

CITY OF SANTA BARBARA



Water Financial Plan & Rate Study Report August 2013





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August 23, 2013

Ms. Catherine Taylor, PE
Water System Manager
City of Santa Barbara
630 Garden Street
Santa Barbara, CA 93101

Subject: Water Financial Plan and Rate Study Report

Dear Ms. Taylor:

Raftelis Financial Consultants Inc. (RFC) is pleased to present this report on the water financial plan and rate study to the City of Santa Barbara (City). We are confident that the recommendations will meet the City's goals and recover costs equitably from the City's customers.

The study involved the development of a long range financial plan to determine the revenue needs of the water utility in the next ten years and a comprehensive review of the City's water rates based on cost of service principles. However, water rates are only calculated for the next five fiscal years beginning July 1, 2013 to match the City's implementation plan.

All assumptions, including all increases in operating and capital costs, were based on the City's documents and were factored into the rates. The rates were restructured to enhance equity among customer classes and encourage efficient use of water for greater environmental sustainability. The recommendations and findings of the study and various tables describing the calculation of the rates are included.

It was a pleasure working with you and we appreciate the assistance provided by you, Ms. Rebecca Bjork, Ms. Theresa Lancy, Ms. Alison Jordan, Mr. Bill Ferguson and other staff members during the course of the study. If you have any questions, please call me at (626) 583-1894.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Sudhir Pardiwala', is written over a light blue circular stamp.

Sudhir Pardiwala
Vice President

A handwritten signature in black ink, appearing to read 'Hannah Phan', is written over a light grey rectangular stamp.

Hannah Phan
Senior Consultant

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SECTION 1: EXECUTIVE SUMMARY

Background

The City of Santa Barbara (City) engaged Raftelis Financial Consultants, Inc. (RFC) to conduct a financial plan and rate study for the water utility. The City was incorporated in 1850 and provides water and wastewater services to a population of approximately 92,000. The water enterprise treats and delivers potable water to over 26,700 connections within the City's service area. Water from various sources including Gibraltar Reservoir, Lake Cachuma, Mission Tunnel, and State Water Project (SWP), is treated at the William B. Cater Water Treatment Plant (Cater Treatment Plant), with a treatment capacity of 37 million gallons per day (MGD). This report documents the resultant findings, analyses, and proposed changes that were developed with input from and approved by City staff and the Board of Water Commissioners.

The major objectives of the study include the following:

1. Develop long-range financial plan for the water utility that ensures financial stability and revenue sufficiency, provides adequate funding for capital expenditures, reserves funding and debt coverage, and offers rate stability
2. Determine water rates that are consistent with cost of service, encourage conservation and irrigation efficiency, and are fair and equitable to all customers
3. Calculate connection fees for water and wastewater utilities¹

This executive summary provides an overview of the study and includes findings and recommendations for the City's water rates.

Financial Plan

Currently, the City has a tiered water rate structure that includes both a fixed and variable component. The fixed component varies by meter size and the variable component is billed per hundred cubic feet (HCF) of water used. Residential customers, both single family residences (SFR) and multi-family residences (MFR), and most irrigation customers have a three-tier water volume rate, while commercial customers and residential irrigation customers have a two-tier water volume rate. Residential customers with separate irrigation meters, agricultural irrigation, and recreational/parks irrigation customers have tiers based on the acreage of the parcel receiving service. The Tier 1 rate is calculated as an annual allowance. Under the existing rate structure, agricultural customers are allowed to roll over unused Tier 1 allotments into the following year.

Based on the City's fiscal year (FY) 2013 budget, RFC projected the revenues and expenditures over the next ten years using growth and inflation assumptions consistent with the City's planning documents. **Figure 1-1** shows the proposed revenue adjustments for the water revenues over the planning period, represented by the blue bars. The analysis demonstrates that increases will be necessary to cover

¹ Water and wastewater connection fees are included in a separate report.

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operating and capital expenditures over the planning period. The red line in the graph shows the required debt service target coverage of 125 percent. The proposed revenue adjustments will allow the City to meet its debt service coverage over the planning period, as shown by the green line in the graph. The debt coverage ratio increases in FY 2016 and beyond as the 1994 water revenue bond is paid off in FY 2016 and revenues are increasing at a higher rate than operating expenses and debt service payments to cover capital costs.

Figure 1-1

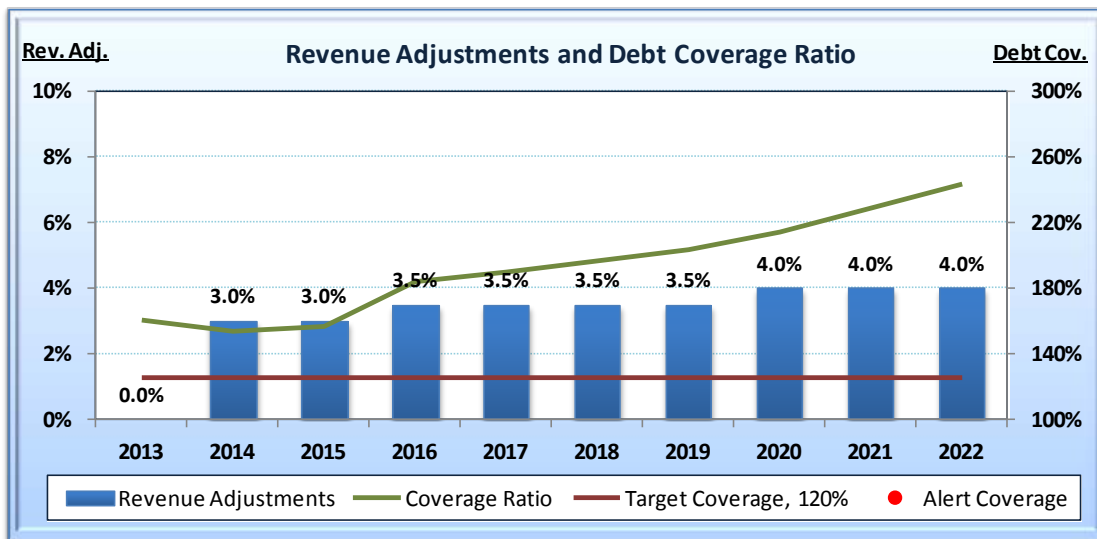


Figure 1-2 shows the operating financial plan for the water utility. The light blue bars represent the current budgeted and projected O&M expenses. Annual debt service payments are represented by the light purple bars. The red bars represent the net income needed to provide reserve funding consistent with the City’s reserve policy. If rates remain at current levels, projected revenue will follow the dark red line. The revenues with the proposed revenue adjustments over the next ten years are demonstrated by the green line.

Figure 1-2

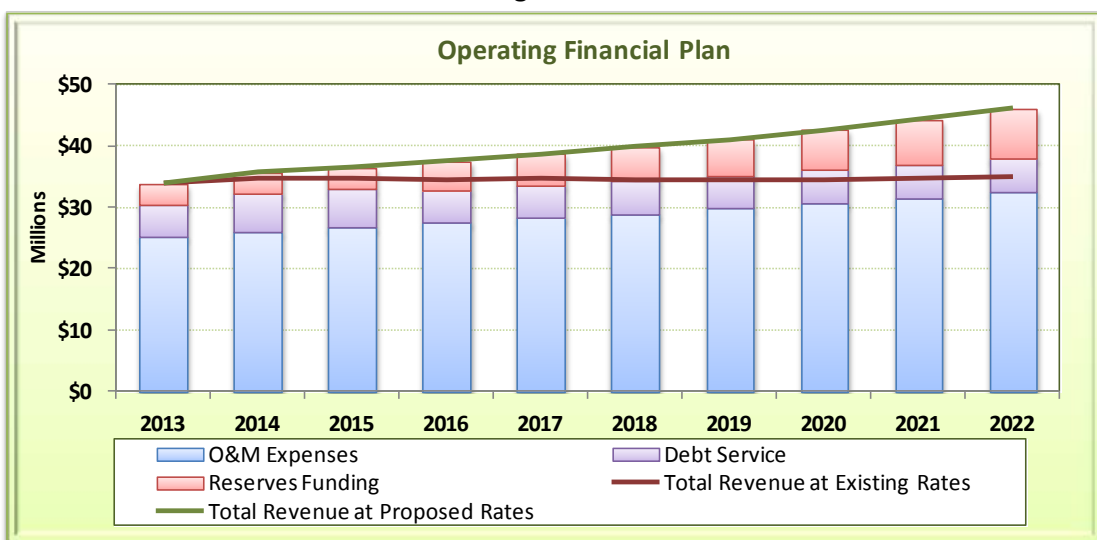
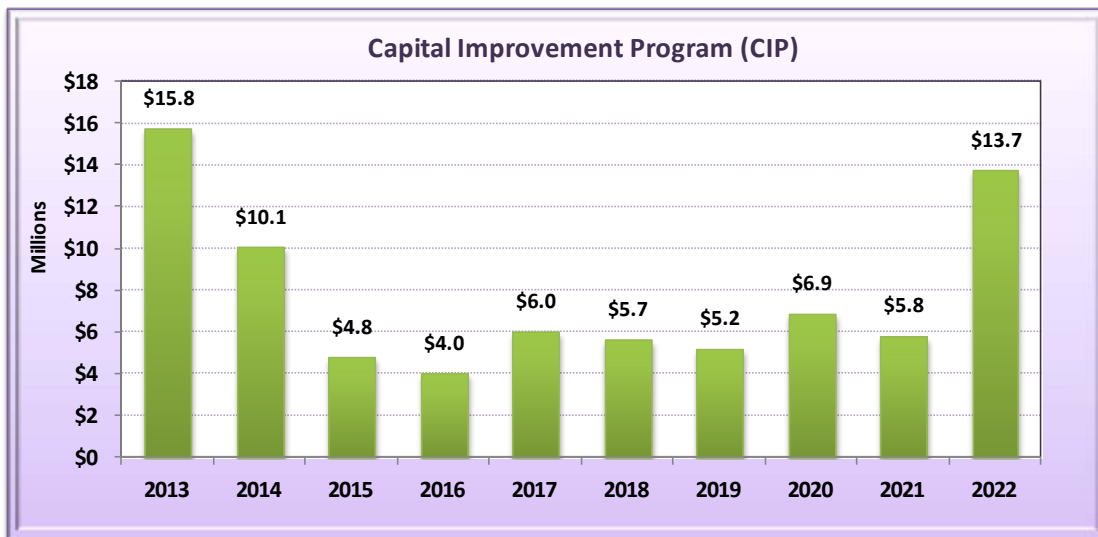


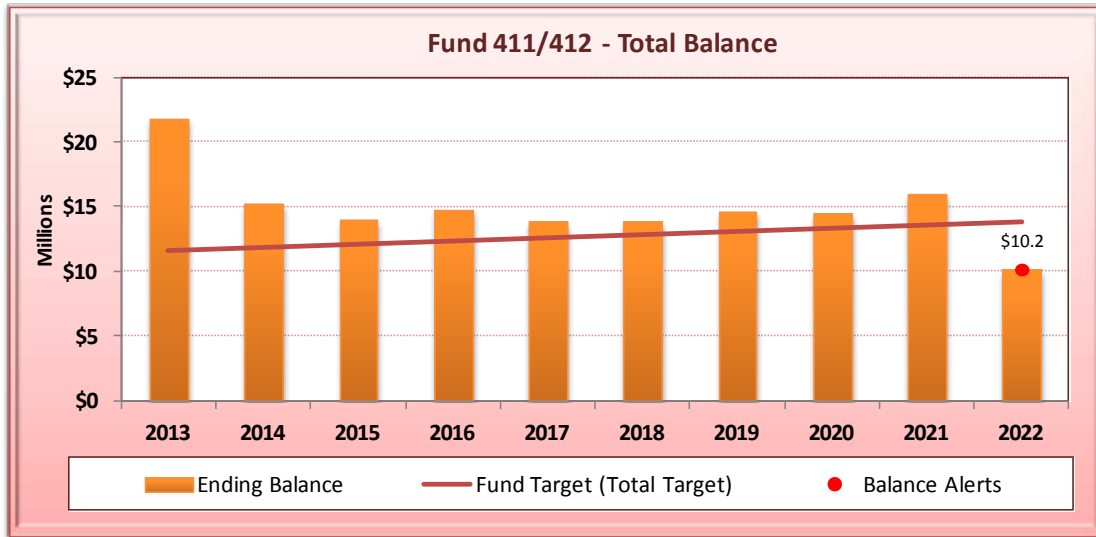
Figure 1-3 shows the City’s budgeted capital improvement program (CIP) over the next ten years. In the financial plan, the City assumes that all capital costs will be rate funded, instead of using capital reserves or new debt service. Funding the capital costs through rates is especially prudent for the City because the City’s capital costs are fairly uniform over the planning period, except for a spike in FY 2014 and FY 2022. The spike in FY 2014 is for a planned project to replace the recycled water filters and will be funded from accumulated reserves in excess of policy. The spike at the end of the planning period is for a reservoir project. As it is anticipated rates and reserves will provide the necessary cash to fund planned capital projects, this approach will save on interest costs.

Figure 1-3



The City currently maintains three reserves: a disaster reserve equal to at least 15 percent of its annual operating budget for the following fiscal year set aside for the purpose of responding to natural disasters, a contingency reserve equal to at least 10 percent of its annual operating budget for the following fiscal year, and a capital reserve equal to the minimum of either the prior 3-year average CIP or five percent of the City’s water net asset values, to be used to fund ongoing capital expenses. **Figure 1-4** shows that the City will meet the minimum targets in the ten-year forecast horizon, except during the last year of the planning horizon, due to the large capital expenditure in FY 2022.

Figure 1-4



Proposed Water Rates

Based on the City’s objectives, RFC proposes that the City retain the current tier 1 usage of 4 hcf per month for both single family residential (SFR) and multi-family residential (MFR) customers and revise the second tier for both SFR and MFR customers from 16 hcf to 14 hcf and 8 hcf to 4 hcf, respectively. Our analysis shows that the average SFR customer uses 12 hcf of water per month and the average MFR dwelling unit uses 5 hcf of water per month. The proposed tiers will provide sufficient water for both SFR and MFR customers while providing an increased incentive for conservation.

In addition, RFC proposes that irrigation customers be simplified into three categories: residential/commercial, recreation/parks/schools, and agricultural from the current five categories. All irrigation customers will have two tiers with the first tier set for each month at 100 percent of each customer’s water allocation, calculated based on the landscape area, plant factors and real-time weather data. Using real-time weather data provides a better allocation to customers, allowing more allocation in Tier 1 when the weather is hot and vice versa, and providing incentives for efficient water use. Under this structure there will no longer be carryover of unused allocation. This rate structure will incentivize water efficiency and conservation as it is customized for each customer based on their individual characteristics as well as fully utilizing the City’s existing conservation program for irrigation customers. The current rate structure with annual allotments does not incentivize conservation well, as any unused allotment carries over and potentially can be a disincentive for conservation.

The tier 1 calculation for commercial customers will remain unchanged. The current tier 1 is based on average usage from January to June. This tier provides a signal for water conservation, and takes the water use needs of individual businesses into consideration.

RFC reviewed the rate differential for customers in the unincorporated areas and recommends that the Unincorporated Area rate differential continues at 130 percent of the inside-City rates. More detailed information on this analysis is provided in Appendix A.

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The proposed water rates for FY 2014 through FY 2018 are shown in **Table 1-1** below. Proposed rates will become effective July 1st of each year, starting July 1, 2013.

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Table 1-1
Proposed Water Rates Schedule

	July 2013	July 2014	July 2015	July 2016	July 2017	
Monthly Water Meter Service Charge						
Meter Size						
5/8"	\$13.81	\$14.23	\$14.73	\$15.25	\$15.79	
3/4"	\$19.57	\$20.16	\$20.87	\$21.61	\$22.37	
1"	\$31.09	\$32.03	\$33.16	\$34.33	\$35.54	
1 1/2"	\$59.89	\$61.69	\$63.85	\$66.09	\$68.41	
2"	\$94.44	\$97.28	\$100.69	\$104.22	\$107.87	
3"	\$203.87	\$209.99	\$217.34	\$224.95	\$232.83	
4"	\$365.14	\$376.10	\$389.27	\$402.90	\$417.01	
6"	\$751.02	\$773.56	\$800.64	\$828.67	\$857.68	
8"	\$1,384.55	\$1,426.09	\$1,476.01	\$1,527.68	\$1,581.15	
10"	\$2,190.86	\$2,256.59	\$2,335.58	\$2,417.33	\$2,501.94	
Monthly Fire Line Rates						
Meter Size						
1"	\$2.67	\$2.76	\$2.86	\$2.97	\$3.08	
1 1/2"	\$3.39	\$3.50	\$3.63	\$3.76	\$3.90	
2"	\$4.63	\$4.77	\$4.94	\$5.12	\$5.30	
4"	\$16.73	\$17.24	\$17.85	\$18.48	\$19.13	
6"	\$44.22	\$45.55	\$47.15	\$48.81	\$50.52	
8"	\$91.63	\$94.38	\$97.69	\$101.11	\$104.65	
10"	\$162.96	\$167.85	\$173.73	\$179.82	\$186.12	
12"	\$261.81	\$269.67	\$279.11	\$288.88	\$299.00	
Water Service Rates, \$/hcf						
SFR						
Tier 1	First 4 hcf	\$3.18	\$3.28	\$3.40	\$3.52	\$3.65
Tier 2	Next 14 hcf	\$5.16	\$5.32	\$5.51	\$5.71	\$5.91
Tier 3	All other hcf	\$6.62	\$6.82	\$7.06	\$7.31	\$7.57
MFR						
Tier 1	First 4 hcf	\$3.18	\$3.28	\$3.40	\$3.52	\$3.65
Tier 2	Next 4 hcf	\$5.16	\$5.32	\$5.51	\$5.71	\$5.91
Tier 3	All other hcf	\$6.62	\$6.82	\$7.06	\$7.31	\$7.57
Commercial/Industrial						
Tier 1	100% of base allotment	\$5.16	\$5.32	\$5.51	\$5.71	\$5.91
Tier 2	All other hcf	\$5.91	\$6.09	\$6.31	\$6.54	\$6.77
Irrigation - Residential/Commercial						
Tier 1	100% of allocation	\$5.16	\$5.32	\$5.51	\$5.71	\$5.91
Tier 2	All other hcf	\$6.62	\$6.82	\$7.06	\$7.31	\$7.57
Irrigation - Recreation/Parks/Schools						
Tier 1	100% of allocation	\$2.70	\$2.79	\$2.89	\$3.00	\$3.11
Tier 2	All other hcf	\$6.62	\$6.82	\$7.06	\$7.31	\$7.57
Irrigation - Agriculture						
Tier 1	100% of allocation	\$1.51	\$1.56	\$1.62	\$1.68	\$1.74
Tier 2	All other hcf	\$6.62	\$6.82	\$7.06	\$7.31	\$7.57
Recycled Water		\$2.16	\$2.23	\$2.31	\$2.40	\$2.49
Unincorporated Area Surcharge		130%	130%	130%	130%	130%

Note: Base allotment = average monthly consumption during the most recent Jan-Jun period

Note: Irrigation allocation based on acreage, weather, and plant factor for each customer class

Customer Impacts

For SFR customers with a 5/8” meter, the bill impacts at various usage levels are shown below in **Table 1-2**. Low volume users will see higher impacts due to the increase in the meter charge and the first tier rate. The average SFR customer that uses 12 hcf per month will see a \$0.06 increase in the monthly bill. The very high users, representing the top four percent of the annual bills which starts at 64 hcf monthly, will see a significant change in their monthly bills.

Table 1-2
SFR Customer Impacts

Usage Level	Monthly Usage (hcf)	Existing Bill	Proposed Bill	Difference	% of Bills
Very Low	4	\$25.75	\$26.53	\$0.78	21%
Low	8	\$46.75	\$47.17	\$0.42	27%
Average Customer	12	\$67.75	\$67.81	\$0.06	19%
High	32	\$176.11	\$191.45	\$15.34	27%
Very High	64	\$353.07	\$403.29	\$50.22	4%

Note: Assumes 5/8” meter

SECTION 2: PROJECT BACKGROUND

The City of Santa Barbara (City) engaged Raftelis Financial Consultants, Inc. (RFC) to conduct a financial plan and rate study for the water utility. This report documents the resultant findings, analyses, and proposed changes that were developed with input from and approved by City staff.

The City was incorporated in 1850 and provides water and wastewater services to a population of approximately 91,000. The water enterprise treats and delivers potable water to over 26,700 connections within the City's service area. Water from various sources including the Gibraltar Reservoir, Cachuma Reservoir, Mission Tunnel, and State Water Project (SWP), is treated at the William B. Cater Treatment Plant (Cater Treatment Plant), with a treatment capacity of 37 million gallons per day (MGD). The City's portfolio of water resources also includes groundwater that receives minimal treatment before delivery to customers.

The City has not conducted a water rate study since 1995, and there have been significant changes to the water consumption patterns as well as water sources and cost structure. Water infrastructure is capital intensive and the City is planning significant capital expenses in order to keep up with infrastructure maintenance and replacement needs. The City needs adequate funds to ensure financial stability. Additionally, the City has to comply with Proposition 218 and other regulatory requirements while promoting water conservation and recovering the costs of providing service equitably from its customers. In accordance with the City's Long-Term Water Supply Plan, the City's Water Conservation Program is operated to minimize the use of potable water supplies, meet the requirements of the California Urban Water Conservation Council (CUWCC) Best Management Practices (BMPs), and achieve compliance with SBX7-7 20 X 2020 per capita water use reduction requirements.

As a part of the study, RFC met with City staff several times to review study objectives, verify assumptions, and evaluate usage characteristics of various customer classes, operational differences to serve Unincorporated Area customers, and the tier and rate structure for different classes. The City's objective was to develop a water rate structure that:

- Promotes water conservation,
- Provides revenue stability,
- Ensures customers pay their proportionate share of costs,
- Is fair and equitable, and
- Is based on cost of service principles, as required by Proposition 218.

The requirements of Proposition 218 are described in Section 4.

Existing Water Rates

The current water rate structure consists of a monthly service charge and a per-unit volume rate. The service charge varies by meter size. Single family residential (SFR) and multi-family residential (MFR), and most irrigation customers have a three-tier water volume rate. The first tier for residential

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customers is designed to meet basic health and sanitation requirements. Commercial customers and residential irrigation customers have a two-tier water volume rate per hundred cubic feet (hcf) of water used. The first tier for commercial customers is calculated as the average of the previous year consumption in the period from January through June. This calculation provides an estimate of off-peak water use and allows for the individual needs of the particular business type to be incorporated into the rate structure. Residential customers with separate irrigation meters, as well as agricultural and recreational/parks irrigation customers have tiers based on the irrigated area served. Annual Tier 1 allotments are provided in July of each year. These customers are charged at the Tier 1 rate until their allowance is depleted. Under the existing rate structure, agricultural customers are allowed to roll over any unused allowance into the following year.

In addition, the City also serves customers who live in the unincorporated area of the County of Santa Barbara. Proportionately more infrastructure, including more reservoirs and pumping stations, are required to serve this customer class. To reflect the incremental costs of the facilities and costs required to serve these customers, they are charged at 130 percent of the rate for City customers. The 130 percent rate differential is further explained in Appendix A. In the past five years, water rates have been increased 3.5% across the board, except in FY10, when a 3% increase was adopted. The current rate structure is shown in **Table 2-1**.

Table 2-1
Existing Water Rate Structure

Effective		7/1/2012	Effective		7/1/2012
Monthly Water Meter Service Charge			Water Service Rates		
Meter Size			SFR		
5/8"		\$13.19	Tier 1	First 4 hcf	\$3.14
3/4"		\$19.82	Tier 2	Next 16 hcf	\$5.25
1"		\$33.00	Tier 3	All other hcf	\$5.53
1 1/2"		\$65.97	MFR		
2"		\$105.58	Tier 1	First 4 hcf	\$3.14
3"		\$211.14	Tier 2	Next 8 hcf	\$5.25
4"		\$329.91	Tier 3	All other hcf	\$5.53
6"		\$659.81	Commercial/Industrial		
8"		\$1,054.84	Tier 1	100% of base allotment	\$5.25
10"		\$1,517.56	Tier 2	All other hcf	\$5.53
Monthly Fire Line Service Charge			Irrigation - Residential		
Meter Size			Tier 1	Annual of 654 hcf/acre	\$5.25
1"		\$2.51	Tier 2	All other hcf	\$5.53
1 1/2"		\$3.58	Irrigation - Recreation/Parks/Schools		
2"		\$5.12	Tier 1	Annual of 1,404 hcf/acre	\$2.47
4"		\$9.20	Tier 2	Next 240 hcf/acre/year	\$5.25
6"		\$14.32	Tier 3	All other hcf	\$5.53
8"		\$20.47	Irrigation - Commercial		
10"		\$28.63	Tier 1	100% of base allotment	\$5.25
12"		\$40.91	Tier 2	All other hcf	\$5.53
			Irrigation - Agriculture		
			Tier 1	Annual of 1,080 hcf/acre	\$1.45
			Tier 2	Next 240 hcf/acre/year	\$5.25
			Tier 3	All other hcf	\$5.53
			Recycled Water		
			Outside City Limits		
			130%		

Note: Base allotment = average monthly consumption during the most recent Jan-Jun period

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RFC assessed the City's prior and existing water accounts and rates to confirm existing revenues and project revenues over the planning period. In addition, the City's revenue requirements, including operations and maintenance (O&M) expenses, capital expenditures, and debt service associated with existing loans and bonds, were evaluated and projected over the planning period. RFC, in conjunction with City staff, developed the financial plan, determining the level of revenue adjustments necessary for the City to meet its financial goals and objectives over the planning period. Next, RFC conducted the cost of service (COS) analysis to determine the revenue required per customer class. Lastly, with extensive input from City staff, RFC developed a rate schedule that meets the City's goals of equitably distributing costs across customer classes and providing incentives for conservation.

RFC has developed a user friendly model with numerous features that the City may use for future financial planning. The model has the capability to review the impacts of debt funding, if necessary, in the future. The financial planning dashboard will allow decision makers to better plan future capital improvements and revenue adjustments as well as review the corresponding impacts on customers. Appendix B contains relevant tables from the Rate Model.

The completed study and model is an essential element in the City's inventory of strategic planning tools to provide efficient service in a manner that ensures reliable service and water delivery cost effectively. The study, in concert with the City's other planning documents and processes, will integrate operational and capital planning into a coordinated program for the determination of cost effective water charges, fairly and equitably, to the entire constituency including future customers.

SECTION 3: WATER FINANCIAL PLAN

This section of the report discusses the process of developing a financial plan culminating in a program of revenue adjustments. To develop the financial plan it is necessary to collect and organize customer accounts and usage data, project revenues at the current rates, compile O&M and capital expenditures, develop a capital improvement financing plan, and consider debt service and reserve requirements. Generally, the resulting revenue adjustments are developed to provide small and steady revenue increases reflecting the impacts of inflation and water service characteristics that will ensure the financial stability of the water enterprise.

Water Accounts and Usage Growth Rates

Customer accounts and usage information in fiscal year (FY) 2012 are used as the basis for projecting the number of accounts during the study period. Water accounts are projected to annually increase at 0.15 percent per year for SFR customers, 0.75 percent per year for MFR customers, and 0.6 percent per year for commercial customers for the next ten years. The projections are based on the City's 2010 Urban Water Management Plan (UWMP) and Santa Barbara Final Environmental Impact Report.

While growth in the number of accounts will add new water use, total potable water demand is projected to decrease at an average rate of approximately 1 percent per year through FY 2022 due to water conservation and offsets in potable water use due to switching customers from potable to recycled water use. Recycled water usage is projected to increase from the FY 2012 average of 800 AF/yr to 950 AF/yr in FY 2022. The net result of the growth and conservation is anticipated to be a 6 percent decrease in potable water usage by FY 2022.

Table 3-1 shows the projected accounts and usage growth rates for water utility customers in the next ten years.

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Table 3-1
Projected Accounts and Usage Growth Rates

User Class	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Growth Projections					
Single Family Residential (SFR)	0.15%	0.15%	0.15%	0.15%	0.15%
Multi-Family Residential (MFR)	0.75%	0.75%	0.75%	0.75%	0.75%
Commercial/Industrial	0.60%	0.60%	0.60%	0.60%	0.60%
Irrigation - Residential	0.0%	0.0%	0.0%	0.0%	0.0%
Irrigation - Recreation/Parks/Schools	0.0%	0.0%	0.0%	0.0%	0.0%
Irrigation - Commercial	0.0%	0.0%	0.0%	0.0%	0.0%
Irrigation - Agriculture	0.0%	0.0%	0.0%	0.0%	0.0%
Recycled Water	0.0%	0.0%	0.0%	0.0%	0.0%
Fire Line Service	0.0%	0.0%	0.0%	0.0%	0.0%
Outside City Customers	0.0%	0.0%	0.0%	0.0%	0.0%
Conservation Factors	99.0%	99.0%	99.0%	99.0%	99.0%
Recycled Water Sales	1.8%	1.8%	1.7%	1.7%	1.7%

User Class	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Growth Projections					
Single Family Residential (SFR)	0.15%	0.15%	0.15%	0.15%	0.15%
Multi-Family Residential (MFR)	0.75%	0.75%	0.75%	0.75%	0.75%
Commercial/Industrial	0.60%	0.60%	0.60%	0.60%	0.60%
Irrigation - Residential	0.0%	0.0%	0.0%	0.0%	0.0%
Irrigation - Recreation/Parks/Schools	0.0%	0.0%	0.0%	0.0%	0.0%
Irrigation - Commercial	0.0%	0.0%	0.0%	0.0%	0.0%
Irrigation - Agriculture	0.0%	0.0%	0.0%	0.0%	0.0%
Recycled Water	0.0%	0.0%	0.0%	0.0%	0.0%
Fire Line Service	0.0%	0.0%	0.0%	0.0%	0.0%
Outside City Customers	0.0%	0.0%	0.0%	0.0%	0.0%
Conservation Factors	99.0%	99.0%	99.0%	99.0%	99.0%
Recycled Water Sales	1.7%	1.6%	1.6%	1.6%	1.6%

Water Revenue Requirements

For sound financial operation of the City's water system, the revenues generated must be sufficient to meet the revenue requirements or cash obligations of the system. Revenue requirements include water purchase and production costs including treatment, O&M expenses, capital improvement program (CIP) expenditures, principal and interest payments on existing debt, and other obligations.

Operation and Maintenance Expenses

O&M expenditures include the cost of operating and maintaining water supply, treatment, storage, and distribution facilities. O&M expenses also include the costs of providing technical services such as laboratory services and other administrative costs of the water system such as meter reading and billing. These costs are a normal obligation of the system as they are incurred, and are met from operating

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revenues as they are incurred. The comprehensive forecasted annual O&M expenditures for the study are based upon the City's FY 2013 water system budget. An inflation factor of three percent was used to escalate the City's expenses. The developed model provides flexibility to use different inflation factors for different types of expenses. These factors are shown in **Table 3-2**. Variable expenses, including utilities and chemical costs, are applied to the growth rates and conservation factors (shown in **Table 3-1**) to account for projected changes in water usage. Capital inflation is shown at 0 percent since the capital expenses are already inflated.

**Table 3-2
Inflation Factors Used in the Study**

Inflation Types	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
General		3.0%	3.0%	3.0%	3.0%
Salaries		3.0%	3.0%	3.0%	3.0%
Benefits		3.0%	3.0%	3.0%	3.0%
Capital		0.0%	0.0%	0.0%	0.0%
Utilities		3.0%	3.0%	3.0%	3.0%

Inflation Types	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
General	3.0%	3.0%	3.0%	3.0%	3.0%
Salaries	3.0%	3.0%	3.0%	3.0%	3.0%
Benefits	3.0%	3.0%	3.0%	3.0%	3.0%
Capital	0.0%	0.0%	0.0%	0.0%	0.0%
Utilities	3.0%	3.0%	3.0%	3.0%	3.0%

Total O&M expenses are projected to increase approximately 2.8 percent per year on average. Projected O&M expenditures for the study period are summarized by functions in **Table 3-3**.

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Table 3-3
Projected O&M Expenses

Description	<i>Budgeted</i> FY 2013	<i>Projected</i> FY 2014	<i>Projected</i> FY 2015	<i>Projected</i> FY 2016	<i>Projected</i> FY 2017
Water Resources Management	\$3,322,331	\$3,422,001	\$3,524,661	\$3,630,401	\$3,739,313
Recycled Water	\$820,133	\$844,030	\$868,626	\$893,942	\$920,004
Water Distribution	\$5,996,188	\$6,171,767	\$6,352,508	\$6,538,563	\$6,730,115
Water Treatment	\$326,217	\$335,494	\$345,037	\$354,853	\$364,954
Cater Water Treatment	\$4,086,587	\$4,197,418	\$4,311,286	\$4,428,277	\$4,548,544
Water Supply Management	\$9,139,477	\$9,361,851	\$9,589,631	\$9,822,949	\$10,062,238
Gibraltar Dam Operations	\$334,982	\$344,947	\$355,209	\$365,777	\$376,660
Water Laboratories	\$648,838	\$668,232	\$688,207	\$708,779	\$729,967
Meter Reading	\$640,795	\$660,019	\$679,819	\$700,214	\$721,220
TOTAL O&M EXPENSES	\$25,315,548	\$26,005,758	\$26,714,984	\$27,443,756	\$28,193,015

Description	<i>Projected</i> FY 2018	<i>Projected</i> FY 2019	<i>Projected</i> FY 2020	<i>Projected</i> FY 2021	<i>Projected</i> FY 2022
Water Resources Management	\$3,851,492	\$3,967,037	\$4,086,048	\$4,208,630	\$4,334,888
Recycled Water	\$946,829	\$974,444	\$1,002,868	\$1,032,130	\$1,062,249
Water Distribution	\$6,927,301	\$7,130,312	\$7,339,297	\$7,554,457	\$7,775,949
Water Treatment	\$375,345	\$386,037	\$397,035	\$408,352	\$419,995
Cater Water Treatment	\$4,672,111	\$4,799,140	\$4,929,659	\$5,063,837	\$5,201,704
Water Supply Management	\$10,307,352	\$10,558,741	\$10,816,257	\$11,080,371	\$11,350,928
Gibraltar Dam Operations	\$387,868	\$399,410	\$411,295	\$423,536	\$436,141
Water Laboratories	\$751,789	\$774,263	\$797,411	\$821,251	\$845,804
Meter Reading	\$742,857	\$765,143	\$788,097	\$811,740	\$836,092
TOTAL O&M EXPENSES	\$28,962,942	\$29,754,527	\$30,567,967	\$31,404,303	\$32,263,751

Water Capital Improvement Program

The City has developed a comprehensive water Capital Improvement Program (CIP) to address current water system needs. As **Table 3-4** indicates, the total estimated water CIP for the study period of FY 2013 to FY 2022 is \$85.3 million. The financial plan assumes that all capital costs will be funded from rate revenue in excess of the needs for O&M and debt service. Funding the capital costs through rates is advisable because the City's capital costs are fairly uniform over the planning period, except for a spike in FY 2014 and FY 2022 due to a planned project to replace the recycled water filters and a reservoir project. With rates and reserves able to provide the necessary cash to fund those projects, the City will save on interest payments associated with debt financing. Most of the capital expenses shown in FY 2013 are carryover projects that were scheduled for FY 2012 but were not completed.

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Table 3-4
Capital Improvement Plan

Project Number	Program	Proposed FY 2013	Projected FY 2014	Projected FY 2015	Projected FY 2016	Projected FY 2017
8201	Water Main Replacement Program Total	\$4,151,965	\$3,025,000	\$2,100,000	\$1,240,000	\$1,600,000
	Unfunded Water Main	\$0	\$2,000,000	\$2,000,000	\$1,860,000	\$1,500,000
8359	Groundwater Supply Program Total	\$1,000,000	\$0	\$1,580,000	\$210,000	\$2,225,000
8432	Distribution Pump Station Program	\$785,762	\$50,000	\$470,000	\$1,588,000	\$576,090
8437	Distribution Reservoir Program	\$2,212,587	\$0	\$0	\$540,000	\$1,090,000
8240	Water Reclamation Program	\$125,000	\$125,000	\$135,000	\$125,000	\$225,000
8183	Corporation Yard Well	\$2,381,758	\$0	\$0	\$0	\$0
8239	Cater Treatment Plant Equipment Maint	\$1,515,112	\$0	\$300,000	\$300,000	\$305,000
8244	Vic Trace Roof Replacement	\$1,500,000	\$0	\$0	\$0	\$0
XXXX	Recycled Water Facilities Rehabilitation	\$2,090,471	\$6,800,000	\$0	\$0	\$0
XXXX	Gibraltar Dam	\$0	\$50,000	\$200,000	\$25,000	\$25,000
Total Funded		\$15,762,655	\$10,050,000	\$4,785,000	\$4,028,000	\$6,046,090
Total Unfunded		\$0	\$2,000,000	\$2,000,000	\$1,860,000	\$1,500,000
Grand Total		\$15,762,655	\$12,050,000	\$6,785,000	\$5,888,000	\$7,546,090

Project Number	Program	Projected FY 2018	Projected FY 2019	Projected FY 2020	Projected FY 2021	Projected FY 2022
8201	Water Main Replacement Program Total	\$3,100,000	\$3,100,000	\$4,500,000	\$4,960,000	\$4,960,000
	Unfunded Water Main	\$0	\$0	\$0	\$0	\$0
8359	Groundwater Supply Program Total	\$75,000	\$740,000	\$1,550,000	\$50,000	\$50,000
8432	Distribution Pump Station Program	\$1,074,273	\$132,551	\$115,927	\$119,405	\$122,987
8437	Distribution Reservoir Program	\$190,000	\$650,000	\$200,000	\$200,000	\$8,140,000
8240	Water Reclamation Program	\$875,000	\$125,000	\$125,000	\$125,000	\$125,000
8183	Corporation Yard Well	\$0	\$0	\$0	\$0	\$0
8239	Cater Treatment Plant Equipment Maint	\$310,000	\$355,000	\$350,000	\$350,000	\$300,000
8244	Vic Trace Roof Replacement	\$0	\$0	\$0	\$0	\$0
XXXX	Recycled Water Facilities Rehabilitation	\$0	\$0	\$0	\$0	\$0
XXXX	Gibraltar Dam	\$40,000	\$100,000	\$25,000	\$25,000	\$25,000
Total Funded		\$5,664,273	\$5,202,551	\$6,865,927	\$5,829,405	\$13,722,987
Total Unfunded		\$0	\$0	\$0	\$0	\$0
Grand Total		\$5,664,273	\$5,202,551	\$6,865,927	\$5,829,405	\$13,722,987

Debt Service Requirements

Debt service requirements consist of principal and interest payments on existing debt. The City currently has debt service obligations associated with the outstanding 1994 Water Revenue Bonds, the 2002 Refunding Water Certificates of Participation (COPs) and two State Revolving Fund (SRF) loans. The 1994 bonds are set to be paid off in FY 2015, as reflected in **Table 3-5**. In addition, the City has funded the Cater Treatment Plant project with an SRF loan. Its debt service is approximately \$1.9 million per year, starting in FY 2014. **Table 3-5** shows the existing debt service of the Water Enterprise, with payments ranging from \$4.5 million to \$6.2 million annually.

Table 3-5
Existing Debt Schedule

Description	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Bonds Debt Service	\$738,400	\$741,120	\$737,280	\$0	\$0
COPs Debt Service	\$1,062,320	\$1,065,339	\$1,056,508	\$1,060,983	\$1,063,448
Loans Debt Service	\$3,188,689	\$4,366,596	\$4,366,596	\$4,366,596	\$4,366,596
Total Debt Service	\$4,989,409	\$6,173,055	\$6,160,384	\$5,427,579	\$5,430,044

Description	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Bonds Debt Service	\$0	\$0	\$0	\$0	\$0
COPs Debt Service	\$1,064,156	\$1,058,094	\$1,062,400	\$1,057,113	\$1,059,625
Loans Debt Service	\$4,366,596	\$4,366,596	\$4,366,596	\$4,366,596	\$4,366,596
Total Debt Service	\$5,430,752	\$5,424,690	\$5,428,996	\$5,423,709	\$5,426,221

Debt Service Coverage

To ensure that it meets the covenants of the issued debt, the City must meet debt service coverage requirements on its outstanding bond issues. The City’s required debt coverage is 125 percent, which means that the City’s Adjusted Net System Revenues shall amount to at least 125 percent of the Annual Debt Service. The system revenues include funds derived from the ownership and operation of the system including water service charges from the City’s customers, miscellaneous service charges, revenues received from contracts, and interest income. Annual Debt Service includes annual principal and interest payments on outstanding debt. The debt service table above does not include Central Coast Water Authority Debt as the City treats that as an O&M cost requiring a 125 percent coverage ratio. With the proposed revenue adjustments, the City exceeds the coverage requirement during each year of the study’s planning period.

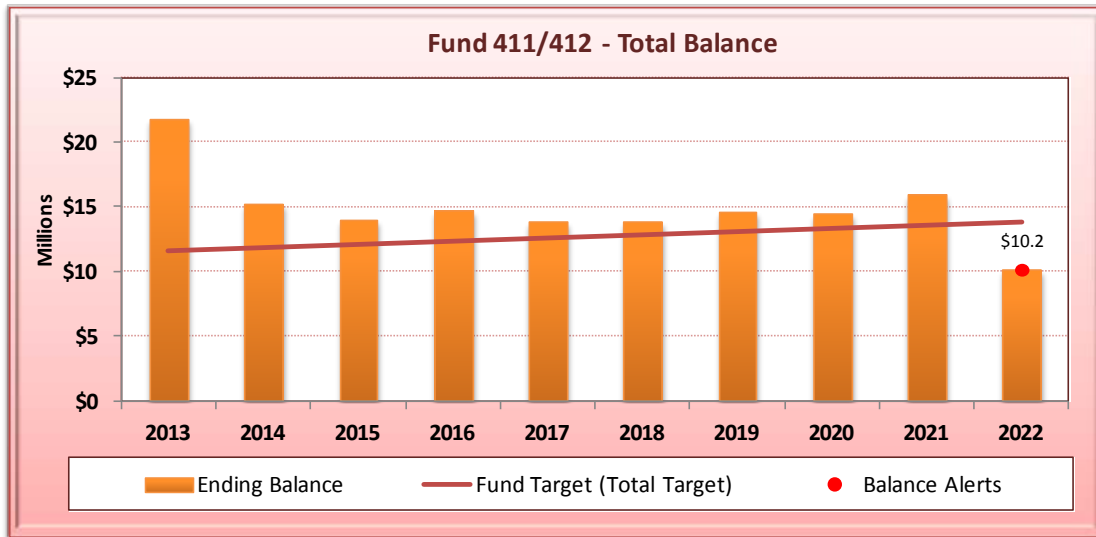
Reserves

Prudent fiscal management requires that the City maintain reserve balances to meet working capital requirements, meet unexpected increases in costs and provide for emergencies. The City’s existing reserve policy establishes three reserve funds.

The first requires a disaster reserve equal to at least 15 percent of its annual operating budget for the following fiscal year set aside for the purpose of responding to natural disasters. Next, a contingency reserve equal to at least 10 percent of its annual operating budget for the following fiscal year is set aside for the purpose of funding unique one-time costs and to permit budget adjustments during periods of reductions. The third reserve fund is a capital reserve fund, to be used to fund ongoing capital expenses. For the capital reserve fund, the City has established a fund target equal to the minimum of either the prior 3-year average CIP OR five percent of the City’s water net asset values, whichever is least.

The estimated FY 2013 total ending reserve balance is approximately \$21.7 million. The reserve balance and the minimum reserves targets are shown in **Figure 3-1**. The reserve level is projected to meet the minimum targets in the ten-year forecast horizon, except for FY 2022, when a large capital expenditure is anticipated. This is too far out to accurately forecast. As that time nears, the City should re-evaluate the water financial plan to ensure financial stability at the end of the planning horizon.

Figure 3-1



Water Operating Financial Plan

Based on the revenue requirements and current reserves level, RFC projects the following revenue adjustments for the next five years, as shown in **Table 3-6**. The adjustments are necessary to meet projected expenditures and to maintain sufficient reserves balances. It should be noted that revenue adjustments are not the same as rate increases. The increases shown in the table below denote the amount of additional revenues necessary for the utility’s operations; the actual increases to rates may vary depending on the results of the cost of service analysis.

Table 3-6
 Proposed Revenue Adjustments Schedule

Fiscal Year	Revenue Adjustments
2014	3.0%
2015	3.0%
2016	3.5%
2017	3.5%
2018	3.5%

Figure 3-2 shows the proposed revenue adjustment and debt coverage levels throughout the forecast period. The proposed revenue adjustments will generate sufficient revenues to maintain a debt coverage ratio above the required 125 percent requirement. The debt coverage ratio increases in FY 2016 and beyond as the 1994 water revenue bond is paid off in FY 2016 and revenues are increasing at a higher rate than operating expenses and debt service payments to cover capital costs. The net revenue requirements including the revenue increases will be spread on all users in proportion to the cost of providing service as shown in Section 4; as a result all users will not necessarily see a 3 percent increase in 2014.

Figure 3-2

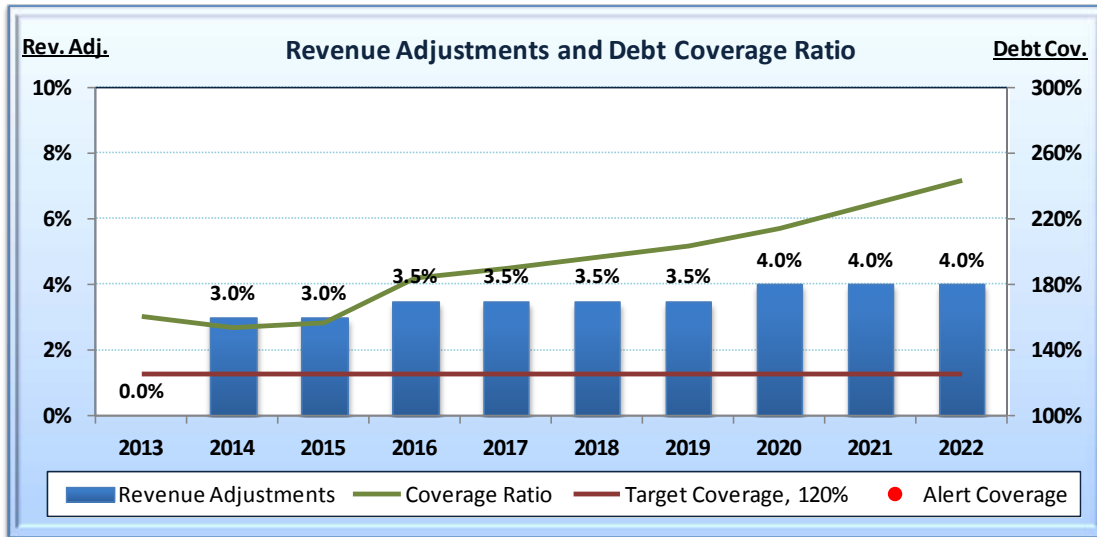
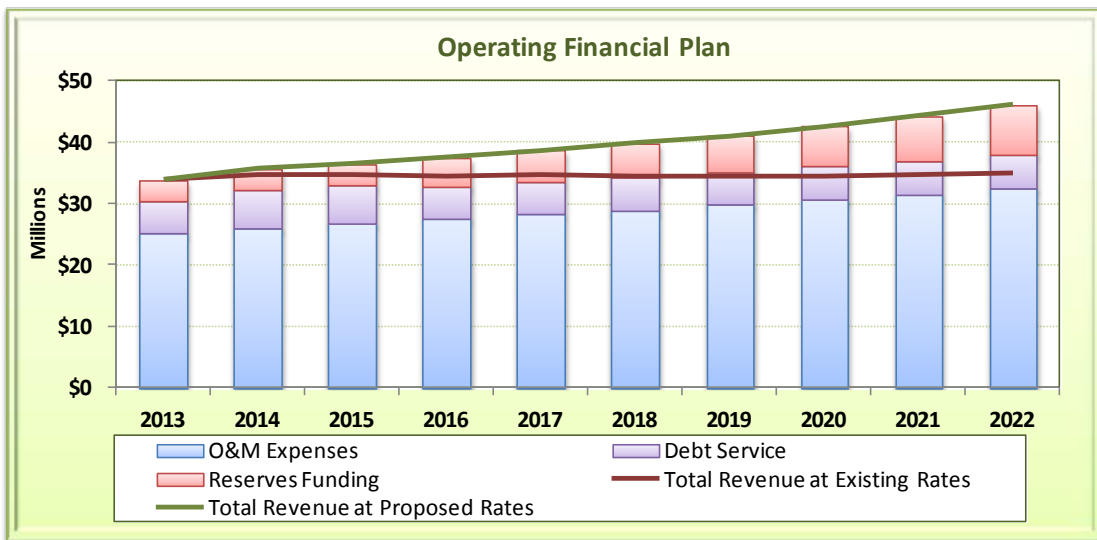


Figure 3-3 shows the proposed operating financial plan, and compares expected revenues under current rates to revenues with the proposed revenue adjustments indicated above. The proposed revenue adjustments will generate sufficient revenues for the City to successfully meet its ongoing operating costs and to fund its annual debt service. Funds not used to meet O&M expenses or annual debt service are used to fund reserves and/or capital expenses. The proposed financial plan allows the funding of capital projects and/or reserves each year with the revenue adjustments shown in Table 3-6.

Figure 3-3



The following Table 3-7, shows the funding of the CIP from rates and operating fund balance, in the form of transfers from the Operating Fund to the Capital Projects Fund. The net annual cash balance represents the net income from operations, shown by the red bars in Figure 3-3. In years when the excess cash balance is not sufficient to fund the entire CIP budget, operating fund balances are used to cover the difference. Figure 3-1 is a graphical presentation of the last two lines of Table 3-7.

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Table 3-7
Fund Balances

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Fund 411 - Operating Fund					
Beginning Balance	\$28,404,933	\$16,218,338	\$9,690,358	\$8,568,095	\$9,227,235
<i>More:</i>					
Net Annual Cash Balance	\$3,513,405	\$3,472,019	\$3,577,738	\$4,659,140	\$5,071,473
<i>Less:</i>					
Net Annual Cash Balance	\$0	\$0	\$0	\$0	\$0
Transfers to Fund 412 - Capital Projects Fund	\$15,700,000	\$10,000,000	\$4,700,000	\$4,000,000	\$6,000,000
Ending Balance	\$16,218,338	\$9,690,358	\$8,568,095	\$9,227,235	\$8,298,708
<i>Total Fund Target</i>	<i>\$6,328,887</i>	<i>\$6,501,440</i>	<i>\$6,678,746</i>	<i>\$6,860,939</i>	<i>\$7,048,254</i>
Fund 412 - Capital Projects Fund					
Beginning Balance	\$5,500,000	\$5,510,011	\$5,520,126	\$5,493,498	\$5,536,087
<i>More:</i>					
SRF Loan	\$0	\$0	\$0	\$0	\$0
Proposed Debt Issuance	\$0	\$0	\$0	\$0	\$0
Transfer from Fund 411 - Operating Fund	\$15,700,000	\$10,000,000	\$4,700,000	\$4,000,000	\$6,000,000
Appropriations for Contingency					
<i>Less:</i>					
Capital Projects	\$15,762,655	\$10,050,000	\$4,785,000	\$4,028,000	\$6,046,090
Balance Before Interest	\$5,437,345	\$5,460,011	\$5,435,126	\$5,465,498	\$5,489,997
Interest Income	\$72,666	\$60,114	\$58,372	\$70,589	\$100,136
Ending Balance	\$5,510,011	\$5,520,126	\$5,493,498	\$5,536,087	\$5,590,133
<i>Capital Fund Target</i>	<i>\$5,272,362</i>	<i>\$5,325,086</i>	<i>\$5,378,337</i>	<i>\$5,432,120</i>	<i>\$5,486,441</i>
TOTAL ENDING BALANCE	\$21,728,350	\$15,210,483	\$14,061,593	\$14,763,323	\$13,888,841
TOTAL FUND TARGET	\$11,601,249	\$11,826,526	\$12,057,083	\$12,293,059	\$12,534,695

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Table 3-7
Fund Balances (continued)

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Fund 411 - Operating Fund					
Beginning Balance	\$8,298,708	\$8,164,549	\$8,836,168	\$8,557,253	\$9,882,117
<i>More:</i>					
Net Annual Cash Balance	\$5,465,841	\$5,871,619	\$6,521,085	\$7,124,864	\$7,798,971
<i>Less:</i>					
Net Annual Cash Balance	\$0	\$0	\$0	\$0	\$0
Transfers to Fund 412 - Capital Projects Fund	\$5,600,000	\$5,200,000	\$6,800,000	\$5,800,000	\$13,700,000
Ending Balance	\$8,164,549	\$8,836,168	\$8,557,253	\$9,882,117	\$3,981,088
<i>Total Fund Target</i>	<i>\$7,240,735</i>	<i>\$7,438,632</i>	<i>\$7,641,992</i>	<i>\$7,851,076</i>	<i>\$8,065,938</i>
Fund 412 - Capital Projects Fund					
Beginning Balance	\$5,590,133	\$5,653,476	\$5,794,018	\$5,903,555	\$6,053,505
<i>More:</i>					
SRF Loan	\$0	\$0	\$0	\$0	\$0
Proposed Debt Issuance	\$0	\$0	\$0	\$0	\$0
Transfer from Fund 411 - Operating Fund	\$5,600,000	\$5,200,000	\$6,800,000	\$5,800,000	\$13,700,000
Appropriations for Contingency					
<i>Less:</i>					
Capital Projects	\$5,664,273	\$5,202,551	\$6,865,927	\$5,829,405	\$13,722,987
Balance Before Interest	\$5,525,861	\$5,650,925	\$5,728,091	\$5,874,149	\$6,030,518
Interest Income	\$127,615	\$143,094	\$175,464	\$179,356	\$184,021
Ending Balance	\$5,653,476	\$5,794,018	\$5,903,555	\$6,053,505	\$6,214,538
<i>Capital Fund Target</i>	<i>\$5,541,306</i>	<i>\$5,596,719</i>	<i>\$5,652,686</i>	<i>\$5,709,213</i>	<i>\$5,766,305</i>
TOTAL ENDING BALANCE	\$13,818,025	\$14,630,186	\$14,460,808	\$15,935,622	\$10,195,627
TOTAL FUND TARGET	\$12,782,041	\$13,035,351	\$13,294,678	\$13,560,289	\$13,832,243

SECTION 4: COST OF SERVICE ANALYSIS

The City's customer classifications and the revenue requirements reviewed and finalized through the operating and capital cash flow analysis provide the basis for performing the cost of service analysis. This section of the report discusses the allocation of operating and capital costs to the appropriate parameters consistent with industry standards and the determination of unit costs.

The cost of service analysis shown in this section is consistent with the Base-Extra Capacity method, as defined in the American Water Works Association (AWWA) M1 Manual, Principles of Water Rates, Fees and Charges, that is common for setting rates at retail agencies. Following this industry standard methodology is acceptable to courts for meeting the requirements of Proposition 218 which established a stringent requirement for increasing water rates in California. Proposition 218, the "Right to Vote on Taxes Act," was passed by voters in November 1996. It amended the California Constitution and is codified in Articles XIII C and XIII D. Proposition 218 was initially passed to close perceived loopholes in the restrictions on property taxes imposed by Proposition 13. It requires that

- Revenues derived from the fee may not exceed the funds required to provide the service
- The amount of the fee may not exceed the proportional cost of the service attributable to the parcel upon which the fee is imposed
- The fee may not be imposed unless the service is actually used by, or immediately available to, the owner of the property

Proposition 218 also introduced procedural requirements prescribing that a local agency must give advance written notice to the owner of each parcel upon which a fee or charge is proposed for imposition. A public hearing on the proposed fee increase must be held at least 45 days after providing such notice. If a majority of owners of the identified parcels submit written protests to the fee, the agency may not impose the fee.

Cost of Service to be Allocated

The total utility revenue requirements net of revenue credits from miscellaneous sources, is by definition, the cost of providing service as shown in **Table 4-1**. This cost is then used as the basis to develop unit costs for the water components and to allocate costs to the various customer classes in proportion to the water services rendered. The concept of proportionate allocation to customer classes requires that allocations should take into consideration not only the average quantity of water used but also the peak rate at which it is consumed. The water system is designed to handle peak demands. The costs associated with design and construction of facilities used to meet peak demands need to be allocated so that peaking costs can be recovered appropriately. In this study, water rates were calculated for FY 2014, and accordingly FY 2014 is defined as the Test Year. Test Year revenue requirements are used in the cost allocation process. Subsequent years' revenue adjustments are incremental and the rates adjustments for future years are based on the revenue increments shown in

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Table 3-6 and calculated across the board. The City should review the cost of service analysis at least every five years to ensure that the rates are consistent with the costs of providing service.

The annual revenue requirements or costs of service to be recovered from commodity charges include operation and maintenance (O&M) expenses and capital costs. O&M expenses include costs directly related to the supply, treatment, and distribution of water as well as routine maintenance of system facilities. This maintenance is often referred to as routine capital and represents the annual recurring capital outlay for minor system improvements and purchases of materials and supplies.

The total FY 2014 cost of service to be recovered from the City's water customers, shown in **Table 4-1**, is estimated at approximately \$31.5 million. Approximately \$25.3 million of this total is for operating costs and the remaining \$6.2 million is for existing debt service for capital projects. Planned capital expenditure in FY 2014 is approximately \$10.05 million, as shown in **Table 3-4**. Since the water utility has sufficient reserves available to fund this planned expenditure, it is expected that the capital projects will be funded from reserves, as shown in **Table 3-7**. That said, the net revenue in FY 2014 is projected to be \$3.5 million (Net Annual Cash Balance line in **Table 3-7**), this amount is essentially used to pay for a portion of the \$10.05 million capital program. Since the water utility does not expect to issue additional debt to fund its capital program, the entire program over the study period will be funded through rates. This is not apparent in the first few years since the water utility has sufficient funds from its reserves. It should be noted that **Table 4-1** shows the revenue requirement from rates and does not show the full \$10.05 million of capital expenditures because it is funded by existing reserves.

The cost of service analysis is based upon the premise that the utility must generate annual revenues adequate to meet the estimated annual revenue requirements. As part of the cost of service analysis, revenues from sources other than water rates and charges (e.g. revenues from miscellaneous services) are deducted from the appropriate cost elements. Additional deductions are made to reflect interest income and other non-operating income during FY 2014. Adjustments are also made to account for cash balances to ensure adequate collection of revenue and to determine annual revenues needed from rates.

Table 4-1
Cost of Service Revenue Requirements

	FY 2014		
	Operating	Capital	Total
Revenue Requirements			
O&M Expenses	\$26,005,758		\$26,005,758
Existing Debt Service		\$6,173,055	\$6,173,055
Proposed Debt Service		\$0	\$0
			\$0
Total Revenue Requirements	\$26,005,758	\$6,173,055	\$32,178,813
Less: Revenue from Other Sources			
JPA Reimbursement	\$2,453,592		\$2,453,592
Interest Income	\$191,512		\$191,512
Misc & Other Revenues	\$1,534,776		\$1,534,776
Total Revenue from Other Sources	\$4,179,880	\$0	\$4,179,880
Less: Adjustments			
Adjustments for Midyear Increases	\$0		\$0
Adjustments for Net Cash Balance	(\$3,472,019)		(\$3,472,019)
Total Adjustments	(\$3,472,019)	\$0	(\$3,472,019)
Revenue to be Collected from Rates	\$25,297,898	\$6,173,055	\$31,470,952

To allocate the cost of service among the different customer classes, costs first need to be allocated to the appropriate water cost components. The following section describes the allocation of the operating and capital costs of service to the appropriate parameters of the water system.

Functional Cost Components

The total cost of water service is analyzed by system function in order to equitably distribute costs of service to the various classes of customers. For this analysis, water utility costs of service are assigned under the Base-Extra Capacity method to three basic functional cost components: base costs, extra capacity or peaking costs, and customer service related costs. This method is consistent with the M1 Manual, referenced earlier, and is widely used in the water industry to design rates for retail customers.

Base Costs

Base costs are those operating and capital costs of the water system associated with serving customers at a constant average rate of use. Supply costs are typically considered to be based on average usage.

Extra Capacity Costs

Extra capacity or peaking costs represent those costs incurred to meet customer peak demands for water in excess of average day usage. Total extra capacity costs are subdivided into costs associated with maximum day and maximum hour demands. The maximum day demand is the maximum amount of water used in a single day in a year. The maximum hour (Max Hour) demand is the maximum usage

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in an hour on the maximum usage (Max Day) day. Different facilities are designed to meet different peaking characteristics. For example, transmission lines are designed to meet Max Day requirements. Transmission lines have to be designed larger than they would be if the same annual amount of water were being used at a constant rate throughout the year. The cost associated with constructing a larger line is based on the “overdesign” and is proportioned on the Max Day factor. For example, if the Max Day factor is 2.0, then the line has to be designed twice as large as required to meet just the average usage conditions. In this case half of the cost would be allocated to Base or average and the other half allocated to Max Day. The calculation of the Max Hour and Max Day demands is explained below.

Customer Service Related Costs

Customer service costs include customer related and meter related costs. Customer costs include such costs as meter reading, billing, collecting, and accounting. Meter service costs include maintenance and capital costs associated with meters and a portion of the capacity related costs. These costs are assigned based on meter size or equivalent meter capacity.

The allocation of costs of service into these principal components provides the means for determining the costs to the various customer classes on the basis of their respective base, extra capacity and customer requirements for service.

Allocation to Functional Cost Components

The water utility is comprised of various facilities that are designed and operated to fulfill a given function. In order to provide adequate service to its customers at all times, the utility must be capable of not only providing the total water demand, but also supplying water to meet peak or maximum water use needs. Functional cost components are determined by designating various expenses to their specific purpose.

Determination of Allocation Percentages

To determine how costs should be allocated to average and peak (Max Day and Max Hour) demands, the allocation percentages are derived from actual historical data and assigned to each cost component. Customer service related costs are allocated 100 percent to the customer service component. Costs related to meter maintenance are allocated to meter service component. These two components are included in the fixed monthly service charges.

To calculate volume related cost allocation, first system peaking factors are determined. Peaking factors are based on the City’s usage characteristics. The Base or Average Daily Demand (ADD) is the average of the annual usage expressed as the usage per day. The Base demand, or ADD, of approximately 12.64 MGD, is assigned a value of 1.0. The City’s Max Day demand is approximately 22.46 MGD, which represent 178 percent of the ADD, and therefore, is assigned a value of 1.78. The maximum hourly (Max Hour) usage is approximately 34.46 MGD, which represents 273 percent of the ADD, and is assigned a value of 2.73. **Table 4-2** below shows the peaking factors of the whole system based on City data.

Table 4-2
System Peaking Factors

	Peaking Factors
Base	1.00
Max Day	1.78
Max Hour	2.73

Next, the relative proportion of costs assigned to Base, Max Day and Max Hour are used to calculate cost components. Cost components solely related to providing average day demand, such as supply sources, are allocated 100 percent to Base. Cost components that are designed to meet Max Day peaks, such as reservoirs and transmission facilities, are allocated both Base and Max Day factors. Since facilities such as reservoirs and distribution systems are also designed to handle fire flow, an allocation is also provided for fire flow. The Max Day factor of the City’s system is 1.78, which means that Max Day facilities are designed to provide 178 percent of the average day capacity. In other words, 78 out of 178, or 44 percent (78/178) represents the portion required to meet Max Day requirements. Therefore, the Max Day facilities are designed 44 percent larger than required to meet average usage conditions to meet Max Day requirements.

$$\begin{aligned} \text{Base:} & \quad 56\% = (1.00/1.78) \times 100 \\ \text{Max Day:} & \quad 44\% = (1.78-1.00)/1.78 \times 100 \end{aligned}$$

Cost components designed for Max Hour peaks, such as distribution system facilities, are allocated similarly. The Max Hour factor is 2.73, so Max Day facilities are designed to provide 273 percent of the average day capacity. Out of this 273, 100 represents the ADD, 78 represents the Max Day requirement and the remainder of 95 represents the Max hour requirement. This means that the Max Hour capacity represents 95 out of 273, or 35 percent (95/273), the Max Day represents 78 out of 273, or 28 percent (78/273), and the remaining 100 out of 273 represents the base capacity of the facilities designed for Max Hour. The allocation of Max Hour facilities is shown below:

$$\begin{aligned} \text{Base:} & \quad 37\% = (1.00/2.73) \times 100 \\ \text{Max Day:} & \quad 28\% = (1.78-1.00)/2.73 \times 100 \\ \text{Max Hour:} & \quad 35\% = (2.73-1.78)/2.73 \times 100 \end{aligned}$$

The results of the allocation are presented in **Table 4-3** below.

Table 4-3
Calculation of Allocation Factors

	Base	Max Day	Max Hour
Facilities Designed for Base	100%		
Facilities Designed for Max Day	56%	44%	
Facilities Designed for Max Hour	37%	28%	35%

These percentages are then applied to the operating and capital improvement costs amongst Base, Max Day, and Max Hour parameters for cost of service calculations, which is explained in detail in the following sections.

Allocation of Operating Expenses

Projected net operating expenses for FY 2014 are allocated to cost components on the basis of the design criteria of the facilities. Water supply costs are allocated to base; storage and reservoir costs are allocated to max day and fire; distribution system costs are allocated to max hour and fire; transmission costs are allocated to max day; billing and customer service costs are allocated to customer service, etc.

Administration and general expenses are related to total system operations and cannot be specifically allocated to individual functions such as storage or distribution, etc. These expenses are therefore allocated in the same proportion as all the remaining operating expenses. The resulting allocation of operation and maintenance expense serves as the basis for allocating the FY 2014 cost of service revenue requirements, shown in **Table 4-1**, to the base, extra capacity and customer costs functions.

Allocation of Plant Investment and Capital Costs

Capital costs include capital improvements financed from annual revenues, debt service and other sources. Capital costs related to specific facilities will vary significantly from year to year. Allocating these costs based on the functions of these specific facilities would cause the rates to the different customer classes to change from year to year. A reasonable method of assigning capital costs to functional components, widely practiced in the industry, is to allocate such costs on the basis of net plant investment recognizing that over a period of time these allocations will provide costs to be passed on to customers equitably.

Net plant investment is represented by the total replacement cost of water utility facilities less accumulated depreciation. The estimated fiscal year net plant investment in water facilities consists of net plant in service as of June 30, 2011, the latest assets data available.

Costs are allocated based on the design criteria of each facility. For example, treatment facilities are allocated to Max Day since these facilities are designed to handle the maximum day demand. The investment in general plant, i.e. general investments not classified as any particular function such as storage, treatment, distribution, etc., is allocated to each cost component on the basis of all other investments. The resulting allocation of net investment serves as the basis for allocating the capital costs shown in **Table 4-1**.

Unit Cost of Service

In order to allocate costs of service to the different customer classes, unit costs of service need to be developed for each cost component. The unit costs of service are developed by dividing the total annual costs allocated to each parameter by the total annual service units of the respective component. The volume related cost components are based on volumetric units of one hundred cubic feet or HCF (about 748 gallons). Customer service related cost components are based on number of accounts and meter related costs are based on equivalent meters. **Table 4-4** shows the determination of the total annual units by customer class. The extra capacity units are determined based on the peaking factors of the water system, shown in **Table 4-2**.

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Table 4-4
Determination of Total Annual Units

Customer Class	Annual Use (hcf)	Average Daily Use (hcf/day)	Maximum Day Requirements			Maximum Hour Requirements			Equivalent Meters
			Capacity Factor	Total Capacity (hcf/day)	Extra Capacity (hcf/day)	Capacity Factor	Total Capacity (hcf/day)	Extra Capacity (hcf/day)	
Inside City Limits									
Single Family Residential (SFR)	2,194,779	6,013	1.78	10,685	4,672	2.73	16,393	5,709	20,560
Multi-Family Residential (MFR)	1,226,247	3,360	1.78	5,970	2,610	2.73	9,159	3,189	10,619
Commercial/Industrial	997,725	2,733	1.78	4,857	2,124	2.73	7,452	2,595	8,105
Irrigation - Residential	121,971	334	1.78	594	260	2.73	911	317	1,342
Irrigation - Recreation/Parks/Schools	56,323	154	1.78	274	120	2.73	421	146	896
Irrigation - Commercial	32,458	89	1.78	158	69	2.73	242	84	457
Irrigation - Agriculture	40,966	112	1.78	199	87	2.73	306	107	189
Recycled Water	282,335	774	1.78	1,374	601	2.73	2,109	734	897
Fire Line Service	0	0	1.78	0	0	2.73	0	0	168
Subtotal Inside City	4,952,805	13,569		24,111	10,542		36,994	12,882	43,230
Outside City Limits (at 130%)									
Single Family Residential (SFR)	263,305	721	1.78	1,282	560	2.73	1,967	685	2,394
Multi-Family Residential (MFR)	20,782	57	1.78	101	44	2.73	155	54	218
Commercial/Industrial	7,452	20	1.78	36	16	2.73	56	19	134
Irrigation - Residential	7,057	19	1.78	34	15	2.73	53	18	45
Irrigation - Recreation/Parks/Schools	652	2	1.78	3	1	2.73	5	2	26
Irrigation - Commercial	460	1	1.78	2	1	2.73	3	1	5
Irrigation - Agriculture	13,636	37	1.78	66	29	2.73	102	35	46
Recycled Water	1,576	4	1.78	8	3	2.73	12	4	14
Fire Line Service	0	0	1.78	0	0	2.73	0	0	11
Subtotal Outside City	314,921	863		1,533	670		2,352	819	2,891
TOTAL	5,267,727	14,432		25,644	11,212		39,346	13,701	46,122

Note: Unincorporated Area customers' usage and bill data are increased by 130 percent to account for the 130 percent surcharge. The determination of the surcharge can be found in the Appendix.

Table 4-5 shows the units of service and the development of the FY 2014 unit costs for each of the cost components. To ensure that the costs are appropriately shared between fixed and variable components and recognize the demands based on capacity of meters, a portion of the extra capacity related costs are allocated to meters to recognize that meter size influences the capacity needs of the water system. The allocated costs are divided by the total number of units for each component to determine the unit cost of each component as shown in **Table 4-5**.

Table 4-5
Development of Unit Cost

	Base	Max Day	Max Hour	Fire	Meter	Billing	Recycled Water	Total
Operating Expenses	\$13,649,326	\$3,528,907	\$1,777,090	\$600,378	\$300,189	\$642,054	\$821,056	\$25,297,898
Capital Expenses	\$2,919,562	\$2,136,283	\$45,522	\$196,805	\$417,819	\$0	\$50,515	\$6,173,055
Total Cost	\$16,568,888	\$5,665,190	\$1,822,612	\$797,183	\$718,008	\$642,054	\$871,571	\$31,470,952
Allocation of General Costs	\$2,764,041	\$945,074	\$304,050		\$119,779	\$107,108	\$145,396	\$0
Allocation of Public Fire Costs				(\$707,438)	\$707,438			\$0
Allocation Peak to Meter		(\$3,635,645)	(\$1,169,664)		\$4,805,309			\$0
Total Cost of Service	\$19,332,929	\$2,974,618	\$956,998	\$89,745	\$6,350,533	\$749,162	\$1,016,967	\$31,470,952
Total Units of Service	4,983,816	10,608	12,963	2,141	551,320	327,280	283,911	
Unit of Measure	hcf	hcf/day	hcf/day	Private fire	equiv meter	bills/yr	hcf	
Total Unit Cost of Service								
Unit Rate	\$3.88	\$280.41	\$73.83	\$41.92	\$11.52	\$2.29	\$3.58	
Average Cost of Service	\$4.67							
Unit of Measure	hcf	hcf/day	hcf/day	Private fire	equiv meter	bills/yr	hcf	

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Allocation of Cost to Customer Classes

The unit cost of each of the cost categories shown in **Table 4-5** is then applied to the projected FY 2014 usage and units of each customer class to derive customer class costs. **Table 4-6** shows the FY 2014 customer class units and cost allocation to each customer class.

Table 4-6
Customer Class Cost

Customer Class	Base	Max Day	Max Hour	Fire	Meter	Billing	Recycled Water	Total
Inside City Limits								
Single Family Residential (SFR)	\$8,513,859	\$1,309,966	\$421,444		\$2,841,846	\$433,126		\$13,520,242
Multi-Family Residential (MFR)	\$4,756,788	\$731,893	\$235,465		\$1,467,747	\$169,180		\$7,361,072
Commercial/Industrial	\$3,870,316	\$595,498	\$191,584		\$1,120,317	\$73,424		\$5,851,139
Irrigation - Residential	\$473,145	\$72,799	\$23,421		\$185,429	\$12,333		\$767,128
Irrigation - Recreation/Parks/Schools	\$218,486	\$33,617	\$10,815		\$123,781	\$5,961		\$392,660
Irrigation - Commercial	\$125,909	\$19,373	\$6,233		\$63,100	\$3,571		\$218,185
Irrigation - Agriculture	\$158,914	\$24,451	\$7,866		\$26,125	\$1,401		\$218,757
Recycled Water					\$123,988	\$2,280	\$1,011,322	\$1,137,590
Fire Line Service				\$84,377				\$84,377
Subtotal Inside City	\$18,117,417	\$2,787,596	\$896,829	\$84,377	\$5,952,333	\$701,276	\$1,011,322	\$29,551,150
Outside City Limits								
Single Family Residential (SFR)	\$1,021,399	\$157,155	\$50,560		\$330,905	\$41,280		\$1,601,299
Multi-Family Residential (MFR)	\$80,618	\$12,404	\$3,991		\$30,099	\$5,142		\$132,253
Commercial/Industrial	\$28,909	\$4,448	\$1,431		\$18,508	\$464		\$53,760
Irrigation - Residential	\$27,377	\$4,212	\$1,355		\$6,199	\$429		\$39,572
Irrigation - Recreation/Parks/Schools	\$2,531	\$389	\$125		\$3,594	\$71		\$6,710
Irrigation - Commercial	\$1,784	\$275	\$88		\$629	\$71		\$2,847
Irrigation - Agriculture	\$52,895	\$8,139	\$2,618		\$6,379	\$357		\$70,388
Recycled Water					\$1,887	\$71	\$5,645	\$7,603
Fire Line Service				\$5,369				\$5,369
Subtotal Outside City	\$1,215,512	\$187,022	\$60,169	\$5,369	\$398,200	\$47,886	\$5,645	\$1,919,802
TOTAL	\$19,332,929	\$2,974,618	\$956,998	\$89,745	\$6,350,533	\$749,162	\$1,016,967	\$31,470,952

The City’s residential class is responsible for approximately 72 percent of the total cost of service. The commercial class is responsible for approximately 19 percent of the annual cost of service, and the remaining 9 percent is associated with irrigation, recycled water, and private fire protection services.

Once the customer class cost responsibility is determined, the next step is to design customer rate schedules to recover the revenues required from each customer class, which is discussed in the next section. The rate design analysis illustrates how revenues are collected within each class using the current rate structure and how they compare to costs.

SECTION 5: RATE DESIGN

The revenue requirements and cost of service analysis described in the preceding sections of this report allocate the costs equitably amongst the different customer classes. Rate design is the process of developing rate schedules for each customer class such that the annual cost of service determined for each customer class is equitably recovered from the customers in that class. In this study, the focus of rate design is on the development of rate schedules for each of the City's retail service customer classes. This section of the report discusses the current water rate structure and develops a schedule of water rates for the City's residential and commercial customer classes that meet the City's objectives of equitable collection of costs and efficient use of waters. Finally, this section analyzes the impact of the proposed rates on residential customers.

Proposed Rate Structure

Rate structures should be designed to ensure that customers pay their proportionate share of costs. In addition, rate structures should be easy to understand, simple to administer, meet the City's stated objectives and comply with regulatory requirements. City policy has been to support agricultural uses by offering the lowest cost water to this user class and for water rates to support, promote parks and public spaces, encourage water conservation, and provide affordable water for basic health and sanitation needs. A review of the current rate structure provides insights into the equitability of the current methodology and changes, if any, that should be considered.

Proposed Changes

The City wants to ensure that the rate structure reflects the usage characteristics, charges customers and customer classes equitably, provides for basic needs at an affordable rate and provides incentives for water conservation to all customer classes. The means that the current tiers for all classes, including irrigation classes, need to be reviewed along with the rates charged for the different tiers. Several factors need to be balanced in the rate design process including efficient use of resources, conservation to meet regulatory requirements, and revenue stability to mitigate some of the risks associated with high dependence on variable revenues from sales. In accordance with the City's Long-Term Water Supply Plan, the City's Water Conservation Program is operated to minimize the use of potable water supplies, meet the requirements of the California Urban Water Conservation Council (CUWCC) Best Management Practices (BMPs), and achieve compliance with SBX7-7 20 X 2020 per capita water use reduction requirements.

RFC proposes that the City retain the current tier 1 usage of 4 hcf per month for both SFR and MFR customers. This level of usage provides adequate allowance to meet the basic health and sanitation requirements of residential customers and is consistent with the current rate structure to which customers are accustomed. Upon review of the residential customers' usage, RFC proposes to revise the allowance in the second tier for both SFR and MFR customers from 16 hcf to 14 hcf and 8 hcf to 4 hcf, respectively. In the City's current three-tier rate structure, the first tier is set to meet lifeline needs, while the second tier provides sufficient usage for an average residential customer including outdoor irrigation needs. Usage in the third tier is considered discretionary and is designed to incentivize conservation. In order to evaluate changing the tier 2 width for SFR customers, RFC and the City

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analyzed typical conditions. The average SFR customer uses 12 hcf of water per month, has a household of three people, and a landscaped area of 4,000 square feet (sqft). Under average weather conditions, this household would use approximately 16 hcf per month². Thus, setting Tier 2 at 14 hcf would give a total of 18 hcf of water per month in Tier 1 and Tier 2, providing sufficient water for both indoor and outdoor needs. Similarly, an average MFR unit uses 5 hcf per month. Since MFR customers either are served by a separate irrigation meter, or have very little irrigated area, providing a Tier 2 allowance of 4 hcf, giving a total of 8 hcf per month per dwelling unit in Tiers 1 and 2, will provide ample water for MFR customers efficient use of water for indoor needs.

The tiers for commercial customers will remain unchanged. The current first tier based on average usage from January to June allows for the base water needs of the business to be taken into consideration.

Irrigation customers are currently classified into five categories: residential associated meters (combined domestic and irrigation tiers), residential acreage, commercial, recreation/parks/schools, and agricultural. Most of these customer classes have three tiers, except for the residential acreage and commercial categories. The City wanted to simplify, update and review the current categories and tier widths to ensure that the tiers are appropriately determined and the rates incentivize efficient water usage. In addition, the City currently meets the CUWCC BMP requirement with the Landscape Budgets Program for all dedicated irrigation customers, except agricultural, that provides a monthly water budget for the landscaped area which is based on a real-time weather data. Working extensively with the City's Water Conservation Program staff, RFC proposes that irrigation customers be classified for simplicity into three categories: residential/commercial, recreation/parks/schools, and agricultural. All irrigation customers will have two tiers with the first tier set at 100 percent of each customer's water allocation, calculated based on the landscape area, plant factors and real-time weather data. This rate structure will incentivize water conservation as it is customized for each customer based on their individual landscape site characteristics. Under the proposed methodology, the allocation for each customer will increase from the current allocation level, given average weather conditions. However, because the allocation is tied closely to reflect local weather conditions, RFC proposes to eliminate the practice of carryover of unused allocation in the irrigation agricultural classification.

The determination of the proposed rates and charges is presented in the following subsections.

Monthly Meter Service Charges

A service charge is a cost recovery mechanism that is generally included in the rate structure to recover some of the fixed costs including customer related costs, meter costs, and a portion of the capacity related cost to provide a stable source of revenue independent of water consumption.

Customer related costs are fixed expenditures that relate to operational support activities including meter reading, accounting, billing, customer service, and administrative and technical support. The customer related costs are essentially common-to-all customers and are reasonably uniform across the different customer classes and meter sizes. Capacity related costs such as meter maintenance and a portion of the peaking costs are based on the hydraulic capacity of the meters. Since facilities are designed to meet peaking requirements, RFC has assigned a portion of the costs related to peaking to

² The calculation assumes each person uses 60 gallons of water per day, 30 days a month, with an average ET₀ (Evapotranspiration) of 44.6 inches a year using CIMIS Station 107 in Santa Barbara, and an adjustment factor of 70 percent for irrigation efficiency and plant factor.

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the service charge. Increasing the fixed charge tends to reduce the variable rates and incentive for conservation, but provides a mechanism for recovering a portion of the fixed costs and ensures a stable source of customer revenues for the utility. This rate design seeks an appropriate balance between these pricing objectives. The CUWCC BMP 1 sets a guideline that the fixed revenue amount should not exceed 30 percent of the total rate revenue. RFC’s rate design allows approximately 23 percent of the total rate revenues to be collected from fixed charges, consistent with the City’s current fixed revenue recovery percentage.

Equivalent Meters

A water system is designed to meet peak demands and a customer’s peak demand is proportional to the size of the meter and, more specifically, its hydraulic capacity. To allocate peaking/capacity related costs appropriately, the concept of “equivalent meters” is utilized. Equivalent meters are calculated by comparing the capacity of all meters in the system to a base meter, generally, the smallest meter in the system, or a meter size with the most meters in the system. The capacity ratio is calculated using the meter capacities in gallons per minute (gpm) provided in the AWWA M22 Manual. By using equivalent meters instead of a straight meter count, the analysis reflects the fact that larger meters impose larger demands, are more expensive to install, maintain, and replace than smaller meters and use a greater capacity in the system.

Equivalent meters are used in calculating meter service costs. The equivalent meter ratios used for this study are shown in **Table 5-1** below.

Table 5-1
Equivalent Meter Ratios

Meter Size	Max Capacity (gpm)	Meter Ratio
5/8"	20	1.00
3/4"	30	1.50
1"	50	2.50
1 1/2"	100	5.00
2"	160	8.00
3"	350	17.50
4"	630	31.50
6"	1,300	65.00
8"	2,400	120.00
10"	3,800	190.00

Meter Capacity in gallons per minute (gpm)

The Meter Unit Cost, determined in the previous section, is multiplied by the meter capacity ratios shown above to calculate the Meter Capacity Cost. The Meter Capacity Cost is then added to the Customer Service Cost to compute the total cost based service charge shown in the column titled Propose Charge in **Table 5-2**.

Table 5-2
Proposed Monthly Meter Service Charges Calculation (Inside City)

Meter Size	Meter Ratio	Meter Component	Billing Component	Proposed Charge	Current Charge	Difference \$
5/8"	1.00	\$11.52	\$2.29	\$13.81	\$13.19	\$0.62
3/4"	1.50	\$17.28	\$2.29	\$19.57	\$19.82	(\$0.25)
1"	2.50	\$28.80	\$2.29	\$31.09	\$33.00	(\$1.91)
1 1/2"	5.00	\$57.59	\$2.29	\$59.89	\$65.97	(\$6.08)
2"	8.00	\$92.15	\$2.29	\$94.44	\$105.58	(\$11.14)
3"	17.50	\$201.58	\$2.29	\$203.87	\$211.14	(\$7.27)
4"	31.50	\$362.84	\$2.29	\$365.14	\$329.91	\$35.23
6"	65.00	\$748.72	\$2.29	\$751.02	\$659.81	\$91.21
8"	120.00	\$1,382.25	\$2.29	\$1,384.55	\$1,054.84	\$329.71
10"	190.00	\$2,188.57	\$2.29	\$2,190.86	\$1,517.56	\$673.30

Commodity Rates

The commodity rate is the rate developed for each customer class which will recover the City’s variable volume related costs. The annual estimated FY 2014 revenue requirements, less annual service charge revenues, are the revenues that need to be recovered through commodity rates.

Residential Customers Proposed Changes

As discussed in the previous subsection, RFC proposes that the residential Tier 2 be revised to reflect actual average demand considering household size, water efficient plumbing fixtures, and increased water wise landscaping. Based on our water usage analysis, shown in **Table 5-3** below, the proposed changes will provide a more appropriate allocation of water to residential customers. Approximately 79 percent of the total SFR usage and approximately 89 percent of the total MFR usage will fall within the proposed Tiers 1 and 2, respectively.

Table 5-3
Residential Water Usage by Tier Comparison

Tier	SFR Block (hcf)	% Usage	% Bills	MFR Block (hcf)	% Usage	% Bills
Current Tier 1	First 4	30%	21%	First 4	65%	56%
Current Tier 2	Next 16	52%	65%	Next 8	30%	40%
Current Tier 3	20+	18%	14%	12+	5%	4%
Proposed Tier 1	First 4	30%	21%	First 4	65%	56%
Proposed Tier 2	Next 14	49%	62%	Next 4	24%	31%
Proposed Tier 3	18+	21%	17%	8+	11%	13%

Irrigation Customers Proposed Changes

As discussed previously, water allocation for irrigation customers will be determined based on the landscape area associated with each account, water needs of the landscaped plants, and the real-time weather data. The weather data is based on the reference Evapotranspiration (ET_0), which is the amount of water loss to the atmosphere over a given time period under local atmospheric conditions. ET_0 is the amount of water (in inches of water) needed for a hypothetical reference crop to maintain its health and appearance. ET_0 is obtained from the California Irrigation Management Information System (CIMIS) weather station, Station 107, in Santa Barbara.

Irrigation Efficiency (IE) Factor will be 80 percent for all irrigation customer classifications. This is based on:

- 25 percent of irrigated area irrigated with drip irrigation at 90 percent IE
- 37.5 percent of irrigated area irrigated with rotating nozzles or rotors at 80 percent IE
- 37.5 percent of irrigated area irrigated with conventional pop-up sprinklers at 70 percent IE

Plant factors represent the percentage of water required for a type of plant compared to the hypothetical reference crop. Plant factors are applied to adjust for the various types of plants in an irrigated area. For example, water wise shrubs have a plant factor of 30 percent, cool-season turf has a plant factor of 80 percent, and avocado trees have a plant factor of 75 percent of ET_0 . The maximum and minimum plant factors per customer classification, shown in **Table 5-4**, are calculated based on the City’s Landscape Design Standards for Water Conservation that defines the type of plants allowed for each customer class. For example, commercial customers are not allowed turf area per the Landscape

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Design Standards, therefore the calculated water budget will not include irrigated lawn landscaped area, unless the customer applies for a special exemption and it is approved.

**Table 5-4
Plant Factors by Customer Class**

WATER ALLOCATION CALCULATION				
Customer Class	Min % Shrub	Max % Turf	% Avocado	IE Plant Factor
Irrigation - Residential/Commercial	80%/100%	20%/0%		80 80% turf 30%shrubs
Irrigation - Recreation/Parks/Schools	No min	No max		80 Same as above
Irrigation – Agriculture			100%	80 75%

Based on the plant factors, landscape areas, IE, and average historical weather conditions, RFC calculated the monthly and annual water budget allocation per acre for each customer class in order to evaluate the impacts on the proposed changes on irrigation customers. **Table 5-5** shows the comparison between the annual allocation per acre of landscape area under the current rate structure and the proposed rate structure under average weather conditions. The proposed allocations actually represent an increase over the current allocation. However, unlike the current fixed annual allocations, the proposed allocations will change as weather changes. If the weather is hotter, the allocations will increase and vice versa. This structure ensures that customers will receive the amount of water they need for efficient irrigation and will provide a more immediate conservation signal than the annual allotment structure. Under the proposed tiers, carryover of unused allocation to future periods will be discontinued.

**Table 5-5
Comparison of Annual Allocation of Irrigation Customers**

WATER ALLOCATION CALCULATION Customer Class	Annual Budget hcf/per acre	Monthly hcf/acre	Current Annual Budget
Irrigation - Residential/Commercial	810	68	654
Irrigation - Recreation/Parks/Schools	1,417	119	1,404
Irrigation - Agriculture	1,519	127	1,080

Note: Water allocation calculation includes weather data based on average annual ET₀ from CIMIS - Station 107 in Santa Barbara

*Does not include Block 1 carryover amount

Allocation of Water Supply Sources

The City currently has five sources of water: groundwater, Gibraltar Reservoir (which includes Mission Tunnel), Lake Cachuma, SWP, and recycled water. Water from Gibraltar, Lake Cachuma, and SWP is treated at the Cater Treatment Plant. Groundwater and recycled water have separate costs and cost centers. Water supply costs, treatment costs, laboratory costs, and water supply management costs are

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allocated to each of the supply sources based on the characteristics of each supply source. **Table 5-6** shows the allocation of different water supply sources to different customer classes. Aside from recycled water, the supply sources are arranged from least expensive (groundwater) to most expensive (State Water Project). Existing City policies³ aim to sustain agricultural use, promote parks and public spaces, and provide affordable water for basic health and sanitation needs. Therefore the least expensive source(s) of water are first allocated to the agricultural, parks, and residential Tier 1 customers. This method is further supported due to the fact that irrigation for agriculture and parks started with the use of groundwater. The remaining water supply sources are allocated to the remaining customer classes based on providing the appropriate incentives for conservation. Irrigation Tier 2 and residential Tier 3 water usage are considered non-essential and inefficient; thus, this usage is allocated the most expensive source(s) of water. Although the source of each drop of water delivered to customers cannot be traced back to its original source, this method of allocating water supply to different customer categories allows the rate differential needed to incentivize conservation and efficient usage while complying with City policies.

Table 5-6
Allocation of Water Supply Sources

	Groundwater	Gibraltar Reservoir	Lake Cachuma	State Water Project	Recycled Water	Total, less RW
Available Amount (hcf)	336,828	1,398,358	2,905,997	304,920	283,547	4,946,103

Customer Tiers	Total Amount (hcf)	Allocated to Different Customer Classes (hcf)				\$/hcf
Ag Tier 1	49,826	49,826				\$1.41
Parks Tier 1	48,260	48,260				\$1.41
Residential Tier 1	1,521,060	238,742	1,282,319			\$1.70
Commercial Tier 1	771,758		116,039	600,833	54,886	\$3.31
Irrigation - Res/Comm Tier 1	110,395			103,381	7,013	\$3.31
Residential Tier 2	1,458,678			1,365,678	93,001	\$3.31
Commercial Tier 2	231,699			204,257	27,443	\$4.06
Irrigation Tier 2	60,012			49,797	10,215	\$4.77
Residential Tier 3	659,817			547,454	112,363	\$4.77
Recycled Water	283,547				283,547	\$2.98
TOTAL	5,195,053	336,828	1,398,358	2,871,399	304,920	\$2.86

Based on the allocation shown in **Table 5-6**, RFC determined the commodity rates for the different customer classes and associated tiers, shown in **Table 5-7**. The direct O&M cost column represent the water supply unit cost, shown in **Table 5-6**. The indirect O&M cost column represents all other O&M costs not included in the water supply costs.

The Commercial rates identified in this rate study reflect the following input provided by the City:

- There are higher costs of providing uninterrupted service to commercial customers. The City prioritizes service to commercial customers and incurs higher costs to ensure service is available

³ The City’s General Plan and Long Term Water Supply Plan

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during working hours. The City will schedule work on commercial repairs outside of normal working hours to minimize service interruption.

- During periods of drought, it is the City’s experience that commercial customers have less potential to curb discretionary use than other customer classes. The costs and benefits associated with this level of service are reflected in the rate for commercial customers, as new water supplies may have to be purchased.

The current recycled water rate is set at 80 percent of the recreation/parks/schools rate. The 20 percent discount policy has been offered to recycled water users because of the necessary additional irrigation required with recycled water to flush salts from soil and because recycled water customers are required to adhere to additional regulations with use of recycled water. Additionally, the original recycled water user agreements state that “User shall pay City for recycled water at a rate which shall not exceed 80 percent of the rate adopted from time to time for “Irrigation-Recreation” or successor to such water rate classification. The City currently has three user agreements containing the above language. All other user agreements have the updated language regarding payment which states “User shall pay for recycled water according to the Recycled Water Rate as set forth from time to time by resolution of the City Council.” Thus, in keeping with this policy, the recycled water rate is set at 80 percent of the proposed recreation/parks/schools rate to encourage efficient uses of water. Water Code Sections 370 – 374 (AB 2882) provides that the cost of production and distribution of recycled water is an “incremental cost” of water service that can be passed on to potable water customers. This is a legal justification for charging potable water users a portion of the cost of producing and distributing recycled water.

The proposed rates shown below already include a three percent revenue increase over current rates.

**Table 5-7
Proposed Commodity Rates Calculation (Inside City)**

	Usage (hcf)	Direct O&M Cost	Indirect O&M Cost	Total Rate (\$/hcf)	Adjustments (\$/hcf)	Total Rate (\$/hcf)
Average Cost (excl RW)	4,911,505	\$14,907,942	\$8,356,603	\$4.74		
Ag Tier 1	49,826	\$1.41	\$0.10	\$1.51		\$1.51
Parks Tier 1	48,260	\$1.41	\$1.29	\$2.70		\$2.70
Residential Tier 1	1,521,060	\$1.70	\$1.48	\$3.18		\$3.18
Commercial Tier 1	771,758	\$3.31	\$1.85	\$5.16		\$5.16
Irrigation - Res/Comm Tier 1	110,395	\$3.31	\$1.85	\$5.16		\$5.16
Residential Tier 2	1,458,678	\$3.31	\$1.85	\$5.16		\$5.16
Commercial Tier 2	231,699	\$4.06	\$1.85	\$5.91		\$5.91
Irrigation Tier 2	60,012	\$4.77	\$1.85	\$6.62		\$6.62
Residential Tier 3	659,817	\$4.77	\$1.85	\$6.62		\$6.62
Recycled Water	283,547	\$2.98		\$2.98	(\$0.82)	\$2.16
TOTAL	5,195,053					\$23,868,268

Monthly Fire Meter Service Charges

The water system is designed to handle fire flows and fire protection is offered as a service to all customers. Additionally, fire service is provided to private fire service connections. The costs associated with providing fire service were determined in the previous section and are shared between public and

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private fire connections based on the capacity of the hydrants and the private fire service connections. Public fire service provided by fire hydrants is charged to all customers by allocating it to meters. The balance of the fire service costs are allocated to private fire service connections in proportion to the capacity of those connections. The proposed monthly charges are shown in **Table 5-8** below.

Table 5-8
Proposed Monthly Fire Meter Service Charges (Inside City)

Meter Size	Meter Ratio	Meter Component	Billing Component	Proposed Charge	Current Charge	Difference \$
1 1/2"	0.03	\$1.09	\$2.29	\$3.39	\$3.58	(\$0.19)
2"	0.06	\$2.33	\$2.29	\$4.63	\$5.12	(\$0.49)
4"	0.34	\$14.43	\$2.29	\$16.73	\$9.20	\$7.53
6"	1.00	\$41.92	\$2.29	\$44.22	\$14.32	\$29.90
8"	2.13	\$89.34	\$2.29	\$91.63	\$20.47	\$71.16
10"	3.83	\$160.66	\$2.29	\$162.96	\$28.63	\$134.33

Proposed Water Rates

The proposed water rates for FY 2014 through FY 2018, reflecting the previously recommended annual revenue adjustments, are shown in **Table 5-9** below. Proposed rates will become effective July 1st of each year, starting July 1, 2013. The rates for FY 2014 are based on the cost of service analysis. Subsequent years' rates are across the board increases based on the proposed annual revenue adjustment schedule and designed to meet the revenue requirements for each of those years.

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Table 5-9
Proposed Water Rate Schedule

	July 2013	July 2014	July 2015	July 2016	July 2017	
Monthly Water Meter Service Charge						
Meter Size						
5/8"	\$13.81	\$14.23	\$14.73	\$15.25	\$15.79	
3/4"	\$19.57	\$20.16	\$20.87	\$21.61	\$22.37	
1"	\$31.09	\$32.03	\$33.16	\$34.33	\$35.54	
1 1/2"	\$59.89	\$61.69	\$63.85	\$66.09	\$68.41	
2"	\$94.44	\$97.28	\$100.69	\$104.22	\$107.87	
3"	\$203.87	\$209.99	\$217.34	\$224.95	\$232.83	
4"	\$365.14	\$376.10	\$389.27	\$402.90	\$417.01	
6"	\$751.02	\$773.56	\$800.64	\$828.67	\$857.68	
8"	\$1,384.55	\$1,426.09	\$1,476.01	\$1,527.68	\$1,581.15	
10"	\$2,190.86	\$2,256.59	\$2,335.58	\$2,417.33	\$2,501.94	
Monthly Fire Line Rates						
Meter Size						
1"	\$2.67	\$2.76	\$2.86	\$2.97	\$3.08	
1 1/2"	\$3.39	\$3.50	\$3.63	\$3.76	\$3.90	
2"	\$4.63	\$4.77	\$4.94	\$5.12	\$5.30	
4"	\$16.73	\$17.24	\$17.85	\$18.48	\$19.13	
6"	\$44.22	\$45.55	\$47.15	\$48.81	\$50.52	
8"	\$91.63	\$94.38	\$97.69	\$101.11	\$104.65	
10"	\$162.96	\$167.85	\$173.73	\$179.82	\$186.12	
12"	\$261.81	\$269.67	\$279.11	\$288.88	\$299.00	
Water Service Rates, \$/hcf						
SFR						
Tier 1	First 4 hcf	\$3.18	\$3.28	\$3.40	\$3.52	\$3.65
Tier 2	Next 14 hcf	\$5.16	\$5.32	\$5.51	\$5.71	\$5.91
Tier 3	All other hcf	\$6.62	\$6.82	\$7.06	\$7.31	\$7.57
MFR						
Tier 1	First 4 hcf	\$3.18	\$3.28	\$3.40	\$3.52	\$3.65
Tier 2	Next 4 hcf	\$5.16	\$5.32	\$5.51	\$5.71	\$5.91
Tier 3	All other hcf	\$6.62	\$6.82	\$7.06	\$7.31	\$7.57
Commercial/Industrial						
Tier 1	100% of base allotment	\$5.16	\$5.32	\$5.51	\$5.71	\$5.91
Tier 2	All other hcf	\$5.91	\$6.09	\$6.31	\$6.54	\$6.77
Irrigation - Residential/Commercial						
Tier 1	100% of allocation	\$5.16	\$5.32	\$5.51	\$5.71	\$5.91
Tier 2	All other hcf	\$6.62	\$6.82	\$7.06	\$7.31	\$7.57
Irrigation - Recreation/Parks/Schools						
Tier 1	100% of allocation	\$2.70	\$2.79	\$2.89	\$3.00	\$3.11
Tier 2	All other hcf	\$6.62	\$6.82	\$7.06	\$7.31	\$7.57
Irrigation - Agriculture						
Tier 1	100% of allocation	\$1.51	\$1.56	\$1.62	\$1.68	\$1.74
Tier 2	All other hcf	\$6.62	\$6.82	\$7.06	\$7.31	\$7.57
Recycled Water		\$2.16	\$2.23	\$2.31	\$2.40	\$2.49
Unincorporated Area Surcharge		130%	130%	130%	130%	130%

Note: Base allotment = average monthly consumption during the most recent Jan-Jun period
 Note: Irrigation allocation based on acreage, weather, and plant factor for each customer class

SECTION 6: CUSTOMER IMPACTS

RFC evaluated the impact of the proposed rate structure on SFR customers with various water usage levels.

Residential Customer Impacts

For SFR customers with a 5/8" meter, the bill impacts at various usage levels are shown below in **Table 6-1**. Low volume users will see higher impacts due to the increase in the meter charge and the first tier rate. The average SFR customer that uses 12 hcf per month will see an increase of \$0.06 in the monthly bill. The very high users, representing the top four percent of the annual bills which starts at 64 hcf monthly, will see a significant change in their monthly bills.

**Table 6-1
SFR Customer Impacts**

Usage Level	Monthly Usage (hcf)	Existing Bill	Proposed Bill	Difference	% of Bills
Very Low	4	\$25.75	\$26.53	\$0.78	21%
Low	8	\$46.75	\$47.17	\$0.42	27%
Average Customer	12	\$67.75	\$67.81	\$0.06	19%
High	32	\$176.11	\$191.45	\$15.34	27%
Very High	64	\$353.07	\$403.29	\$50.22	4%

Note: Assumes 5/8" meter

Non-Residential Customer Impacts

Calculating impacts for non-residential customers are more difficult since their water usage is non-homogenous and can vary widely among customers. **Table 6-2** below shows a range of impacts that non-residential customers can potentially experience, assuming that the customers stay within their water allocation, and based on the current average monthly water usage for each customer class.

**Table 6-2
Non-Residential Customer Impacts**

Customer Class	Avg Monthly Usage (hcf)	Existing Bill	Proposed Bill	Difference
Commercial/Industrial	31	\$195.75	\$191.05	(\$4.70)
Irrigation - Recreation/Parks/School:	22	\$87.34	\$90.49	\$3.15
Irrigation - Agriculture	67	\$130.15	\$132.26	\$2.11

Note: Assumes 1" meter

Unincorporated Area Surcharge Calculation

The City's Water Fund provides water treatment and distribution for potable use and fire suppression to those residing both in the City of Santa Barbara and the surrounding Unincorporated Area. Historically, City and Unincorporated Area residents have been treated as separate rate payer classes. This distinction has been made because the cost of providing service to those in the Unincorporated Area is much greater than the cost of providing the same service to those residing inside the City. These differences are due to costs associated with topography, density, Santa Barbara County regulations, and the fact that approximately 5% of the City's rate payers reside in the Unincorporated Area, yet a disproportional amount of infrastructure, facilities, and staff resources are required to serve them.

The Unincorporated Area rate differential calculation was revisited with the recent Rate Study that was performed for the City to ensure the Unincorporated Area rate complies with cost of service principles and Proposition 218 requirements. Investigations into water distribution facilities and the staff resources needed to serve these facilities demonstrate that while the Unincorporated Area customer base is relatively small, the resources required to serve this group are significant by comparison.

The Unincorporated Area rate payers comprise 5% of our water customers. They consume 5% of the water, yet 11% of the City's water mains and fire lines are needed to serve them. Regarding facilities, 19% of the City's reservoirs and 30% of the pump stations are needed to supply water to those living in the Unincorporated Areas. Furthermore, 12% of Water Distribution's staff resources are dedicated to serving the Unincorporated Area.

To calculate a fair and equitable cost allocation for service to both City and Unincorporated Area rate payers, the above percentages were applied to the six-year average Water Fund budget, as shown in **Table A-1**. The total cost allocations for both the City and Unincorporated Areas were divided by the total number of meters in each class. The resulting annual cost per meter is \$1,454 for City rate payers, and \$1,981 for those in the Unincorporated Area, which is 36% greater than the charge for City rate payers.

The analysis of Unincorporated Area rate differential calculation shows that the differential costs of serving Unincorporated Area customers as compared to Inside City customers was 136 percent; i.e., it cost 36 percent more to serve those customers. To retain simplicity and ease of administration, and to account for accuracy of the estimates in the calculation, RFC recommends that the City retains the 130 percent rate differential for Unincorporated Area customers.

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Table A-1
Unincorporated Area Rate Differential Calculation

City and Unincorporated Area Costs for the Water Fund								
Programs	6-year average	% of Total Budget	City %	City Costs	Unincorporated Area %	Unincorporated Area Costs	Total %	Total Cost
Water Management ¹	\$ 8,959,258	22%	95.06%	\$8,516,274	4.94%	\$442,984	100%	\$8,959,258
Gibraltar Dam ¹	\$ 360,917	1%	95.06%	\$343,072	4.94%	\$17,845	100%	\$360,917
Water Reclamation ²	\$ 883,077	2%	99.57%	\$879,301	0.43%	\$3,776	100%	\$883,077
Water Distribution ³	\$ 6,460,270	16%	88.21%	\$5,698,508	11.79%	\$761,763	100%	\$6,460,270
Water Treatment ¹	\$ 4,754,417	12%	95.06%	\$4,519,338	4.94%	\$235,079	100%	\$4,754,417
Water Supply ¹	\$ 9,848,950	25%	95.06%	\$9,361,975	4.94%	\$486,974	100%	\$9,848,950
Laboratory ¹	\$ 698,769	2%	95.06%	\$664,219	4.94%	\$34,550	100%	\$698,769
Meter Readers ⁴	\$ 689,377	2%	89.00%	\$613,546	11.00%	\$75,831	100%	\$689,377
Capital ⁵	\$ 7,282,668	18%	89.46%	\$6,514,838	10.54%	\$767,830	100%	\$7,282,668
Total	\$ 39,937,704	100%		\$37,111,071		\$2,826,632	100%	\$39,937,704
6-year budget allocation per meter				\$1,454		\$1,981	136%	

Notes:

1. Percentages are based on potable water consumption by City and Unincorporated Area rate payers as compared to the total potable water consumption.
2. Percentage are based on recycled water consumption by City and Unincorporated Area rate payers as compared to the total recycled water consumption.
3. Percentages are based on staff resources required for operating and maintaining the water distribution system inside the City vs. in the Unincorporated Area.
4. Percentages used are based on the proportion of the water distribution infrastructure inside the City vs. in the Unincorporated Area.
5. Percentages used are based on the proportion of the 6-year Capital Funding allocated to infrastructure inside the City vs. in the Unincorporated Area.

Table 1
Accounts Summary

	Projected FY 2013	Projected FY 2014	Projected FY 2015	Projected FY 2016	Projected FY 2017	Projected FY 2018	Projected FY 2019	Projected FY 2020	Projected FY 2021	Projected FY 2022
Total Meters, excluding Fire Line										
5/8"	19,629	19,691	19,753	19,815	19,878	19,941	20,004	20,067	20,131	20,195
3/4"	1,492	1,496	1,500	1,504	1,508	1,512	1,516	1,520	1,524	1,528
1"	3,911	3,923	3,935	3,947	3,959	3,971	3,983	3,995	4,007	4,019
1 1/2"	788	792	796	800	804	808	812	816	820	824
2"	898	901	904	907	910	913	917	921	925	929
3"	35	35	35	35	35	35	35	35	35	35
4"	17	17	17	17	17	17	17	17	17	17
6"	14	14	14	14	14	14	14	14	14	14
8"	1	1	1	1	1	1	1	1	1	1
10"	1	1	1	1	1	1	1	1	1	1
Total Meters, excluding Fire Line	26,786	26,871	26,956	27,041	27,127	27,213	27,300	27,387	27,475	27,563
Total Fire Line										
1"	0	0	0	0	0	0	0	0	0	0
1 1/2"	2	2	2	2	2	2	2	2	2	2
2"	179	179	179	179	179	179	179	179	179	179
4"	186	186	186	186	186	186	186	186	186	186
6"	58	58	58	58	58	58	58	58	58	58
8"	17	17	17	17	17	17	17	17	17	17
10"	2	2	2	2	2	2	2	2	2	2
12"	0	0	0	0	0	0	0	0	0	0
Total Fire Line	444	444	444	444	444	444	444	444	444	444
Public Hydrants	2,548	2,548	2,548	2,548	2,548	2,548	2,548	2,548	2,548	2,548

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Table 2
Water Usage Summary

	<i>Projected</i> FY 2013	<i>Projected</i> FY 2014	<i>Projected</i> FY 2015	<i>Projected</i> FY 2016	<i>Projected</i> FY 2017	<i>Projected</i> FY 2018	<i>Projected</i> FY 2019	<i>Projected</i> FY 2020	<i>Projected</i> FY 2021	<i>Projected</i> FY 2022
Inside City Limits										
Single Family Residential (SFR)	2,213,628	2,194,779	2,176,090	2,157,561	2,139,189	2,120,974	2,102,914	2,085,008	2,067,254	2,049,651
Multi-Family Residential (MFR)	1,229,413	1,226,247	1,223,090	1,219,940	1,216,799	1,213,666	1,210,541	1,207,423	1,204,314	1,201,213
Commercial/Industrial	1,001,792	997,725	993,674	989,640	985,622	981,620	977,635	973,666	969,713	965,776
Irrigation - Residential Associated	84,929	84,080	83,239	82,407	81,583	80,767	79,959	79,159	78,368	77,584
Irrigation - Residential Acreage	38,274	37,892	37,513	37,138	36,766	36,399	36,035	35,674	35,317	34,964
Irrigation - Recreation/Parks/Schools	56,892	56,323	55,760	55,203	54,651	54,104	53,563	53,027	52,497	51,972
Irrigation - Commercial	32,786	32,458	32,133	31,812	31,494	31,179	30,867	30,559	30,253	29,950
Irrigation - Agriculture	41,380	40,966	40,557	40,151	39,749	39,352	38,958	38,569	38,183	37,801
Recycled Water	277,410	282,335	287,259	292,184	297,108	302,033	306,957	311,882	316,806	321,730
TOTAL INSIDE CITY WATER USAGE	4,976,505	4,952,805	4,929,316	4,906,035	4,882,961	4,860,093	4,837,429	4,814,967	4,792,705	4,770,643
Outside City Limits										
Single Family Residential (SFR)	204,588	202,543	200,517	198,512	196,527	194,562	192,616	190,690	188,783	186,895
Multi-Family Residential (MFR)	16,148	15,986	15,827	15,668	15,512	15,356	15,203	15,051	14,900	14,751
Commercial/Industrial	5,791	5,733	5,675	5,619	5,562	5,507	5,452	5,397	5,343	5,290
Irrigation - Residential Associated	3,495	3,460	3,425	3,391	3,357	3,323	3,290	3,257	3,225	3,192
Irrigation - Residential Acreage	1,989	1,969	1,949	1,930	1,911	1,891	1,873	1,854	1,835	1,817
Irrigation - Recreation/Parks/Schools	507	502	497	492	487	482	477	472	468	463
Irrigation - Commercial	357	354	350	347	343	340	336	333	330	326
Irrigation - Agriculture	10,595	10,489	10,384	10,280	10,177	10,076	9,975	9,875	9,776	9,679
Recycled Water	1,191	1,212	1,233	1,255	1,276	1,297	1,318	1,339	1,360	1,381
TOTAL OUTSIDE CITY WATER USAGE	244,661	242,247	239,858	237,493	235,152	232,834	230,540	228,269	226,021	223,795
TOTAL WATER USAGE	5,221,166	5,195,053	5,169,174	5,143,528	5,118,113	5,092,927	5,067,969	5,043,236	5,018,726	4,994,438

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Table 3
Revenue Summary

Description	Budgeted FY 2013	Projected FY 2014	Projected FY 2015	Projected FY 2016	Projected FY 2017	Projected FY 2018	Projected FY 2019	Projected FY 2020	Projected FY 2021	Projected FY 2022
Metered Sales	\$29,800,000	\$30,554,323	\$30,441,192	\$30,329,168	\$30,218,399	\$30,108,717	\$30,001,381	\$29,895,114	\$29,790,066	\$29,686,069
Hydrant Rental	\$33,000	\$33,000	\$33,000	\$33,000	\$33,000	\$33,000	\$33,000	\$33,000	\$33,000	\$33,000
Water Service & Meters	\$233,000	\$233,000	\$233,000	\$233,000	\$233,000	\$233,000	\$233,000	\$233,000	\$233,000	\$233,000
Water Turn On Fees	\$208,000	\$210,080	\$212,181	\$214,303	\$216,446	\$218,610	\$220,796	\$223,004	\$225,234	\$227,487
Water Tap Fees	\$89,000	\$89,890	\$90,789	\$91,697	\$92,614	\$93,540	\$94,475	\$95,420	\$96,374	\$97,338
JPA Reimbursement	\$2,405,482	\$2,453,592	\$2,502,663	\$2,552,717	\$2,603,771	\$2,655,846	\$2,708,963	\$2,763,143	\$2,818,406	\$2,874,774
Phase I&II , III Cater Loans	\$519,880	\$768,806	\$768,806	\$768,806	\$768,806	\$768,806	\$768,806	\$768,806	\$768,806	\$768,806
Interest Income	\$500,000	\$191,512	\$117,605	\$134,570	\$204,814	\$241,692	\$267,899	\$351,369	\$352,058	\$401,916
Miscellaneous	\$30,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
Intergovernmental	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL WATER REVENUES	\$33,818,362	\$34,734,203	\$34,599,237	\$34,557,260	\$34,570,850	\$34,553,211	\$34,528,320	\$34,562,856	\$34,516,944	\$34,522,390

Table 4
O&M Expenses Summary

Description	Budgeted FY 2013	Projected FY 2014	Projected FY 2015	Projected FY 2016	Projected FY 2017	Projected FY 2018	Projected FY 2019	Projected FY 2020	Projected FY 2021	Projected FY 2022
Water Resources Management	\$3,322,331	\$3,422,001	\$3,524,661	\$3,630,401	\$3,739,313	\$3,851,492	\$3,967,037	\$4,086,048	\$4,208,630	\$4,334,888
Recycled Water	\$820,133	\$844,030	\$868,626	\$893,942	\$920,004	\$946,829	\$974,444	\$1,002,868	\$1,032,130	\$1,062,249
Water Distribution	\$5,996,188	\$6,171,767	\$6,352,508	\$6,538,563	\$6,730,115	\$6,927,301	\$7,130,312	\$7,339,297	\$7,554,457	\$7,775,949
Water Treatment	\$326,217	\$335,494	\$345,037	\$354,853	\$364,954	\$375,345	\$386,037	\$397,035	\$408,352	\$419,995
Cater Water Treatment	\$4,086,587	\$4,197,418	\$4,311,286	\$4,428,277	\$4,548,544	\$4,672,111	\$4,799,140	\$4,929,659	\$5,063,837	\$5,201,704
Water Supply Management	\$9,139,477	\$9,361,851	\$9,589,631	\$9,822,949	\$10,062,238	\$10,307,352	\$10,558,741	\$10,816,257	\$11,080,371	\$11,350,928
Gibraltar Dam Operations	\$334,982	\$344,947	\$355,209	\$365,777	\$376,660	\$387,868	\$399,410	\$411,295	\$423,536	\$436,141
Water Laboratories	\$648,838	\$668,232	\$688,207	\$708,779	\$729,967	\$751,789	\$774,263	\$797,411	\$821,251	\$845,804
Meter Reading	\$640,795	\$660,019	\$679,819	\$700,214	\$721,220	\$742,857	\$765,143	\$788,097	\$811,740	\$836,092
TOTAL O&M EXPENSES	\$25,315,548	\$26,005,758	\$26,714,984	\$27,443,756	\$28,193,015	\$28,962,942	\$29,754,527	\$30,567,967	\$31,404,303	\$32,263,751

City of Santa Barbara
Water Financial Plan and Rate Study Report

Table 5
CIP - inflated

Project Number	Program	Proposed FY 2013	Projected FY 2014	Projected FY 2015	Projected FY 2016	Projected FY 2017	Projected FY 2018	Projected FY 2019	Projected FY 2020	Projected FY 2021	Projected FY 2022
8201	Water Main Replacement Program Total	\$4,151,965	\$3,025,000	\$2,100,000	\$1,240,000	\$1,600,000	\$3,100,000	\$3,100,000	\$4,500,000	\$4,960,000	\$4,960,000
0	Unfunded Water Main	\$0	\$2,000,000	\$2,000,000	\$1,860,000	\$1,500,000	\$0	\$0	\$0	\$0	\$0
8359	Groundwater Supply Program Total	\$1,000,000	\$0	\$1,580,000	\$210,000	\$2,225,000	\$75,000	\$740,000	\$1,550,000	\$50,000	\$50,000
8432	Distribution Pump Station Program	\$785,762	\$50,000	\$470,000	\$1,588,000	\$576,090	\$1,074,273	\$132,551	\$115,927	\$119,405	\$122,987
8437	Distribution Reservoir Program	\$2,212,587	\$0	\$0	\$540,000	\$1,090,000	\$190,000	\$650,000	\$200,000	\$200,000	\$8,140,000
8240	Water Reclamation Program	\$125,000	\$125,000	\$135,000	\$125,000	\$225,000	\$875,000	\$125,000	\$125,000	\$125,000	\$125,000
8183	Corporation Yard Well	\$2,381,758	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8239	Cater Treatment Plant Equipment Maint	\$1,515,112	\$0	\$300,000	\$300,000	\$305,000	\$310,000	\$355,000	\$350,000	\$350,000	\$300,000
8244	Vic Trace Roof Replacement	\$1,500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
XXXX	Recycled Water Facilities Rehabilitation	\$2,090,471	\$6,800,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
XXXX	Gibraltar Dam	\$0	\$50,000	\$200,000	\$25,000	\$25,000	\$40,000	\$100,000	\$25,000	\$25,000	\$25,000
8177	Hydroelectric Plant Reactivation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Funded		\$15,762,655	\$10,050,000	\$4,785,000	\$4,028,000	\$6,046,090	\$5,664,273	\$5,202,551	\$6,865,927	\$5,829,405	\$13,722,987
Total Unfunded		\$0	\$2,000,000	\$2,000,000	\$1,860,000	\$1,500,000	\$0	\$0	\$0	\$0	\$0
Grand Total		\$15,762,655	\$12,050,000	\$6,785,000	\$5,888,000	\$7,546,090	\$5,664,273	\$5,202,551	\$6,865,927	\$5,829,405	\$13,722,987

City of Santa Barbara
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Table 6
Existing Debt Service

Description	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
1994 Water Revenue Bond										
Principal	\$655,000	\$690,000	\$720,000							
Interest	\$83,400	\$51,120	\$17,280							
2002 Refunding Water COPs										
Principal	\$520,000	\$545,000	\$560,000	\$590,000	\$620,000	\$650,000	\$675,000	\$715,000	\$750,000	\$795,000
Interest	\$542,320	\$520,339	\$496,508	\$470,983	\$443,448	\$414,156	\$383,094	\$347,400	\$307,113	\$264,625
DWR Loan										
Debt Service										
Cater Treatment Plant SRF Loan										
Debt Service	\$1,144,246	\$1,144,246	\$1,144,246	\$1,144,246	\$1,144,246	\$1,144,246	\$1,144,246	\$1,144,246	\$1,144,246	\$1,144,246
Sheffield Water Quality SRF Loan										
Debt Service	\$1,311,870	\$1,311,870	\$1,311,870	\$1,311,870	\$1,311,870	\$1,311,870	\$1,311,870	\$1,311,870	\$1,311,870	\$1,311,870
Cater SRF Loan										
Debt Service	\$732,573	\$1,910,480	\$1,910,480	\$1,910,480	\$1,910,480	\$1,910,480	\$1,910,480	\$1,910,480	\$1,910,480	\$1,910,480
Bonds Debt Service	\$738,400	\$741,120	\$737,280	\$0	\$0	\$0	\$0	\$0	\$0	\$0
COPs Debt Service	\$1,062,320	\$1,065,339	\$1,056,508	\$1,060,983	\$1,063,448	\$1,064,156	\$1,058,094	\$1,062,400	\$1,057,113	\$1,059,625
Loans Debt Service	\$3,188,689	\$4,366,596	\$4,366,596	\$4,366,596	\$4,366,596	\$4,366,596	\$4,366,596	\$4,366,596	\$4,366,596	\$4,366,596
Total Debt Service	\$4,989,409	\$6,173,055	\$6,160,384	\$5,427,579	\$5,430,044	\$5,430,752	\$5,424,690	\$5,428,996	\$5,423,709	\$5,426,221

City of Santa Barbara
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Table 7
Operating Cash Flow

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
REVENUES										
<u>Operating Revenues</u>										
Revenues from Inside City @ Current Rates	\$27,868,239	\$28,637,243	\$28,538,648	\$28,441,012	\$28,344,486	\$28,248,905	\$28,155,528	\$28,063,080	\$27,971,713	\$27,881,260
Revenues from Outside City @ Current Rate:	\$1,931,761	\$1,917,079	\$1,902,545	\$1,888,157	\$1,873,913	\$1,859,812	\$1,845,852	\$1,832,033	\$1,818,353	\$1,804,810
<u>Proposed Revenue Adjustments</u>										
<i>Fiscal Year</i>	<i>Adjustment</i>	<i>Mo. Effective</i>								
FY 2013	0.00%	July	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
FY 2014	3.00%	July		\$916,630	\$913,236	\$909,875	\$906,552	\$903,262	\$896,853	\$893,702
FY 2015	3.00%	July			\$940,633	\$937,171	\$933,749	\$927,043	\$923,759	\$920,513
FY 2016	3.50%	July				\$1,126,168	\$1,122,054	\$1,113,996	\$1,110,050	\$1,106,150
FY 2017	3.50%	July					\$1,161,326	\$1,157,982	\$1,148,902	\$1,144,865
FY 2018	3.50%	July						\$1,197,610	\$1,189,114	\$1,184,935
FY 2019	3.50%	July						\$1,235,108	\$1,230,733	\$1,226,408
FY 2020	4.00%	July							\$1,455,781	\$1,450,666
FY 2021	4.00%	July								\$1,508,692
FY 2022	4.00%	July								\$1,563,562
FY 2023	4.00%	July								
Subtotal Proposed Revenue Adjustments			\$0	\$916,630	\$1,853,869	\$2,973,214	\$4,123,681	\$5,306,324	\$6,522,515	\$7,955,193
Total Operating Revenues	\$29,800,000	\$31,470,952	\$32,295,061	\$33,302,382	\$34,342,080	\$35,415,041	\$36,523,895	\$37,850,306	\$39,225,997	\$40,652,622
Total Non-Operating Revenues	\$4,018,362	\$4,179,880	\$4,158,044	\$4,228,092	\$4,352,451	\$4,444,495	\$4,526,940	\$4,667,742	\$4,726,878	\$4,836,320
TOTAL REVENUES	\$33,818,362	\$35,650,832	\$36,453,105	\$37,530,474	\$38,694,531	\$39,859,535	\$41,050,835	\$42,518,048	\$43,952,875	\$45,488,943
REVENUE REQUIREMENTS										
Total Operating Expenses	\$25,315,548	\$26,005,758	\$26,714,984	\$27,443,756	\$28,193,015	\$28,962,942	\$29,754,527	\$30,567,967	\$31,404,303	\$32,263,751
Total Non-Operating Expenses	\$4,989,409	\$6,173,055	\$6,160,384	\$5,427,579	\$5,430,044	\$5,430,752	\$5,424,690	\$5,428,996	\$5,423,709	\$5,426,221
TOTAL REVENUE REQUIREMENTS	\$30,304,957	\$32,178,813	\$32,875,368	\$32,871,334	\$33,623,058	\$34,393,694	\$35,179,216	\$35,996,963	\$36,828,011	\$37,689,972
Net Annual Cash Balance	\$3,513,405	\$3,472,019	\$3,577,738	\$4,659,140	\$5,071,473	\$5,465,841	\$5,871,619	\$6,521,085	\$7,124,864	\$7,798,971
Debt Coverage Ratio	160%	153%	156%	183%	190%	196%	203%	214%	225%	236%
Required Debt Coverage	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%

City of Santa Barbara
Water Financial Plan and Rate Study Report

Table 8
Project Fund Balances

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Fund 411 - Operating Fund										
Beginning Balance	\$28,404,933	\$16,218,338	\$9,690,358	\$8,568,095	\$9,227,235	\$8,298,708	\$8,164,549	\$8,836,168	\$8,557,253	\$9,882,117
<i>More:</i>										
Net Annual Cash Balance	\$3,513,405	\$3,472,019	\$3,577,738	\$4,659,140	\$5,071,473	\$5,465,841	\$5,871,619	\$6,521,085	\$7,124,864	\$7,798,971
<i>Less:</i>										
Net Annual Cash Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transfers to Fund 412 - Capital Projects Fund	\$15,700,000	\$10,000,000	\$4,700,000	\$4,000,000	\$6,000,000	\$5,600,000	\$5,200,000	\$6,800,000	\$5,800,000	\$13,700,000
Ending Balance	\$16,218,338	\$9,690,358	\$8,568,095	\$9,227,235	\$8,298,708	\$8,164,549	\$8,836,168	\$8,557,253	\$9,882,117	\$3,981,088
<i>Total Fund Target</i>	<i>\$6,328,887</i>	<i>\$6,501,440</i>	<i>\$6,678,746</i>	<i>\$6,860,939</i>	<i>\$7,048,254</i>	<i>\$7,240,735</i>	<i>\$7,438,632</i>	<i>\$7,641,992</i>	<i>\$7,851,076</i>	<i>\$8,065,938</i>
Fund 412 - Capital Projects Fund										
Beginning Balance	\$5,500,000	\$5,510,011	\$5,520,126	\$5,493,498	\$5,536,087	\$5,590,133	\$5,653,476	\$5,794,018	\$5,903,555	\$6,053,505
<i>More:</i>										
SRF Loan	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Proposed Debt Issuance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transfer from Fund 411 - Operating Fund	\$15,700,000	\$10,000,000	\$4,700,000	\$4,000,000	\$6,000,000	\$5,600,000	\$5,200,000	\$6,800,000	\$5,800,000	\$13,700,000
Appropriations for Contingency										
<i>Less:</i>										
Capital Projects	\$15,762,655	\$10,050,000	\$4,785,000	\$4,028,000	\$6,046,090	\$5,664,273	\$5,202,551	\$6,865,927	\$5,829,405	\$13,722,987
Balance Before Interest	\$5,437,345	\$5,460,011	\$5,435,126	\$5,465,498	\$5,489,997	\$5,525,861	\$5,650,925	\$5,728,091	\$5,874,149	\$6,030,518
Interest Income	\$72,666	\$60,114	\$58,372	\$70,589	\$100,136	\$127,615	\$143,094	\$175,464	\$179,356	\$184,021
Ending Balance	\$5,510,011	\$5,520,126	\$5,493,498	\$5,536,087	\$5,590,133	\$5,653,476	\$5,794,018	\$5,903,555	\$6,053,505	\$6,214,538
<i>Capital Fund Target</i>	<i>\$5,272,362</i>	<i>\$5,325,086</i>	<i>\$5,378,337</i>	<i>\$5,432,120</i>	<i>\$5,486,441</i>	<i>\$5,541,306</i>	<i>\$5,596,719</i>	<i>\$5,652,686</i>	<i>\$5,709,213</i>	<i>\$5,766,305</i>
TOTAL ENDING BALANCE	\$21,728,350	\$15,210,483	\$14,061,593	\$14,763,323	\$13,888,841	\$13,818,025	\$14,630,186	\$14,460,808	\$15,935,622	\$10,195,627
TOTAL FUND TARGET	\$11,601,249	\$11,826,526	\$12,057,083	\$12,293,059	\$12,534,695	\$12,782,041	\$13,035,351	\$13,294,678	\$13,560,289	\$13,832,243

City of Santa Barbara
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Table 9
Proforma

Descriptions	FY 2013 <i>Budgeted</i>	FY 2014 <i>Projected</i>	FY 2015 <i>Projected</i>	FY 2016 <i>Projected</i>	FY 2017 <i>Projected</i>	FY 2018 <i>Projected</i>	FY 2019 <i>Projected</i>	FY 2020 <i>Projected</i>	FY 2021 <i>Projected</i>	FY 2022 <i>Projected</i>
REVENUES										
Existing Revenues From Rates	\$29,800,000	\$30,554,323	\$30,441,192	\$30,329,168	\$30,218,399	\$30,108,717	\$30,001,381	\$29,895,114	\$29,790,066	\$29,686,069
Additional Revenue From Rates	\$0	\$916,630	\$1,853,869	\$2,973,214	\$4,123,681	\$5,306,324	\$6,522,515	\$7,955,193	\$9,435,931	\$10,966,553
Interest Revenues	\$572,666	\$251,627	\$175,977	\$205,159	\$304,950	\$369,307	\$410,993	\$526,833	\$531,414	\$585,937
Other Revenues	\$3,518,362	\$3,988,368	\$4,040,439	\$4,093,522	\$4,147,636	\$4,202,802	\$4,259,041	\$4,316,373	\$4,374,820	\$4,434,404
Total Revenues	\$33,891,028	\$35,710,947	\$36,511,478	\$37,601,063	\$38,794,667	\$39,987,150	\$41,193,929	\$42,693,512	\$44,132,231	\$45,672,963
REVENUE REQUIREMENTS										
Operating Expenses (excl. debt service)	\$25,315,548	\$26,005,758	\$26,714,984	\$27,443,756	\$28,193,015	\$28,962,942	\$29,754,527	\$30,567,967	\$31,404,303	\$32,263,751
Total Revenue Requirements	\$25,315,548	\$26,005,758	\$26,714,984	\$27,443,756	\$28,193,015	\$28,962,942	\$29,754,527	\$30,567,967	\$31,404,303	\$32,263,751
Net Revenues	\$8,575,480	\$9,705,188	\$9,796,494	\$10,157,308	\$10,601,652	\$11,024,209	\$11,439,402	\$12,125,545	\$12,727,928	\$13,409,213
SRF Funding	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Additional Debt Issue (Total)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Issuance Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Amount Available for CIP	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total CIP	\$15,762,655	\$10,050,000	\$4,785,000	\$4,028,000	\$6,046,090	\$5,664,273	\$5,202,551	\$6,865,927	\$5,829,405	\$13,722,987
Debt/Loan Funded	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
PAYGO	\$15,762,655	\$10,050,000	\$4,785,000	\$4,028,000	\$6,046,090	\$5,664,273	\$5,202,551	\$6,865,927	\$5,829,405	\$13,722,987
Existing Debt Service	\$4,989,409	\$6,173,055	\$6,160,384	\$5,427,579	\$5,430,044	\$5,430,752	\$5,424,690	\$5,428,996	\$5,423,709	\$5,426,221
Proposed Debt Service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Debt Service	\$4,989,409	\$6,173,055	\$6,160,384	\$5,427,579	\$5,430,044	\$5,430,752	\$5,424,690	\$5,428,996	\$5,423,709	\$5,426,221
Net Annual Cash Balance	\$(12,176,584)	\$(6,517,867)	\$(1,148,890)	\$701,729	\$(874,481)	\$(70,816)	\$812,162	\$(169,379)	\$1,474,815	\$(5,739,996)
Beginning Fund Balances (411/412)	\$33,904,933	\$21,728,350	\$15,210,483	\$14,061,593	\$14,763,323	\$13,888,841	\$13,818,025	\$14,630,186	\$14,460,808	\$15,935,622
Ending Fund Balances (411/412)	\$21,728,350	\$15,210,483	\$14,061,593	\$14,763,323	\$13,888,841	\$13,818,025	\$14,630,186	\$14,460,808	\$15,935,622	\$10,195,627
Target Fund Balances (411/412)	\$12,974,424	\$13,172,250	\$13,349,556	\$13,531,749	\$13,335,920	\$12,193,765	\$12,684,753	\$13,279,630	\$13,761,993	\$14,031,899
Coverage Ratio	160%	153%	156%	183%	190%	196%	203%	214%	225%	236%
Required Coverage Ratio	125%	125%	125%	125%	125%	125%	125%	125%	125%	125%