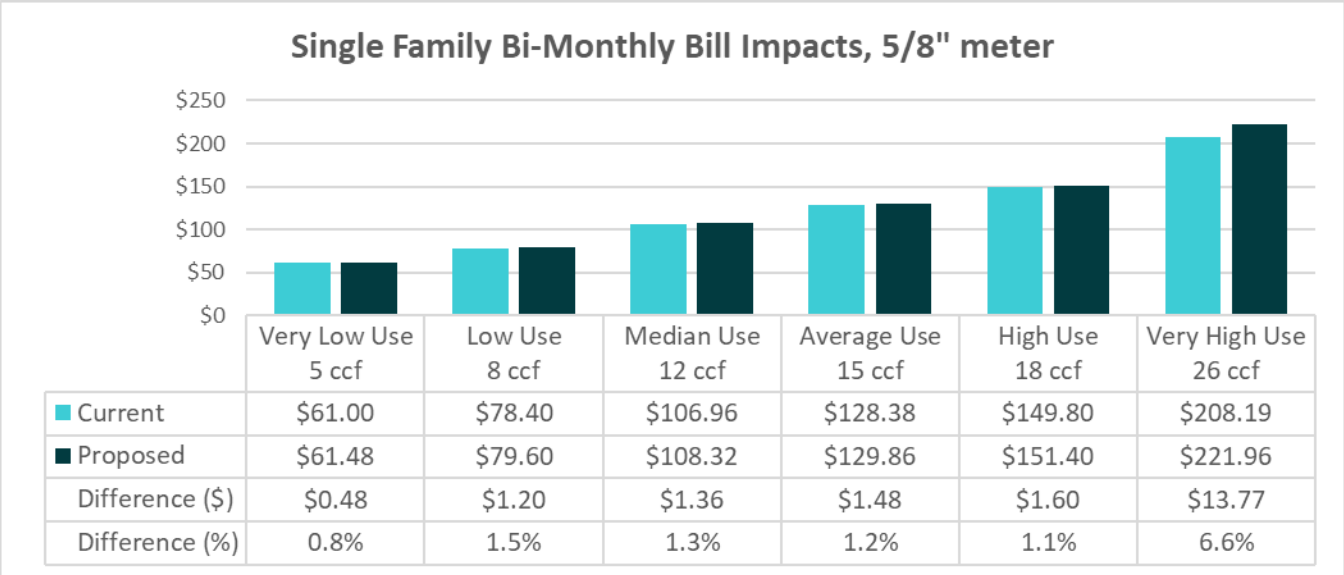


Figure 0-5 and **Figure 0-6** show the bi-monthly bill impacts at various levels of use for a typical Single Family Residential customer and a Commercial - Restaurant customer, respectively. The average Single Family Residential customer (with a ⅝" meter and using 15 ccf per bi-monthly period) will have an increase of $1.48 in their bi-monthly bill.

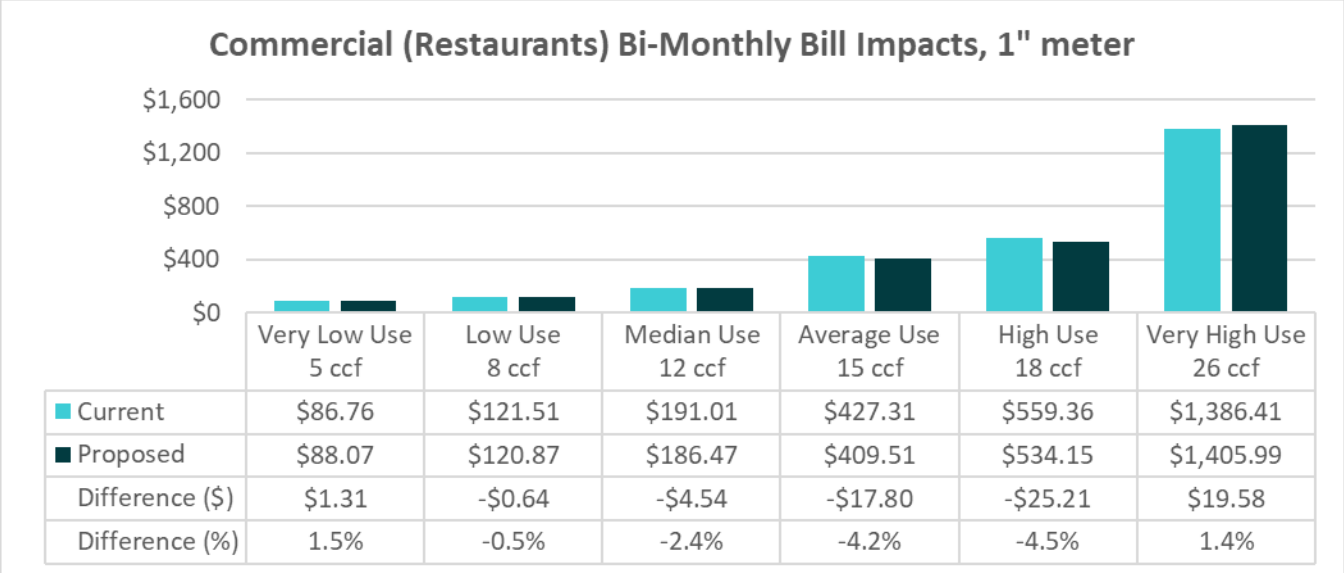
Figure 0-5: Single Family Bill Impacts



	Very Low Use 5 ccf	Low Use 8 ccf	Median Use 12 ccf	Average Use 15 ccf	High Use 18 ccf	Very High Use 26 ccf
Current	$61.00	$78.40	$106.96	$128.38	$149.80	$208.19
Proposed	$61.48	$79.60	$108.32	$129.86	$151.40	$221.96
Difference ($)	$0.48	$1.20	$1.36	$1.48	$1.60	$13.77
Difference (%)	0.8%	1.5%	1.3%	1.2%	1.1%	6.6%

Similarly, an average Commercial - Restaurant customer (with a 1" meter) will see either a decrease or an increase to their bi-monthly bill, depending on their level of water use.

Figure 0-6: Commercial Restaurant Bill Impacts



	Very Low Use 5 ccf	Low Use 8 ccf	Median Use 12 ccf	Average Use 15 ccf	High Use 18 ccf	Very High Use 26 ccf
Current	$86.76	$121.51	$191.01	$427.31	$559.36	$1,386.41
Proposed	$88.07	$120.87	$186.47	$409.51	$534.15	$1,405.99
Difference ($)	$1.31	-$0.64	-$4.54	-$17.80	-$25.21	$19.58
Difference (%)	1.5%	-0.5%	-2.4%	-4.2%	-4.5%	1.4%

Rate Survey

Raftelis prepared a survey of bi-monthly Single Family Residential and Commercial customer bills for several local agencies and agencies that also purchase SFPUC water. **Figure 0-7** and **Figure 0-8** show the Single Family bill comparison for a ⅝" meter using 15 ccf of water per bi-monthly billing period.

Figure 0-7: Single Family Bill Comparison with Local Non-SFPUC Agencies

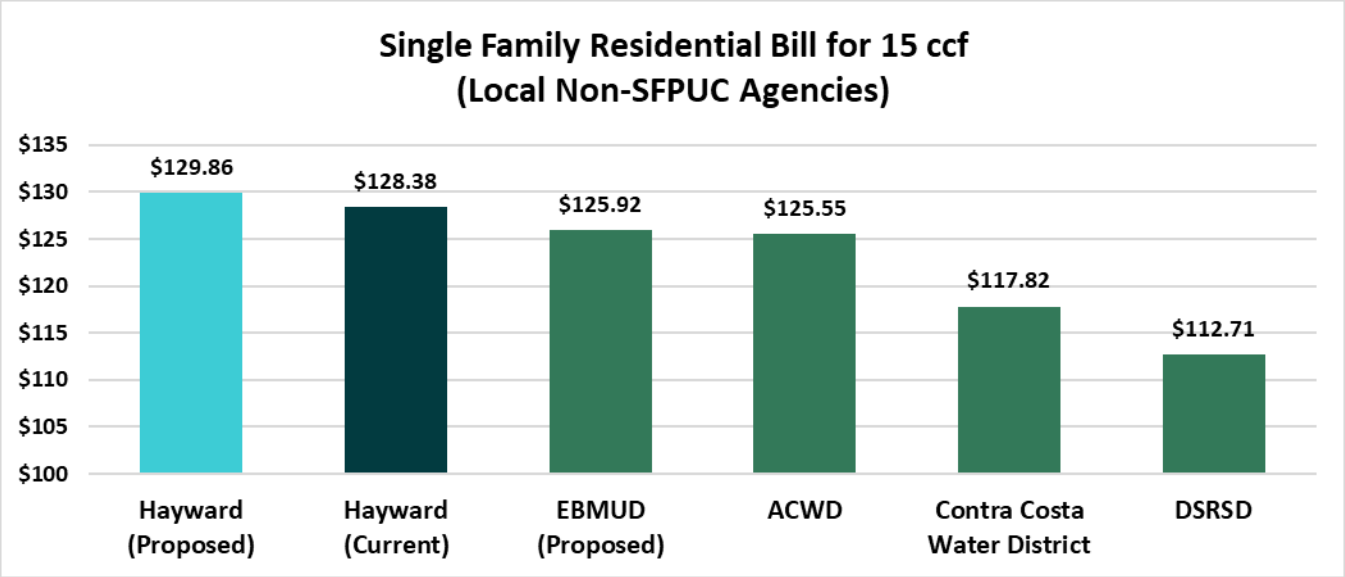


Figure 0-8: Single Family Bill Comparison with SFPUC Agencies

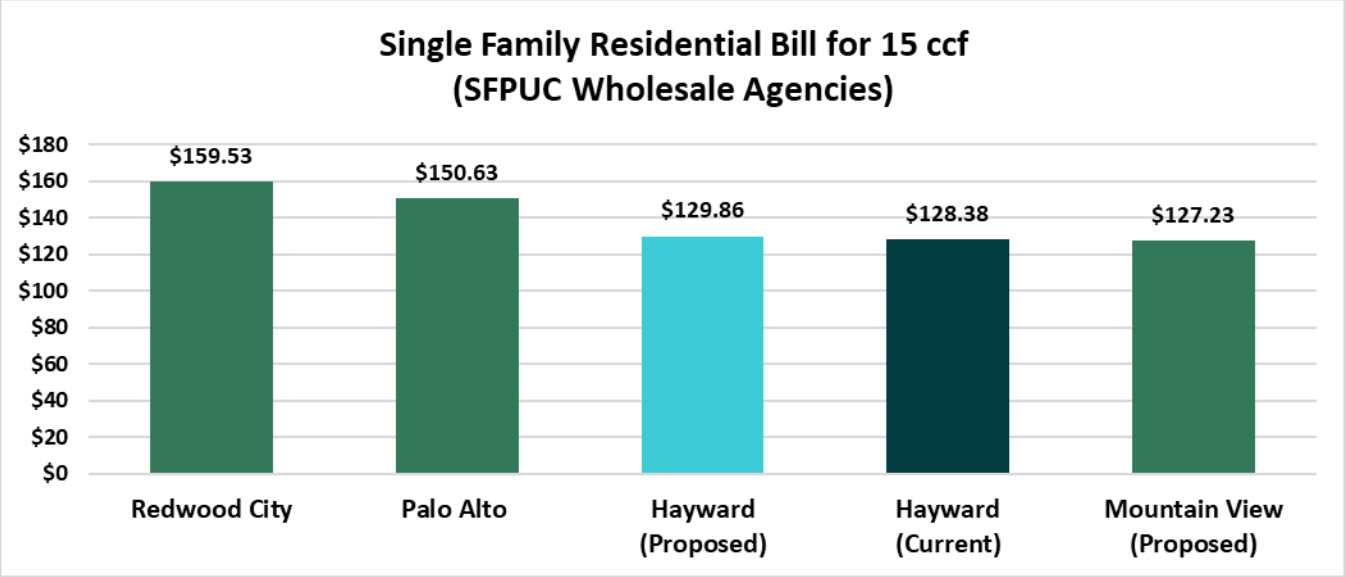


Figure 0-9 and **Figure 0-10** show the Commercial bill comparison for a 1" meter using 110 ccf of water per bi-monthly billing period. Water bills for the City's customers are generally higher than those of the local agencies. However, this is mainly due to the cost of purchasing SFPUC water. Compared to the agencies in the area that also deliver SFPUC water, the City's water bills are on the lower end.

Figure 0-9: Commercial Bill Comparison with Local Non-SFPUC Agencies

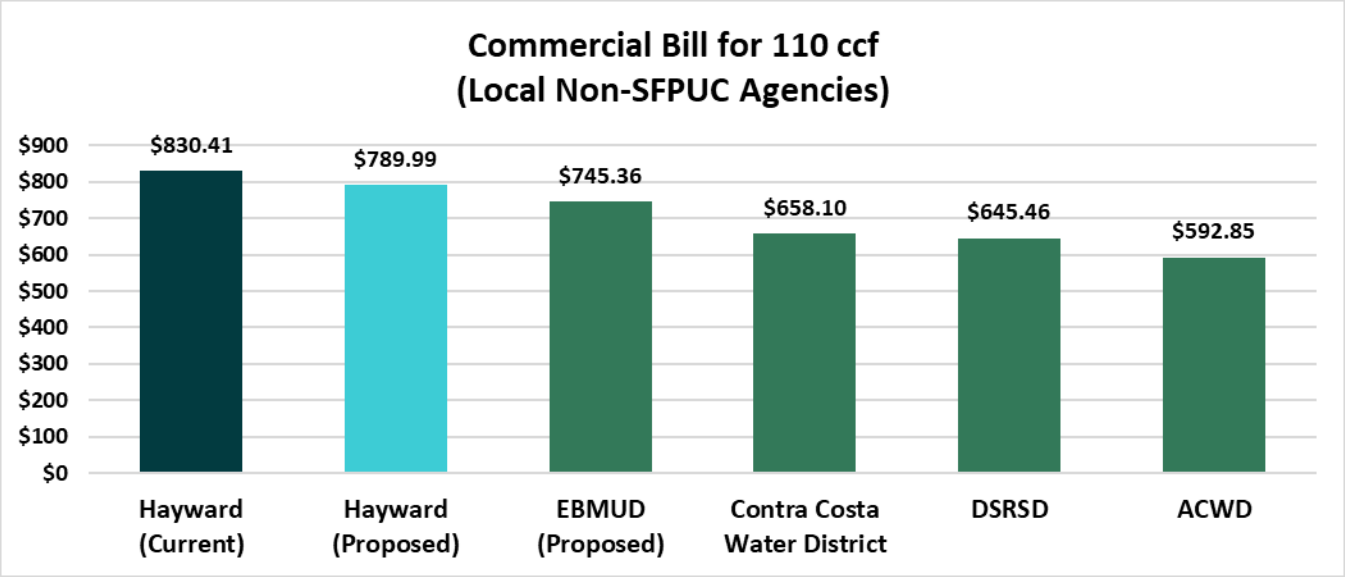
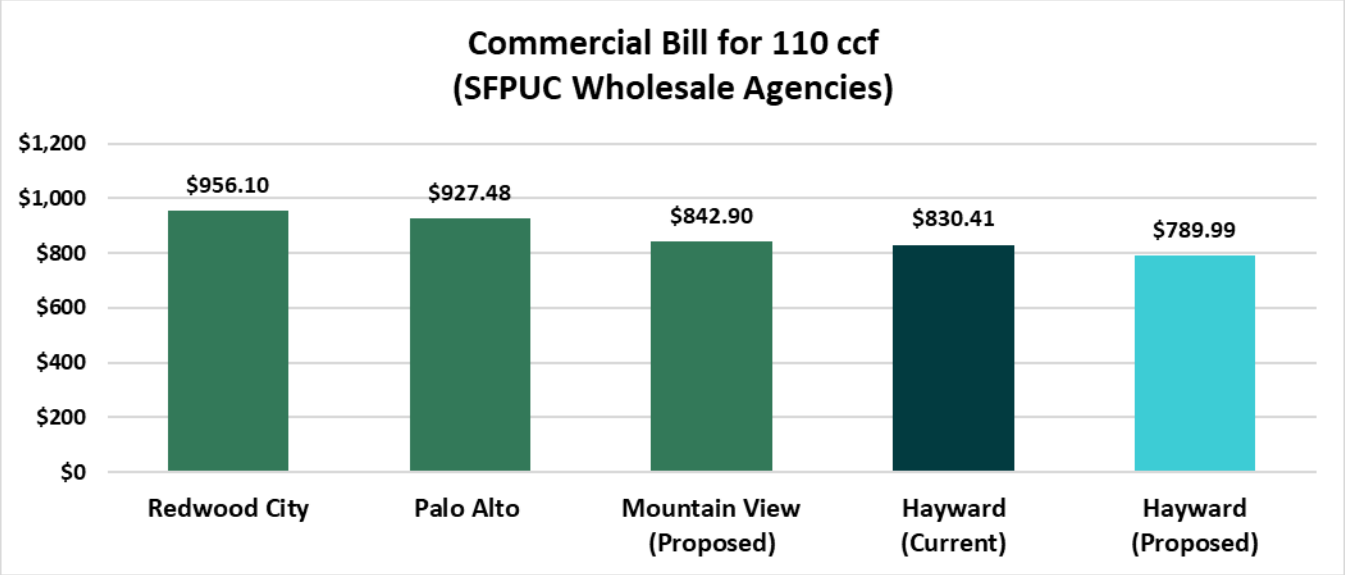


Figure 0-10: Commercial Bill Comparison with SFPUC Agencies



APPENDIX A:

Proposed Financial Plan

Line	A Financial Plan	B FY 2021	C FY 2022	D FY 2023	E FY 2024	F FY 2025	G FY 2026
1	**Revenues**						
2	Water Rate Revenue	$54,000,000	$57,322,148	$57,322,148	$57,322,148	$57,322,148	$57,322,148
3	Revenue Adjustments	$0	$0	$1,289,748	$4,819,360	$9,169,265	$12,809,710
4	Other Operating Revenue	$450,000	$450,000	$450,000	$450,000	$450,000	$450,000
5	Non-Operating Revenue	$879,970	$908,669	$938,372	$969,115	$1,000,934	$1,033,867
6	Interest Income	$105,000	$231,884	$202,154	$174,326	$178,075	$170,109
7	**Total - Revenues**	**$55,434,970**	**$58,912,702**	**$60,202,423**	**$63,734,949**	**$68,120,423**	**$71,785,834**
8							
9	**O&M Expenses**						
10	Water Purchase Cost	$33,500,000	$31,463,589	$32,100,886	$36,829,081	$37,953,030	$40,880,189
11	Other O&M Expenses	$15,263,211	$15,785,819	$16,327,407	$16,888,709	$17,470,487	$18,073,537
12	**Total - O&M Expenses**	**$48,763,211**	**$47,249,408**	**$48,428,293**	**$53,717,790**	**$55,423,517**	**$58,953,726**
13							
14	**Net Revenue**	**$6,671,759**	**$11,663,293**	**$11,774,130**	**$10,017,159**	**$12,696,906**	**$12,832,108**
15							
16	**Existing Debt Service**	**$545,536**	**$540,256**	**$545,216**	**$549,711**	**$538,731**	**$0**
17							
18	**Cash Funded CIP**	**$5,965,000**	**$11,765,520**	**$22,508,096**	**$9,347,620**	**$10,774,397**	**$17,410,303**
19							
20	**Net Cash Flow**	**$161,223**	**($642,483)**	**($11,279,182)**	**$119,828**	**$1,383,779**	**($4,578,195)**
21							
22	**Debt Coverage**						
23	Calculated	12.23	21.59	21.60	18.22	23.57	
24	Required	1.10	1.10	1.10	1.10	1.10	1.10
25							
26	Beginning Balance	$46,652,814	$46,814,037	$46,171,554	$34,892,373	$35,012,201	$36,395,979
27	**Ending Balance**	**$46,814,037**	**$46,171,554**	**$34,892,373**	**$35,012,201**	**$36,395,979**	**$31,817,785**
28							
29	**Reserve Target**	**$35,842,526**	**$37,753,136**	**$38,184,786**	**$38,037,227**	**$39,884,274**	**$41,502,229**
30	*Operating*	*$12,190,803*	*$11,812,352*	*$12,107,073*	*$13,429,448*	*$13,855,879*	*$14,738,431*
31	*Replacement Capital*	*$5,225,490*	*$5,356,094*	*$5,686,053*	*$6,040,027*	*$6,408,160*	*$6,408,160*
32	*Improvement Capital*	*$6,846,637*	*$9,005,094*	*$8,551,522*	*$6,014,601*	*$6,188,362*	*$6,188,362*
33	*Rate Stabilization*	*$11,579,597*	*$11,579,597*	*$11,840,138*	*$12,553,151*	*$13,431,872*	*$14,167,275*