City of Sierra Madre

WATER AND WASTEWATER RATE STUDY REPORT

January 28, 2014 – FINAL

Prepared By:

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CITY OF SIERRA MADRE

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January 28, 2014

Mr. Bruce Inman
Director of Public Works
City of Sierra Madre
232 W. Sierra Madre Boulevard
Sierra Madre, CA 91204

Subject: 2013 Water and Wastewater Rate Study Report

Dear Mr. Inman,

Raftelis Financial Consultants, Inc. (RFC) is pleased to provide this Water and Wastewater Rate Study Report (Report) for the City of Sierra Madre (City) to address current financial challenges the City is facing and to establish water and wastewater rates that are equitable and in compliance with Proposition 218.

The major objectives of the study include the following:

1. Develop financial plans for the water and wastewater enterprises to ensure financial sufficiency, meet operation and maintenance (O&M) costs, ensure sufficient funding for capital replacement and refurbishment (R&R) needs, and improve the financial health of the enterprises;
2. Develop sound and sufficient reserve fund targets;
3. Review current rate structures for the water and wastewater enterprises;
4. Develop a cost-of-service analysis for the water and wastewater enterprises; and
5. Develop fair and equitable water and wastewater rates.

The Report summarizes the key findings and recommendations related to the development of the financial plans for the water and wastewater enterprises and the development of the updated water and wastewater rates.

It has been a pleasure working with you, and we thank you and the City staff for the support provided during the course of this study.

Sincerely,

Raftelis Financial Consultants, Inc.

Habib Isaac
Manager

Table of Contents

1 Background of the Study

In 2013, the City of Sierra Madre engaged RFC to conduct a Water and Wastewater Rate Study (Study) to develop a solvent financial plan as well as design rates for the water and wastewater systems.

The City's Water and Wastewater Enterprises are operating in an environment where revenues from rates are outpaced by operating and debt expenditures. This is not a situation that is unique to the City of Sierra Madre, as many agencies throughout the state are faced by the need to update capital infrastructure that is necessary to continue providing water and wastewater services, adhere to new regulations and mandates, and meet service demands with limited ground water supplies through the purchase of imported water.

For the Water Enterprise, supplemental imported water from the State Water Project through the San Gabriel Valley Municipal Water District (SGVMWD) will be necessary to ensure water reliability and to meet demands throughout the year. While this source of supply will prove crucial to the City's providing its residents a reliable supply of water, the SGVMWD water is associated with supply costs related to the transportation of water. The water enterprise's reserves are currently being drawn down, and will be depleted within two years. In addition to financial insolvency, the City is not meeting its bond covenants of generating 120 percent coverage on annual debt service from net revenues.

The proposed financial plan for the water and wastewater systems aimed to strike the balance between the recognition of the current fiscal landscape with a multi-year measured approach. Under the proposed plan, the water enterprise will build reserves back to approximately $4.7 million by FYE 2020. In order to mitigate long-term impacts to customers while shoring up the fund's finances, a "step-down" rate-adjustment approach was taken. In addition, an additional tier was added to the City's three-tier inclining rate structure. A new baseline tier was incorporated to account for the State's SB X7-7 of meeting an efficient use of water per capita equal to 55 gallons per capita per day (GPCPD). This new baseline tier also rewards customers that conserve by avoiding certain incurred costs such as imported water.

The wastewater system's drawdown of fund balance and near-term financial insolvency is associated primarily with the static nature of its rates as wastewater rates have not been increased since 2002. In 2009, proposed annual revenue adjustments were recommended for the wastewater utility equal to 12%, 12%, 10%, 10%, and 10%. These proposed revenue adjustments were not implemented and were deferred at that time. As such, the wastewater utility has been using reserves to offset the annual shortfall in revenues.

In designing the wastewater rate structure, a cost of service analysis was conducted, as rates have not been updated for more than 10 years.

2 Assumptions Used in the Study

The study period for the Water and Wastewater Financial Plan Study is for fiscal years ended June 30, 2014 (FYE 2014) through 2023 (FYE 2023).[1] Various types of assumptions and inputs were incorporated into the Study. These assumptions were based on discussion with and/or direction from City staff (Staff). Assumptions include growth rates for customer accounts and annual consumption for different customer classes, reduced water demand factors for recent conservation goals of the City, inflation factors, and other miscellaneous assumptions. These assumptions are presented in Tables 2-1 and 2-2.

2.1 Inflation

Table 2-1: Inflation Factor Assumptions

KEY FACTORS	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
General	0%	3%	3%	3%	3%
Salary	0%	3%	3%	3%	3%
Benefits	0%	3%	3%	3%	3%
Capital	0%	2%	2%	2%	2%
Energy	0%	5%	5%	5%	5%

2.2 Growth and Demand Factors

Table 2-2: Account Growth Rate Assumptions and Potable Water Demand Factor

	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
GROWTH RATE					
All Customer Classes	0%	0%	0%	0%	0%
OTHER REVENUES PROJECTIONS					
Interest Earnings	0%	1%	1%	1%	1%
Property Lease	0%	1%	1%	1%	1%
General	0%	1%	1%	1%	1%
Non-Inflated	0%	0%	0%	0%	0%
WATER DEMAND FACTOR	*% of prior year consumption*				
Water Demand Factor	95%	96%	98%	100%	100%

[1] For brevity of presentation, many of the tables in this report show the five-year period for FYE 2014 through FYE 2018.

3 Water System – Financial Plan and Rates

3.1 Financial Plan

3.1.1 Revenue Requirements

A review of a utility's revenue requirements is a key step in the rate design process. The review involves analyses of annual operating revenues under the current rates, operation and maintenance (O&M) expenses, capital expenditures, transfers between funds, and reserve requirements. This section of the report provides a discussion on projected revenues, O&M and capital expenditures, the capital improvement financing plan, debt service requirements, and revenue adjustments required to ensure the fiscal sustainability of the Water Enterprise.

3.1.1.1 Revenues from Current Rates

The current water rate structure consists of bi-monthly service charges that vary by meter size and tiered volume charges that apply to all customers. Bi-Monthly service charges are listed by meter size in Table 3-1, and volume charges are shown in Table 3-2. Note that the majority of residential customers are served by 5/8-in and 3/4-in meters.

Table 3-1: Current Bi-Monthly Service Charges

Meter Size	Effective 7/1/2013
5/8-in or 3/4-in	$49.75
1-in	$58.06
1 1/2-in	$74.63
2-in	$107.81
3-in	$199.01
4-in	$290.22

Table 3-2: Current Volume Charges ($ / ccf[2])

Tier	Usage	Effective 7/1/2013
Tier 1	1 – 35	$2.21
Tier 2	36 – 66	$2.27
Tier 3	66+	$2.30

Table 3-3 provides a summary of water accounts by year. Based on the City's low population growth and City boundaries, a zero percent growth rate was assumed.

[2] 1 ccf = 100 cubic feet = 748 gallons of water

Table 3-3: Water Account Summary

Meter Sizes	FYE 2012 Actual	FYE 2013 Estimated	FYE 2014 Projected
5/8-in or 3/4-in	2,862	2,862	2862
1-in	592	592	592
1 1/2-in	219	219	219
2-in	96	96	96
3-in	10	10	10
4-in	18	18	18
Total Water Accounts	**3,797**	**3,797**	**3,797**

Table 3-4 summarizes water usage by tier for FYE 2013. Of the total projected water usage equal to 985,446 (CCF), approximately forty percent (40%) is served through treated groundwater (980 acre feet).

Table 3-4: Water Usage Summary

Tier	FYE 2014 Estimated
Tier 1	536,830
Tier 2	205,228
Tier 3	243,388
Total Water Usage (ccf)	985,446

The projected water revenues for the Water Enterprise derived from current rates are shown in Table 3-5.

Table 3-5: Projected Water Revenues at current FYE 2013-14 Rates

	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
Fixed Revenue	$1,263,983	$1,263,983	$1,263,983	$1,263,983	$1,263,983
Variable Rate Revenue	$2,373,707	$2,207,547	$2,097,170	$2,055,226	$2,034,674
Total Water Revenues	**$3,637,689**	**$3,471,530**	**$3,361,153**	**$3,319,209**	**$3,298,657**

3.1.1.2 O&M Expenses

The City's water demand is expected to be met through a combination of groundwater and imported water from SGVMWD. SGVMWD supply costs will be related to charges for the transportation of water. The City's projected water demand along with the amount of reliable ground water available on an annual basis were used as the basis for determining the appropriate amount of water supply necessary and associated costs. Ground water will account for 980 AF while Imported Water will cover the remaining 1,468 AF of demand.

The City's FYE 2014 budget values and the assumed inflation factors for the study period were used as the basis for projecting O&M costs. Table 3-6 shows total budgeted and projected O&M expenses for the first five years of the study period.

Table 3-6: Projected Water O&M Expenses

	FYE 2014 *Budgeted*	FYE 2015 *Projected*	FYE 2016 *Projected*	FYE 2017 *Projected*	FYE 2018 *Projected*
Total O&M Expenses	$3,428,591	$3,540,438	$3,656,090	$3,775,683	$3,899,360

3.1.1.3 Capital Improvement Plan and Asset R&R

The City has adopted a long-term capital improvement plan (CIP) to address future Water Enterprise needs. Table 3-7 shows the CIP for the study period. Note that the CIP construction costs are inclusive of a construction-related inflation factor as calculated by the City. The Water Enterprise's future CIP needs will be funded through proposed rates on a Pay-As-You-Go basis (PAYGO), as the city currently does not anticipate the use of debt-financing. Therefore, no debt is proposed to fund CIP for the Water Enterprise.

Table 3-7: Water Capital Expenditures Adjusted For Inflation

	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
City of Sierra Madre					
Water Capital Improvement Plan					
Multi-Agency Water Improvements		$450,459	$450,459		
Well 3 Rehabilitation					$160,000
Well 4 Rehabilitation		$375,000			
Well 5 Rehabilitation			$160,000		
Well 6 Rehabilitation				$160,000	
SCADA Upgrade					
Chlorine Room RMP					
Mountain Trail Water Main	$198,400				
Mountain Trail Water Main (remainder)					
Rehabilitate West Tunnel		$88,000			
Manzanita Ave. Main repl.			$121,250		
Auburn Res. Main			$230,000		
Rehabilitate East Tunnel			$325,000		
Santa Anita Court Main repl. 1				$74,400	
Sierra Place Main repl.				$117,150	
San Gabriel Court Main repl.					$221,650
Kaia Lane Main repl.					
Arno Drive Main Repl.					
Santa Anita Court Main repl. 2					
Federally-funded water projects					
Mountain Trail Water Main	$242,500				
Total CIP Master Plan:	**$440,900**	**$913,459**	**$1,286,709**	**$351,550**	**$381,650**

3.1.1.4 Reserve Requirements

To ensure fiscal sustainability and the continued operation of the City's Water Enterprise, RFC recommends that the following reserve level targets be met.

Operating Reserve – The operating reserve is used primarily to meet ongoing cash flow requirements. RFC recommends that the City continue to maintain a target operating reserve level equal to 25 percent of the Water Enterprise's annual O&M expenses. Maintenance of this level of reserve provides liquid funds for the continued ongoing operations of the utility in the event of unforeseen costs or interruption with the utility.

Capital Reserve – Based on the relatively low expected cost of the City's future CIP expenditure, RFC recommends that the City continue to target its capital reserve level at 100 percent of the expected cost of annual asset depreciation.

3.1.1.5 Status Quo Financial Plan

Table 3-8 displays the pro forma of the Water Enterprise's funds under current rates over the forecast period. All projections shown in the table are based on the current rate structure and do not include any revenue adjustments.

Under this 'status-quo' scenario, revenues generated from rates and other miscellaneous revenues are sufficient to recover the operating expenses of the Water Enterprise from FY 2014-2015. However, increasing annual O&M costs – due almost wholly to inflation indexing – are matched with static revenues, resulting in the fund being drawn down each year beginning FYE 2016. Projected CIP expenditures compound the budgetary pressure from increasing operating expenditures, and total water funds see a rapid decrease in fund balance. Fund balance is negative (and therefore also does not meet the reserve target) by FYE 2015 because of a transfer to the Capital Fund to pay for the Water Enterprise's CIP. Additionally, coverage for the enterprise's existing debt falls below the 120 percent level of required debt coverage.

As a result, it is projected that the City will likely be unable to maintain fiscal sustainability and solvency under the status quo financial plan.

Table 3-8: Status Quo Water Enterprise Financial Plan Pro-forma

	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
Revenues from Current Rates					
Budgeted	$ -	$ -	$ -	$ -	$ -
Metered Charges	$1,263,983	$1,263,983	$1,263,983	$1,263,983	$1,263,983
Usage Charges	$2,373,707	$2,255,021	$2,164,820	$2,121,524	$2,121,524
MWD Pass Through Charges					
Total Revenues from Current Rates:	**$3,637,689**	**$3,519,004**	**$3,428,803**	**$3,385,507**	**$3,385,507**
Revenue Adjustments					
% Months					
Total Operating Expenditures	**3,428,591**	**3,540,438**	**3,656,090**	**3,775,683**	**3,899,360**
Supplmental Water Supply					
Acre Feet	0	1,468	1,468	1,468	1,468
Cost per Acre Foot	$260	$260	$260	$260	$260
Supplemental Water Cost	**$0**	**$381,680**	**$381,680**	**$381,680**	**$381,680**
Net Revenues w/o Debt	**$209,098**	**($403,114)**	**($608,967)**	**($771,856)**	**($895,533)**
Debt Service					
1998A WTR Rev Ref	**$511,000**	**$512,000**	**$507,125**	**$506,375**	**$509,500**
2003 Water Rev Parity	**$339,345**	**$339,345**	**$339,345**	**$339,345**	**$339,345**
Loan Payable to San Gabriel MWD	**$145,688**	**$145,688**	**$145,688**	**$145,688**	**$145,688**
Total Debt	**$996,033**	**$997,033**	**$992,158**	**$991,408**	**$994,533**
Debt Coverage	**25%**	**-47%**	**-72%**	**-91%**	**-106%**
Net Revenues after Debt Payment	**($786,935)**	**($1,400,147)**	**($1,601,125)**	**($1,763,264)**	**($1,890,066)**
Operating Reserve Balances					
Beginning Balances	**$1,708,018**	**$921,083**	**($739,596)**	**($3,139,586)**	**($4,902,850)**
Debt Proceeds	**$0**	**$0**	**$0**	**$0**	**$0**
Transfer Out from Operating to Capital Fund (DB)	**$0**	**($260,533)**	**($798,865)**	**$0**	**$0**
Ending Balances	**$921,083**	**($739,596)**	**($3,139,586)**	**($4,902,850)**	**($6,792,916)**
Target Balances	$857,148	$885,109	$914,022	$943,921	$974,840
Operating Reserve Surplus/Defficit	$63,936	($1,624,706)	($4,053,608)	($5,846,771)	($7,767,756)

3.1.2 Recommendations and Proposed Financial Plan

3.1.2.1 Proposed Revenue Adjustments

To ensure that the Water Enterprise will have adequate revenues to fund operating expenses, and capital expenditures, it is recommended that the City implement the following revenue adjustments, scheduled for implementation in January for the first year (FYE 2014) and in July for each year thereafter. The proposed revenue adjustments would enable the Enterprise to complete the planned capital projects for the Study period while building up reserves to the Enterprise's recommended reserve levels. ***The initial policy goal with the reserves is for them to be built up over time to approximately $5 million by FYE 2020. However, as part of the final direction from City Council on November 12, the revenue adjustment for FYE 2016 was reduced down from 18% to 16%, resulting in a slower build-up of reserves over time (reaching just under $4.7M by FYE 2020).*** The proposed adjustments also allow the City to comply with its bond covenant of 120 percent coverage by FYE 2015, and thereafter. Table 3-9 shows the recommended adjustments.

Table 3-9: Proposed Water Enterprise Revenue Adjustments

Effective Date	Proposed Water Revenue Adjustments
January 2014	19 percent
July 2015	18 percent
July 2016	16 percent
July 2017	4 percent
July 2018	4 percent

3.1.2.2 Proposed Financial Plan

A pro forma of the proposed revenue requirements is shown in Table 3-10, below.

The proposed revenue requirements account for the City's financial needs, meeting target reserve balances and achieving positive net revenues through the study period while addressing the City's O&M and CIP needs. Additionally, the Water Enterprise will satisfy its debt reserve requirement of 120% in future years.

Table 3-10: Five-Year Water Enterprise Financial Plan Pro-forma

	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
Revenues from Current Rates					
Budgeted	$ -	$ -	$ -	$ -	$ -
Metered Charges	$1,263,983	$1,263,983	$1,263,983	$1,263,983	$1,263,983
Usage Charges	$2,373,707	$2,255,021	$2,164,820	$2,121,524	$2,121,524
MWD Pass Through Charges					
Total Revenues from Current Rates:	**$3,637,689**	**$3,519,004**	**$3,428,803**	**$3,385,507**	**$3,385,507**
Total Revenue Adjustments:	$345,580	$1,422,381	$2,156,278	$2,349,633	$2,579,038
Total Operating Revenues	**$3,983,270**	**$4,941,385**	**$5,585,082**	**$5,735,140**	**$5,964,545**
Expenditures					
COMPUTER HARDWARE -NONCAPITALIZED	10,000.00	10,300.00	10,609.00	10,927.27	11,255.09
CONFERENCE & MEETING	1,500.00	1,545.00	1,591.35	1,639.09	1,688.26
CONTRACT SERVICES	69,900.00	71,997.00	74,156.91	76,381.62	78,673.07
COST ALLOCATION / ADMINISTRATIVE	164,029.00	168,949.87	174,018.37	179,238.92	184,616.08
COST ALLOCATION / FACILITIES	218,705.00	225,266.15	232,024.13	238,984.86	246,154.40
COST ALLOCATION / FUEL	29,599.00	30,486.97	31,401.58	32,343.63	33,313.94
COST ALLOCATION / TECHNOLOGY	182,254.00	187,721.62	193,353.27	199,153.87	205,128.48
COST ALLOCATION / VEHICLE MAINT	80,000.00	82,400.00	84,872.00	87,418.16	90,040.70
DEFERRED COMP	3,480.00	3,584.40	3,691.93	3,802.69	3,916.77
DEFERRED MAINTENACE	150,000.00	154,500.00	159,135.00	163,909.05	168,826.32
DISABILITY INSURANCE	1,956.00	2,014.68	2,075.12	2,137.37	2,201.50
ELECTRICITY	449,461.00	471,934.05	495,530.75	520,307.29	546,322.65
EMPLOYEE TRAINING	3,500.00	3,605.00	3,713.15	3,824.54	3,939.28
EQUIPMENT RENTAL/LEASING	5,000.00	5,150.00	5,304.50	5,463.64	5,627.54
FISCAL AGENT SERVICE CHARGE	4,500.00	4,635.00	4,774.05	4,917.27	5,064.79
GROUNDS MAINTENANCE	7,000.00	7,210.00	7,426.30	7,649.09	7,878.56
HEALTH INSURANCE	105,973.00	109,152.19	112,426.76	115,799.56	119,273.55
IMPROVEMENTS O/T BUILDINGS	633,909.00	652,926.27	672,514.06	692,689.48	713,470.16
MAINTENANCE SUPPLIES	40,310.00	41,519.30	42,764.88	44,047.83	45,369.26
MEDICARE - EMPLOYER PORTION	4,775.00	4,918.25	5,065.80	5,217.77	5,374.30
MEMBERSHIP/DUES/SUBSCRIPTION	1,465.00	1,508.95	1,554.22	1,600.85	1,648.87
OFFICE SUPPLIES	400.00	412.00	424.36	437.09	450.20
OVERTIME WAGES	15,500.00	15,965.00	16,443.95	16,937.27	17,445.39
PERMIT/FEES	12,655.00	13,034.65	13,425.69	13,828.46	14,243.31
PERS - EMPLOYEE	12,783.00	13,166.49	13,561.48	13,968.33	14,387.38
PERS - EMPLOYER	88,732.00	91,393.96	94,135.78	96,959.85	99,868.65
POSTAGE	17,540.00	18,066.20	18,608.19	19,166.43	19,741.42
PRINTING & DUPLICATION	7,250.00	7,467.50	7,691.53	7,922.27	8,159.94
PROFESSIONAL SERVICES	76,500.00	78,795.00	81,158.85	83,593.62	86,101.42
PROPERTY INSURANCE	120,000.00	123,600.00	127,308.00	131,127.24	135,061.06
RADIO & COMMUNICATIONS	200.00	206.00	212.18	218.55	225.10
SALARIES - FULL-TIME	413,586.00	425,993.58	438,773.39	451,936.59	465,494.69
SERVICES FROM OTHER AGENCIES	57,250.00	58,967.50	60,736.53	62,558.62	64,435.38
SMALL TOOLS	1,000.00	1,030.00	1,060.90	1,092.73	1,125.51
STATE UNEMPLOYMENT INS.	4,579.00	4,716.37	4,857.86	5,003.60	5,153.70
STREET MAINTENANCE MATERIALS	9,225.00	9,501.75	9,786.80	10,080.41	10,382.82
TELEPHONE	600.00	618.00	636.54	655.64	675.31
TERM LIFE INSURANCE	436.00	449.08	462.55	476.43	490.72
UNIFORMS	10,000.00	10,300.00	10,609.00	10,927.27	11,255.09
WAGES PART-TIME	10,000.00	10,300.00	10,609.00	10,927.27	11,255.09
WATER TREATMENT SUPPLIES	150,800.00	155,324.00	159,983.72	164,783.23	169,726.73
WELLS, PUMPS, WATER DIST SYS	150,000.00	154,500.00	159,135.00	163,909.05	168,826.32
WORKERS COMP. INSURANCE	102,239.00	105,306.17	108,465.36	111,719.32	115,070.90
Total Operating Expenditures	**3,428,591**	**3,540,438**	**3,656,090**	**3,775,683**	**3,899,360**
Supplmental Water Supply					
Acre Feet	0	1,468	1,468	1,468	1,468
Cost per Acre Foot	$260	$260	$260	$260	$260
Supplemental Water Cost	**$0**	**$381,680**	**$381,680**	**$381,680**	**$381,680**
Net Revenues w/o Debt	**$554,679**	**$1,019,268**	**$1,547,312**	**$1,577,776**	**$1,683,505**
Total Debt	**$996,033**	**$997,033**	**$992,158**	**$991,408**	**$994,533**
Debt Coverage	**65%**	**120%**	**183%**	**187%**	**198%**
Net Revenues after Debt Payment	**($441,354)**	**$22,235**	**$555,154**	**$586,368**	**$688,972**
Operating Reserve Balances					
Beginning Balances	**$1,708,018**	**$1,266,664**	**$1,028,366**	**$969,324**	**$1,555,693**
Debt Proceeds	**$0**	**$0**	**$0**	**$0**	**$0**
Transfer Out from Operating to Capital Fund (DB)	**$0**	**($260,533)**	**($614,195)**	**$0**	**$0**
Ending Balances	**$1,266,664**	**$1,028,366**	**$969,324**	**$1,555,693**	**$2,244,665**
Target Balances	$857,148	$885,109	$914,022	$943,921	$974,840
Operating Reserve Surplus/Defficit	$409,516	$143,256	$55,302	$611,772	$1,269,825
Capital Fund Cash Flows	**FYE 2014**	**FYE 2015**	**FYE 2016**	**FYE 2017**	**FYE 2018**
Capital Reserve Balances					
Beginning Balances	**$0**	**$193,009**	**$193,009**	**$193,009**	**$534,148**
Transfer In from Operating to Capital Fund (DB)	$633,909	$913,459	$1,286,709	$692,689	$713,470
Capital Expenditure	($440,900)	($913,459)	($1,286,709)	($351,550)	($381,650)
Ending Balances	**$193,009**	**$193,009**	**$193,009**	**$534,148**	**$865,969**
Target Balances (Depreciation)	$553,616	$553,616	$553,616	$553,616	$553,616

Figures 3-1, 3-2, 3-3 and 3-4 illustrate the projected five-year financial plan for the Water Enterprise. Figure 3-1 displays the proposed revenue adjustments until FYE 2018 (Table 3-10 in graphical format). Figure 3-2 illustrates the operating position of the Water Enterprise, where the expenses, inclusive of reserve funding, are shown by stacked bars and total revenues at current rates and proposed rates are shown by red and green lines, respectively. Figure 3-3 summarizes the projected CIP and its funding sources as debt (dark orange bars) or PAYGO (orange bars). **There is no debt shown because the proposed financial plan does not propose any new debt**. The ending total fund balance for the water utility – inclusive of both the operating and capital funds – is projected and shown in Figure 3-4, where the red line indicates the target reserve balance as recommended by the reserve requirements discussed in Section 3.1.1.4.

Figure 3-1: Proposed Five-Year Revenue Adjustments

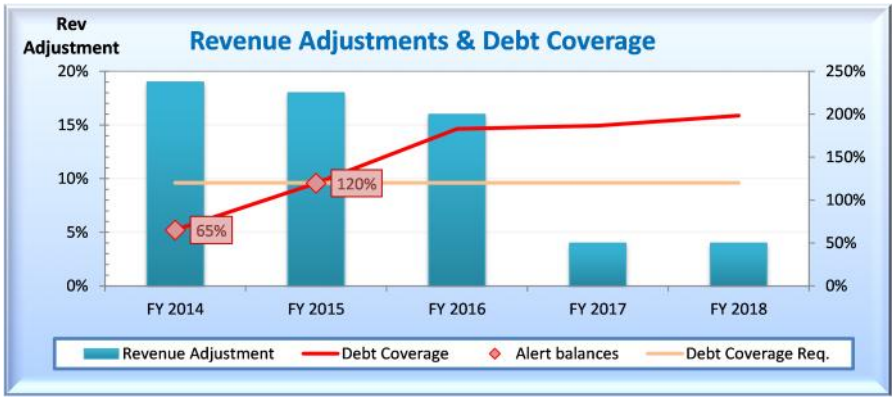


Figure 3-2: Proposed Five-Year Operating Financial Plan

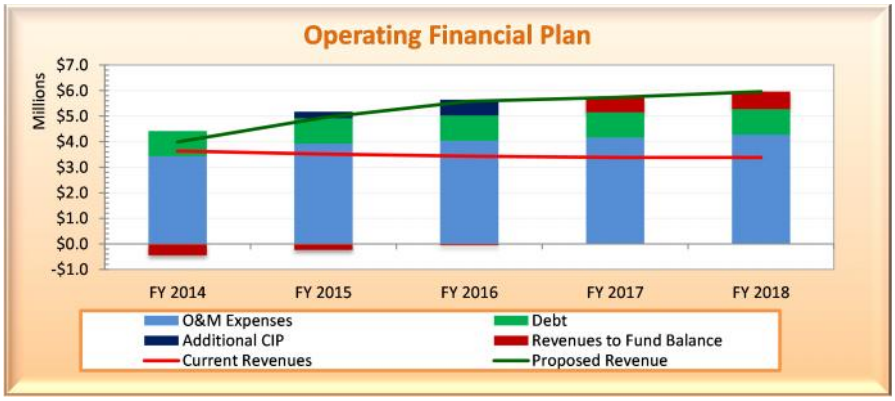


Figure 3-3: Projected CIP and Funding Sources for Water Enterprise Funds

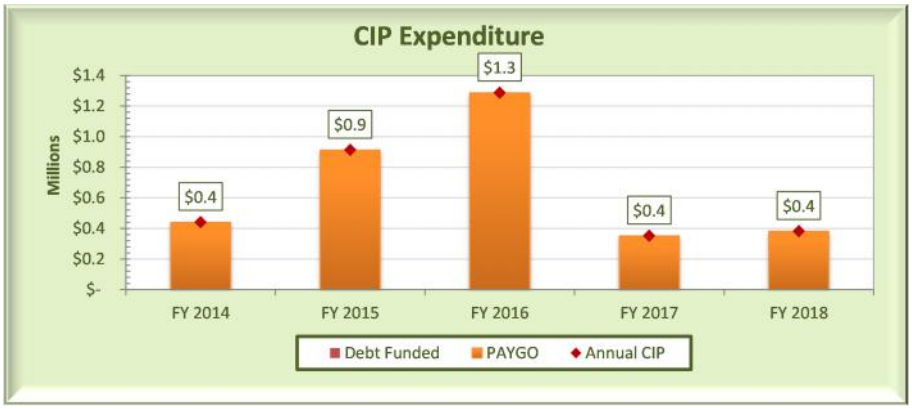
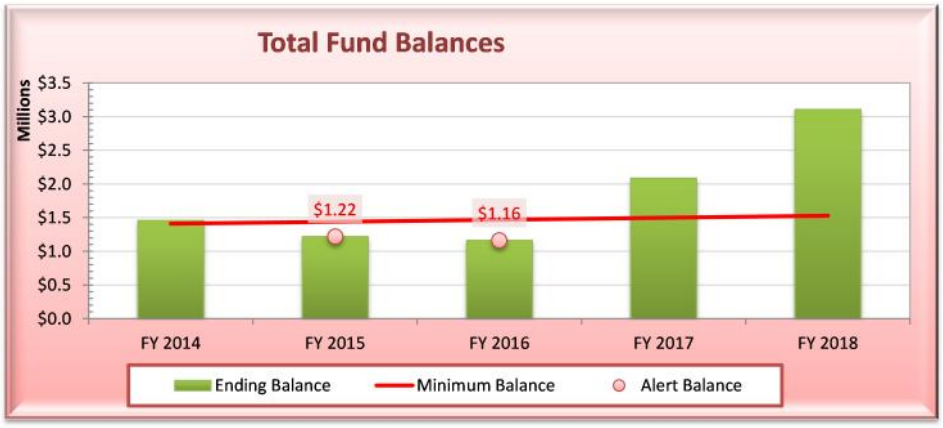


Figure 3-4: Projected Ending Balances for Water Enterprise Funds



3.2 Rate Design

3.2.1 Rate Methodology Background

Proposition 218 (California Constitution Article 13D) states that:

1. A property-related charge (such as water rates) imposed by a public agency on a parcel shall not exceed the funds required to provide the property related service.
2. Revenues derived by the charge shall not be used for any other purpose other than that for which the charge was imposed.
3. The amount of the charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.
4. No charge may be imposed for a service unless that service is actually used or immediately available to the owner of property.
5. A written notice of the proposed charge shall be mailed to the record owner of each parcel at least 45 days prior to the public hearing, when the agency considers all written protests against the charge.
6. As stated in the Manual M1, "the costs of water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers."

Prop 218 ensures that Water Rates cannot be "arbitrary and capricious", meaning that the rate-setting methodology must be sound and that there must be a nexus between costs and the rate charge. In the Rate Methodology, RFC ensures that all aspects of Proposition 218 are followed and that it creates rates that charge customers equitably.

In conjunction with Proposition 218, Article X (2) of the State Constitution institutes the need to preserve the State's water supplies and to discourage the wasteful or unreasonable use of water by encouraging conservation. In addition Section 106 of the Water Code declares that the highest use of water is for domestic purposes, and irrigation is secondary. In connection with meeting the objectives of Article X, Water Code Sections 370 (AB2882) and 375 authorize a water purveyor to utilize its water rate design to incentivize the efficient use of water.

Although incentives to conserve water could be provided by implementing a higher rate for water as consumption increases, a nexus between rates and cost incurred to provide water at those rates must be developed to achieve compliance with Proposition 218. For this analysis, consumption and peaking characteristics of customers as well as available water supplies of the City were analyzed to appropriately allocate costs between customer classes and allocate a pro rata share of reliable ground water to each customer class. Variable costs were separated into four discrete components to reflect the cost incurred by the Water Utility. Furthermore, for residential customers, costs were further apportioned between defined tiers to determine the proportional share of cost incurred by such tier. The sum of each of the four cost components equals the rate per unit of water per tier. This approach synchronizes the objectives of Article X (2) and Proposition 218 in developing a cost of service tiered rate structure.

3.2.2 Rate Methodology

The enterprise's revenue requirements are, by definition, the cost of providing service. 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 consider not only the average quantity of water used but also the peak rate at which it is consumed. This is because the water system is designed to handle peak demands, and the additional costs associated with design and construction of facilities specified to meet these peak demands need to be allocated to those incurring such costs so that the costs can be recovered appropriately.

For this study, water rates were calculated based on FYE 2014 as the base year for the new rates to be proposed. The annual revenue requirements or costs of service to be recovered from rates include operations and maintenance (O&M) expenses, debt service and coverage, supplemental water, capital costs, and funding of reserves. O&M expenses include costs directly related to the supply, treatment, and distribution of water as well as routine maintenance of system facilities. The total FYE 2014 cost of service to be recovered from the water enterprise's customers, shown previously in Table 3-10, is estimated at approximately $3.9 million. 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.

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.

3.2.3 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 four basic functional cost components: base costs, extra capacity or peaking costs, water supply costs, and customer service-related costs. This method is consistent with the American Water Works Association M1 Manual, and is widely used in the water industry to design rates for retail customers. Table 3-11 provides a breakdown of the City's revenue requirements by functional cost components, using

a ten-year annual average to account for how costs are incurred over time, and Table 3-12 shows a summary by function for each year of the five-year study period.

Table 3-11: Revenue Requirements by Function - 10-Year Average

Description	Total Water Expenses (10-Yr Avg)	Variable				Fixed		
		Base	Max Day	Max Hour	Water Supply Costs	Billing & Customer Account	Meters & Services	Hydrants/ Private Fire Lines
% Allocation		26.8%	12.7%	13.4%	11.2%	18.4%	12.5%	5.2%
Total Allocation	6,054,522	1,622,796	767,018	808,321	677,631	1,112,003	754,921	311,830
COMPUTER HARDWARE -NONCAPITALIZED	11,643	-	-	-	-	11,643	-	-
CONFERENCE & MEETING	1,747	-	-	-	-	1,747	-	-
CONTRACT SERVICES	81,388	81,388	-	-	-	-	-	-
COST ALLOCATION / ADMINISTRATIVE	190,986	-	-	-	-	190,986	-	-
COST ALLOCATION / FACILITIES	254,648	-	-	-	-	127,324	127,324	-
COST ALLOCATION / FUEL	34,463	-	-	-	-	17,232	17,232	-
COST ALLOCATION / TECHNOLOGY	212,207	-	-	-	-	106,103	106,103	-
COST ALLOCATION / VEHICLE MAINT	93,148	-	-	-	-	46,574	46,574	-
DEFERRED COMP	4,052	-	-	-	-	2,026	2,026	-
DEFERRED MAINTENACE	174,652	72,766	42,537	59,348	-	-	-	-
DISABILITY INSURANCE	2,277	-	-	-	-	1,139	1,139	-
ELECTRICITY	580,491	241,854	141,381	197,255	-	-	-	-
EMPLOYEE TRAINING	4,075	-	-	-	-	4,075	-	-
EQUIPMENT RENTAL/LEASING	5,822	-	-	-	-	5,822	-	-
FISCAL AGENT SERVICE CHARGE	5,240	-	-	-	-	5,240	-	-
GROUNDS MAINTENANCE	8,150	-	-	-	-	8,150	-	-
HEALTH INSURANCE	123,389	-	-	-	-	123,389	-	-
IMPROVEMENTS O/T BUILDINGS	738,089	321,023	187,661	-	-	-	-	229,405
MAINTENANCE SUPPLIES	46,935	46,935	-	-	-	-	-	-
MEDICARE - EMPLOYER PORTION	5,560	-	-	-	-	2,780	2,780	-
MEMBERSHIP/DUES/SUBSCRIPTION	1,706	-	-	-	-	853	853	-
OFFICE SUPPLIES	466	-	-	-	-	466	-	-
OVERTIME WAGES	18,047	-	-	-	-	9,024	9,024	-
PERMIT/FEES	14,735	14,735	-	-	-	-	-	-
PERS - EMPLOYEE	14,884	-	-	-	-	7,442	7,442	-
PERS - EMPLOYER	103,315	-	-	-	-	51,657	51,657	-
POSTAGE	20,423	-	-	-	-	10,211	10,211	-
PRINTING & DUPLICATION	8,442	-	-	-	-	4,221	4,221	-
PROFESSIONAL SERVICES	89,072	89,072	-	-	-	-	-	-
PROPERTY INSURANCE	139,721	-	-	-	-	69,861	69,861	-
RADIO & COMMUNICATIONS	233	-	-	-	-	233	-	-
SALARIES - FULL-TIME	481,557	-	-	-	-	229,497	229,497	22,564
SERVICES FROM OTHER AGENCIES	66,659	66,659	-	-	-	-	-	-
SMALL TOOLS	1,164	1,164	-	-	-	-	-	-
STATE UNEMPLOYMENT INS.	5,332	-	-	-	-	5,332	-	-
STREET MAINTENANCE MATERIALS	10,741	10,741	-	-	-	-	-	-
TELEPHONE	699	-	-	-	-	349	349	-
TERM LIFE INSURANCE	508	-	-	-	-	254	254	-
UNIFORMS	11,643	-	-	-	-	5,822	5,822	-
WAGES PART-TIME	11,643	-	-	-	-	5,822	5,822	-
WATER TREATMENT SUPPLIES	175,583	-	-	-	175,583	-	-	-
WELLS, PUMPS, WATER DIST SYS	174,652	-	-	-	120,368	-	-	54,284
WORKERS COMP. INSURANCE	119,041	-	-	-	-	56,732	56,732	5,578
PRINCIPAL - BONDS	270,000	112,492	65,760	91,748	-	-	-	-
INTEREST EXPENSE - BONDS	461,845	192,422	112,484	156,939	-	-	-	-
1998A WTR Rev Ref	323,625	134,834	78,820	109,970	-	-	-	-
2003 Water Rev Parity	448,947	187,048	109,343	152,556	-	-	-	-
Loan Payable to San Gabriel MWD	119,199	49,663	29,031	40,505	-	-	-	-
Supplemental Water Cost	381,680	-	-	-	381,680	-	-	-

Table 3-12: Revenue Requirements by Function – FYE 2014 through FYE 2018

		Variable				Fixed		
		Base	Max Day	Max Hour	Water Supply Costs	Billing & Customer Account	Meters & Services	Hydrants/ Private Fire Lines
Percent Allocation	**100%**	**26.8%**	**12.7%**	**13.4%**	**11.2%**	**18.4%**	**12.5%**	**5.2%**
		64.0%				36.0%		
Fiscal Year Ending								
FYE 2014	**$ 3,983,270**	$ 1,067,638	$ 504,621	$ 531,795	$ 445,814	$ 731,587	$ 496,662	$ 205,153
FYE 2015	**$ 4,941,385**	1,324,442	626,000	659,710	553,047	907,559	616,127	254,500
FYE 2016	**$ 5,585,082**	1,496,972	707,547	745,648	625,091	1,025,784	696,388	287,653
FYE 2017	**$ 5,735,140**	1,537,192	726,557	765,682	641,886	1,053,344	715,098	295,381
FYE 2018	**$ 5,964,545**	1,598,680	755,619	796,309	667,561	1,095,478	743,702	307,196

Revenue requirements for bi-monthly fixed charges include customer service costs, a portion of peaking costs, and fire protection through the servicing of public hydrants (private fire line connections have a separate bi-monthly fixed charge schedule). 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.

Proposition 218 requires a nexus between the rates and costs of providing service. To meet this requirement, RFC has conducted cost of service analysis and has identified four different rate components of the commodity rates, including Water Supply (which is separated between groundwater and imported water), Delivery, and Peaking.

GROUNDWATER Groundwater is a subset of Water Supply Costs associated with pumping and treatment of available groundwater. Groundwater is currently a very limited resource to the City, and it cannot cover the entire service demand of the City's customer base. As such, available groundwater is allocated to each customer class on a pro-rata basis.

DELIVERY COSTS Delivery costs, also commonly referred to as Base costs, are those operating and capital costs of the water system associated with delivering water to all customers at a constant average rate of use. Therefore, delivery costs are spread over all units of water to calculate a uniform rate that is applied to all customers and tiers.

EXTRA CAPACITY COSTS Extra capacity or peaking costs represent those costs incurred to meet customer peak demands for water in excess of a baseline usage. Total extra capacity costs are apportioned between maximum day and maximum hour demands based on the type of expense. 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 in an hour on the maximum usage (Max Day) day. Different facilities are designed to meet different peaking characteristics. In addition, power costs are also a function of both max day and max hour demand. Therefore, Extra Capacity costs include capital improvements and power related costs, and have been apportioned between base, max day, and max hour. Costs allocated to Base are part of the delivery costs as defined above.

IMPORTED WATER Imported water is a subset of Water Supply Costs associated with the conveyance of water through SGVMWD facilities and treatment costs. The cost of imported water is $260 per Acre Foot and is not expected to increase over the next five years.

3.2.4 Proposed Rate Structure

FIXED CHARGES Customer service costs include customer-related and meter-related costs. Customer costs are uniform for all customers and include such costs as meter reading, billing, collecting and accounting, and fire protection for 449 public fire hydrants (reference is made to Appendix "A" for cost allocation between Hydrant and Private Fire Lines).

Meter service costs include maintenance and capital costs associated with meters and a portion of the capacity related costs. RFC utilized the American Water Works Association (AWWA) Meter Ratio in calculating the meter component as is industry practice. These costs are assigned based on meter size or equivalent meter capacity. Table 3-13 shows the fixed charge separated between costs apportioned evenly over all accounts and meter equivalencies. Table 3-14 shows the proposed FYE 2014 bi-monthly charge by meter size, and Table 3-15A shows the proposed five-year bi-monthly service charges. Total proposed meter charge includes both billing and

customer service charge and the meter component charge. Table 3-15B shows the proposed five-year bi-monthly service charges for Private Fire Lines by size of connection.

Table 3-13: Fixed Charge Calculation – 3/4" Meter

Billing and Customer Accounts Calculation	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
Total Billing & Customer Accounts Cost *	$ 795,058	$ 907,559	$ 1,025,784	$ 1,053,344	$ 1,095,478
Public Hydrants	$ 221,206	$ 252,507	$ 285,400	$ 293,068	$ 304,791
Number of Accounts	3,797	3,797	3,797	3,797	3,797
Bi-Monthly Charge per Account	**$ 44.61**	**$ 50.92**	**$ 57.55**	**$ 59.10**	**$ 61.46**

Meters and Services Cost Calculation	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
Total Billing & Customer Accounts Cost *	$ 539,752	$ 616,127	$ 696,388	$ 715,098	$ 743,702
Number of Accounts/EDUs	6,805	6,805	6,805	6,805	6,805
Bi-Monthly Charge per Account	**$ 13.22**	**$ 15.09**	**$ 17.06**	**$ 17.51**	**$ 18.21**
Base Fixed Charge for <=3/4" Meter	$ 57.83	$ 66.01	$ 74.61	$ 76.61	$ 79.68

* FYE 2014 costs were annualized to calculate the Fixed Charge

Table 3-14: Proposed FYE 2014 Bi-Monthly Service Charges

Total Bi-Monthly Fixed Cost by Meter Size	FYE 2014	Existing	Difference
<= 3/4"	$ 57.83	$ 49.75	$ 8
1"	$ 77.66	$ 58.06	$ 20
1 1/2"	$ 110.71	$ 74.63	$ 36
2"	$ 150.36	$ 107.81	$ 43
3"	$ 242.90	$ 199.01	$ 44
4"	$ 375.10	$ 290.22	$ 85

Table 3-15A: Proposed Five-Year Bi-Monthly Service Charges

Total Bi-Monthly Fixed Cost by Meter Size	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
<= 5/8"	$ 57.83	$ 66.01	$ 74.61	$ 76.61	$ 79.68
1"	$ 77.66	$ 88.65	$ 100.19	$ 102.88	$ 107.00
1 1/2"	$ 110.71	$ 126.37	$ 142.83	$ 146.67	$ 152.54
2"	$ 150.36	$ 171.64	$ 194.00	$ 199.21	$ 207.18
3"	$ 242.90	$ 277.27	$ 313.39	$ 321.81	$ 334.68
4"	$ 375.10	$ 428.17	$ 483.95	$ 496.95	$ 516.83

Table 3-15B: Proposed Five-Year Bi-Monthly Private Fire Line Service Charges

Private Fire Service Bi-Monthly Charge	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
2"	$ 4.57	$ 5.21	$ 5.89	$ 6.05	$ 6.29
4"	$ 28.27	$ 32.27	$ 36.47	$ 37.45	$ 38.95

VARIABLE CHARGES Similar to the City's current rates, approximately 65 percent of the utility's revenue requirements are recovered from a variable charge, or based on the amount of water used.

Variable costs include Delivery, Peaking, and Water Supply. Delivery and Water Supply costs are apportioned over total applicable billable units regardless of customer class. Delivery costs are divided by all units of water, whereas Water Supply costs are separated between Groundwater and Imported Water and divided by the number of water units from each water resource. Doing so derives a cost per unit for Groundwater and a cost per unit for Imported Water.

Costs associated with Peak, which primarily includes capital improvements and power, are first apportioned to each defined customer class based on their total demand (total water used weighted by peak factor). Doing so ensures that accounts within each customer class will only recover the costs allocated to their respective customer class and no account is subsidizing any other account. Table 3-16 takes the annualized variable costs for FYE-2014 associated with Delivery, Groundwater, and Imported Water to calculate a rate per unit of water and Table 3-17 shows FYE 2014 Peak Costs allocated between Residential and Non-Residential customers.

Table 3-16: Delivery and Water Supply– FYE 2014 Rate per Unit (CCF)

Groundwater	Delivery	Imported Water
$0.50	$1.10	$0.60

- Rates identified above are the same for each customer class

Table 3-6: Allocation of Peak Costs Between Customer Classes

Cost of Service - Peak Variable Component					
Customer Classes	Average Daily Usage	Peaking Factors	Weighted Peak Factor	Percentage of Peak	FYE 2014 Peak Cost *
Residential	2,704	1.55	4,178	90.85%	$1,023,275
Non-Residential	253	1.66	421	9.15%	$103,058
		4,599	100%	$1,126,333	
* FYE 2014 costs were annualized to calculate the Peak Variable Charges					

Once Delivery and Water Supply costs are calculated and Peak costs are allocated to each customer class, the next step is to design the most equitable and appropriate rate structure to recover such costs from the corresponding customer class.

Similar to the existing rate structure, the proposed variable rates for Residential customers are tiered and, for Non-Residential customers the rate is uniform.

RESIDENTIAL RATE STRUCTURE

For residential customers, the variable charges (groundwater, delivery, peaking, and imported water) are further apportioned between four distinct tiers. Tier 1 is designed to account for meeting SB x7-7 conservation targets and the principle of affordability for essential use at 55 gallons per capita per day, a city density factor of 2.42, and an allotment of 11 CCF per residential unit. Tier 2, with an additional allotment of 22 CCF per residential unit, captures the average bi-monthly winter use of residential customers equal to approximately 30 CCF. Tier 3 provides an additional 33 CCF per residential unit to account for the average bi-monthly summer use of approximately 63 CCF. Tier 4 captures excessive use above these allotments.

With these defined tiers and allotments, the functional variable costs are then applied to each tier. Similar to how Max Day and Max Hour costs were apportioned between customer classes, the total Residential annualized Peak Cost equal to $1,023,275 is further apportioned between the defined tiers based on the peaking characteristics generated by customers within each tier, where Tier 1 is considered the base level (no peak; equal to 1.0). Table 3-18 calculates the rate per unit (CCF) of each Tier.

Table 3-7: Residential Peak Costs by Tier

RESIDENTIAL	Peak	Residential Tiers - Peak Cost Allocation			
Description	Max Day/ Max Hour	Tier 1	Tier 2	Tier 3	Tier 4
Projected FYE 2014 Consumption		294,071	321,058	201,938	151,320
Peaking Factor by Tier		1.00	2.84	4.22	7.40
Weighted Peak Factor		294,071	910,868	851,735	1,119,219
Peak % Share		9%	29%	27%	35%
TOTAL ANNUALIZED ALLOCATION	$ 1,126,333				
Allocation to Residential	1,023,275	94,750	293,482	274,430	360,613
Unit Cost		$ 0.32	$ 0.91	$ 1.36	$ 2.38

For Tier 1, there is sufficient groundwater to serve demand; therefore, cost associated with Imported Water is not incurred. Tier 2 is also serviced by groundwater, but the total demand generated within Tier 2 is supplemented by Imported Water. As such, the Tier 2 rate is the sum of Delivery, Peak, and a blended rate of Groundwater and Imported Water. Tiers 3 and 4 are served 100 percent by Imported Water. Table 3-19 summarizes the cost components of each residential Tier and Table 3-20 provides the FYE 2014 rates per Tier. A rate comparison of the City's Water Rates is also attached as Exhibit A.

Table 3-8: Cost Component by Tier

Residential				
Tiers	Groundwater	Delivery	Peak Cost (T1 = Base)	Imported Water
Tier 1	√	√	√	
Tier 2	√	√	√	√
Tier 3		√	√	√
Tier 4		√	√	√

Table 3-20: Rate per Tier – FYE 2014

Residential					
Tiers	Groundwater	Delivery	Peak Cost (T1 = Base)	Imported Water	Total*
Tier 1	$0.50	$1.10	$0.32		$1.91
Tier 2**	$0.50	$1.10	$0.91	$0.60	$2.57
Tier 3		$1.10	$1.36	$0.60	$3.05
Tier 4		$1.10	$2.38	$0.60	$4.07

* Totals maybe off due to rounding.

** The rate is a blended rate of groundwater and import water (30%/70% split) plus the sum of delivery and peak costs; therefore the rate will not equal the sum.

Table 3-21 shows the proposed five-year tiered rates.

Table 3-21: Proposed Five-Year Residential Tiered Rates ($/CCF)

Residential Tiered Rates	Allotment	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
Tier 1	11	$ 1.91	$ 2.21	$ 2.52	$ 2.58	$ 2.69
Tier 2	33	$ 2.57	$ 2.93	$ 3.28	$ 3.36	$ 3.47
Tier 3	66	$ 3.05	$ 3.46	$ 3.86	$ 3.95	$ 4.08
Tier 4	> 66	$ 4.07	$ 4.66	$ 5.23	$ 5.36	$ 5.55

NON-RESIDENTIAL RATE STRUCTURE

For non-residential customers, all variable charges including peak costs are summed to derive a uniform rate per CCF rather than a tiered rate structure. Customers other than residential vary considerably in size, use profile and needs, which makes it impractical and inequitable to place them in a "one size fits all" tiered rate structure without additional detailed data and analysis on type of business and related water demand for such business to determine appropriate allotments for efficient use. For example, a bookstore and a coffee shop exhibit drastically different water needs. However, despite not being tiered, the uniform rate structure is built on the same cost components, and the amount of Peak costs allocated to Non-residential is fully recovered by the customer class. Therefore, Non-Residential customers are paying their fair share of incurred costs. Table 3-22 identifies the rate per unit for FYE 2014 and Table 3-23 shows the five-year variable rate structure.

Table 3-22: Non-Residential FYE 2014 Rates

Rate Per CCF	Non-Residential Groundwater	Delivery	Peaking Cost	Imported Water	Total
Uniform*	$0.50	$1.10	$1.18	$0.60	$2.83

* The rate is a blended rate of groundwater and import water (40%/60% split) plus the sum of delivery and peak costs; therefore the rate will not equal the sum.

Table 3-23: Proposed Five-Year Non-Residential Rates ($/CCF)

Non-Residential Uniform Rates	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
Rate Per CCF	$2.83	$ 3.16	$ 3.64	$ 3.74	$ 3.89

3.2.5 Residential Rate Impacts

Bill distribution and customer impact analyses reflect the City's policies in terms of promoting the meeting of SB x7-7 targets and the principle of affordability for essential use. Figure 3-5 shows total usage by tier and number of bills that fall within such tier. Figure 3-6 shows the customer impacts in terms of percentage change in bi-monthly bills.

Figure 3-5: Customer Usage and Bill Distribution

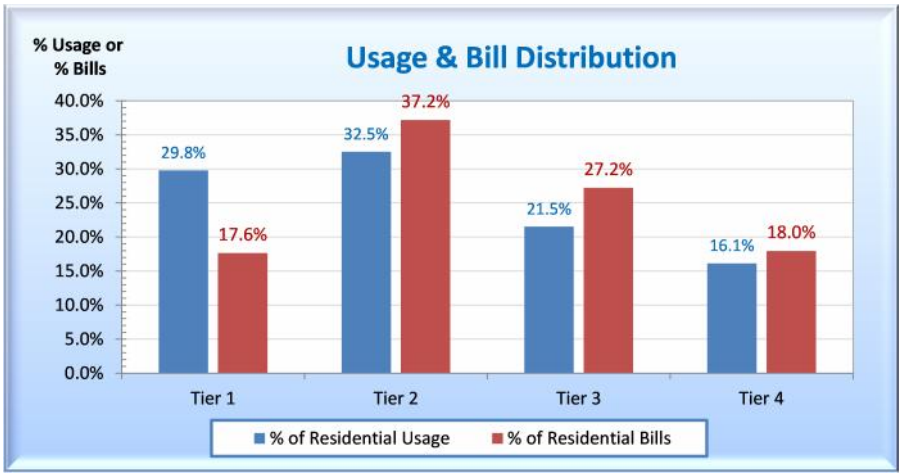
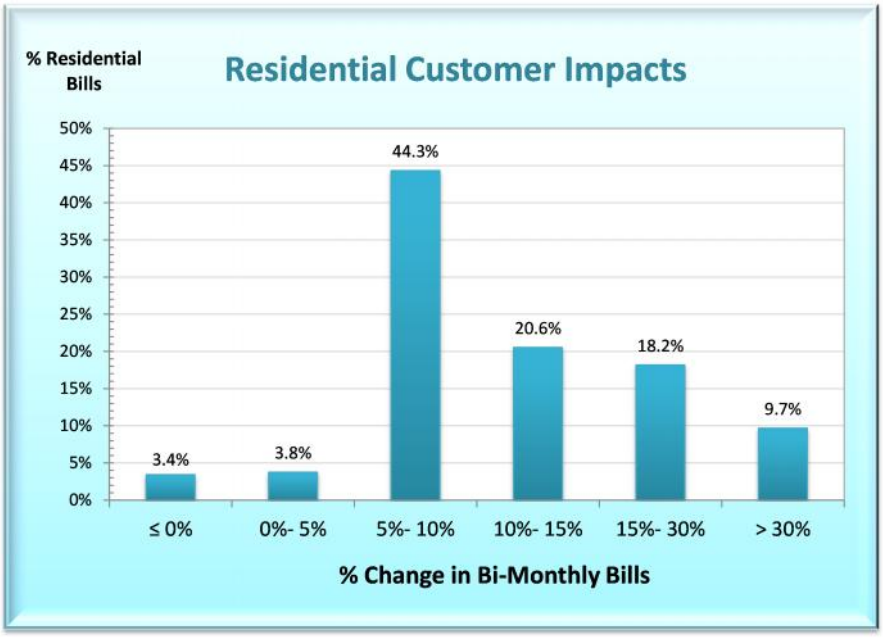


Figure 3-6: Residential Customer Impacts



4 Wastewater System – Financial Plan and Rates

4.1 Financial Plan

4.1.1 Revenue Requirements

A review of a utility's revenue requirements is a key step in the rate design process. The review involves an analysis of annual operating revenues under the current rates, operation and maintenance (O&M) expenses, capital expenditures, transfers between funds, and reserve requirements. This section of the report provides a discussion on projected revenues, O&M and capital expenditures, the capital improvement financing plan, debt service requirements, and revenue adjustments required to ensure the fiscal sustainability and solvency of the Wastewater Enterprise.

4.1.1.1 Revenues from Current Rates

The current wastewater (WW) rate structure consists of bi-monthly service charges (by dwelling unit) that vary by customer class. The City does not currently charge a discharge or commodity rate. Current WW rates are shown in Table 4-1 for all customer classes.

Table 4-1: Current WW Rates

Customer Class	Effective 7/1/2013
Residential	$22.20
Multi-Residential – each unit	$27.30
Business – single business	$105.00
Business – each additional unit (2-5)	$105.00
Business – each additional unit (6+)	$75.00

Table 4-2 provides a summary of WW EDUs for FYE 2014. Similar to water a zero percent growth rate was assumed.

Table 4-2: WW Accounts Summary

Accounts Summary	FYE 2014
Residential Customers	3,652
Multi-Residential – each unit	1,014
Business – single business	108
Business – each additional unit (2-5)	109
Business – each additional unit (6+)	35
Institutional	18
Total WW Customers (EDUs)	**4,936**

The WW revenues are derived from current rates and accounts, and are shown in Table 4-3.

Table 4-3: WW Revenues

	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
Sewer Base Charges:	**$718,000**	**$718,000**	**$718,000**	**$718,000**	**$718,000**

4.1.1.2 O&M Expenses

O&M expenses include the costs of operating and maintaining the wastewater collection, treatment, and disposal facilities, as well as the costs of providing technical services such as laboratory services and other administrative costs of the wastewater system such as customer service and billing. The City's FYE 2014 budget values and the assumed inflation factors for the study period (as shown in Table 2-1) were used as the basis for projecting O&M costs. Table 4-4 summarizes projected O&M expenses for the wastewater enterprise. The WW O&M expenses are projected to increase at approximately three percent per year. Note that the removal of stormwater expenses from the sewer utility decreased O&M expenses.

Table 4-4: Projected WW O&M Expenses

	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
Total Operating Expenditures:	**$858,742**	**$887,019**	**$916,356**	**$946,798**	**$978,388**

4.1.1.3 Capital Improvement Plan

The City has adopted a long-term capital improvement plan (CIP) to address the Wastewater Enterprise's future needs. Table 4-5 shows the total expected CIP construction cost by year for the first five years of the ten-year study period. The figures are per the Sewer Master Plan and are adjusted for inflation. These projects will be funded through proposed rate revenues (PAYGO). There is no debt proposed to fund CIP for the WW enterprise.

Table 4-5: WW CIP Adjusted For Inflation

	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018
Total CIP Plan:	**$130,000**	**$102,000**	**$104,040**	**$106,121**	**$54,122**

4.1.1.4 Reserve Requirements

To ensure fiscal sustainability and the continued operation of the WW enterprise, RFC recommends that the following reserve level targets be met.

Operating Reserve – The operating reserve is used primarily to meet ongoing cash flow requirements. RFC recommends that the City continues to maintain a target operating reserve level equal to 25 percent of the enterprise's annual O&M expenses. Maintenance of this level of reserve serves the additional purpose of supporting a higher credit rating for the City's utility enterprise should the City choose to issue debt to fund WW CIP.

Capital Reserve – Based on the relatively low expected cost of the City's future CIP expenditure, RFC recommends that the City continues to maintain a target capital reserve level equal to 100 percent of the enterprise's expected annual CIP expenses.

4.1.2 Status Quo Financial Plan

Table 4-6 displays the pro forma of the Wastewater Enterprise's funds under current rates over the forecast period. All projections shown in the table are based on the current rate structure and do not include any rate adjustments or proceeds from additional debt issuances.

Under this 'status-quo' scenario, revenues generated from current rates and other miscellaneous revenues are not sufficient to recover the operating expenses of the WW Enterprise. The resulting drawdown in fund balance drives the operating fund balance to negative by FYE 2016. As a result, it is projected that the City will not be able to maintain fiscal sustainability and solvency under the status quo financial plan.

Table 4-6: Status Quo Financial Plan Pro-forma

Operating Fund Cash Flows	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Revenues					
Total Revenue from Rates	$718,000	$718,000	$718,000	$718,000	$718,000
Other Operating Revenues	15,836	15,836	15,946	16,058	16,058
Total Operating Revenues	**$733,836**	**$733,836**	**$733,946**	**$734,058**	**$734,058**
Expenditures					
Total Operating Expenditures	**$988,742**	**$989,019**	**$1,020,396**	**$1,052,919**	**$1,032,509**
Net Revenues w/o Depreciation	**($254,906)**	**($255,183)**	**($286,450)**	**($318,861)**	**($298,451)**
Operating Reserve Balances					
Beginning Balances	**$1,818,024**	**$1,563,118**	**$1,307,935**	**$1,021,485**	**$702,624**
Debt Proceeds	**0**	**0**	**0**	**0**	**0**
Transfer from Operating to Capital Fund (DB)	**0**	**0**	**0**	**0**	**0**
Ending Balances	**$1,563,118**	**$1,307,935**	**$1,021,485**	**$702,624**	**$404,173**
Target Balances	$247,186	$247,255	$255,099	$263,230	$258,127

4.1.3 Recommendations and Proposed Financial Plan

4.1.3.1 Proposed Revenue Adjustments

To ensure financial solvency for the Wastewater Enterprise and based on direction from City Staff, it is recommended that the City implement 4% revenue adjustment for the next five years. ***However, as part of the final direction from City Council on November 12, the revenue adjustments for FYE 2017 and FYE 2018 were reduced down from 4% each year to 3% each year, resulting in the utilization of reserves to offset the annual revenue shortfall with reserves depleting down to approximately $1M by FYE 2020.*** Table 4-7 shows the recommended adjustments.

Table 4-7: Proposed Wastewater Revenue Adjustments

Effective Date	Proposed WW Revenue Adjustments
January 2014	4 percent
July 2015	4 percent
July 2016	4 percent
July 2017	3 percent
July 2018	3 percent

4.1.3.2 Proposed Financial Plan

A pro forma of the proposed five-year financial plan is shown in Table 4-8.

The proposed financial plan successfully meets the City's financial needs, meeting target reserve balances through the study period and reaching positive net revenues while addressing the City's O&M and CIP needs.

Table 4-8: Five-Year Financial Plan Pro-forma for WW Funds

Operating Fund Cash Flows	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Revenues					
Total Revenue from Rates	$824,107	$873,877	$908,832	$936,097	$964,179
Other Operating Revenues	15,836	15,836	15,946	16,058	16,058
Total Operating Revenues	**$839,943**	**$889,713**	**$924,778**	**$952,155**	**$980,237**
Total Operating Expenditures	**$988,742**	**$989,019**	**$1,020,396**	**$1,052,919**	**$1,032,509**
Net Revenues w/o Depreciation	**($148,799)**	**($99,306)**	**($95,619)**	**($100,764)**	**($52,272)**
Operating Reserve Balances					
Beginning Balances	**$1,818,024**	**$1,669,225**	**$1,569,919**	**$1,474,300**	**$1,373,536**
Debt Proceeds	**0**	**0**	**0**	**0**	**0**
Transfer from Operating to Capital Fund (DB)	**0**	**0**	**0**	**0**	**0**
Ending Balances	**$1,669,225**	**$1,569,919**	**$1,474,300**	**$1,373,536**	**$1,321,264**
Target Balances	$247,186	$247,255	$255,099	$263,230	$258,127

Figures 4-1, 4-2, 4-3 and 4-4 illustrate the projected five-year financial plan for the WW Enterprise. Figure 4-1 displays the proposed revenue adjustments until FYE 2018 (Table 4-7 in graphical format). Figure 4-2 illustrates the operating position of the WW Enterprise, where the expenses, inclusive of reserve funding, are shown by stacked bars and total revenues at current rates and proposed rates are shown by red and green lines, respectively. Figure 4-3 summarizes the projected CIP and its funding sources as debt (dark orange bars) or PAYGO (orange bars). **There is no debt shown because the proposed financial plan does not propose debt.** The ending total fund balance for the WW utility – inclusive of both the operating and capital funds – is projected and shown in Figure 4-4, where the red line indicates the target reserve balance as recommended by the reserve requirements discussed in Section 4.1.1.4.

Figure 4-1: Proposed Five-Year WW Revenue Adjustments

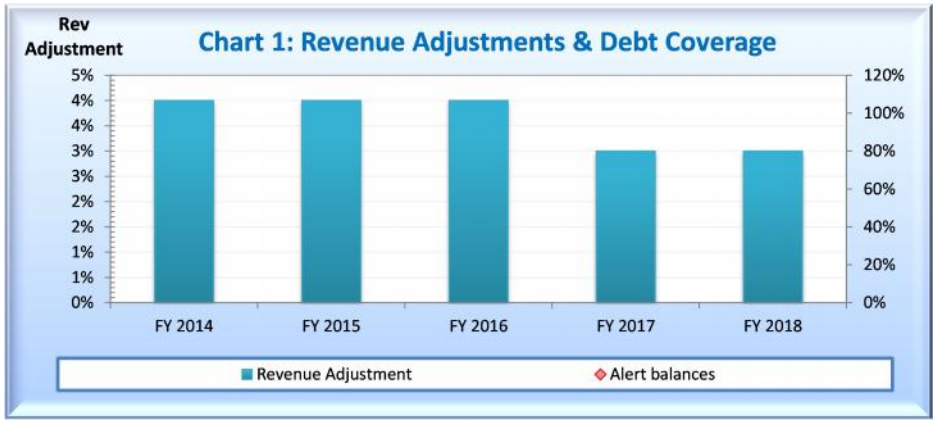


Figure 4-2: Five-Year WW Operating Financial Plan

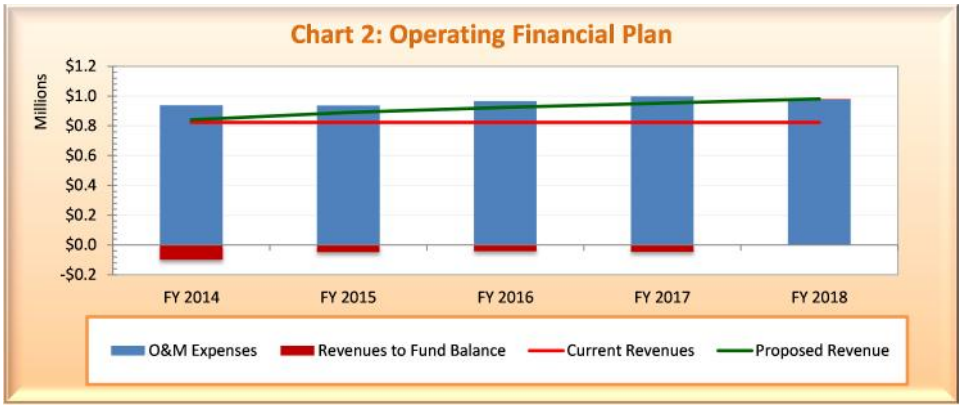


Figure 4-3: Projected CIP and Funding Sources for WW Funds

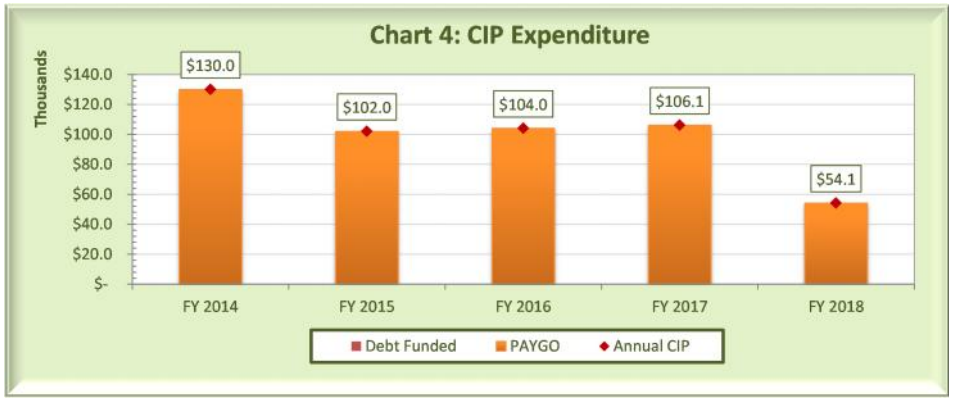
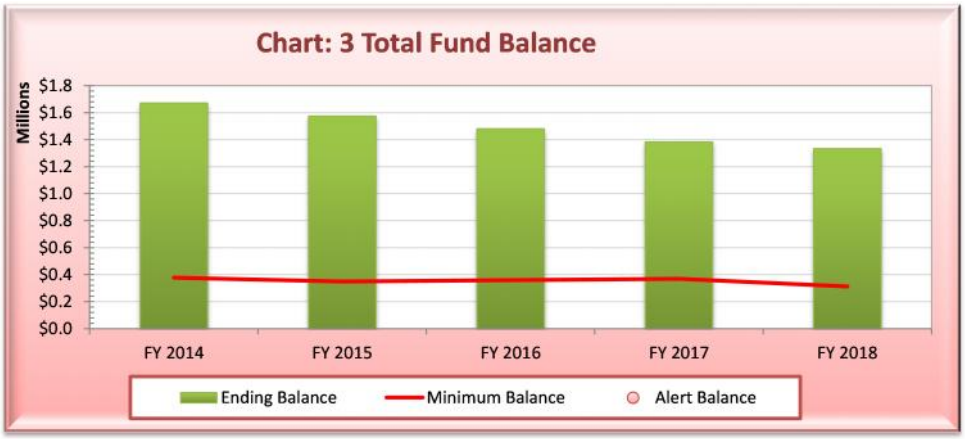


Figure 4-4: Projected Ending Balances for WW Funds



4.2 Proposed WW Rates

4.2.1 Cost of Service Analysis

Government Code Section 54999 requires agencies to perform a cost of service analysis at least once every ten years as rates have not changed since 2002. A cost of service analysis ensures that rates properly reflect the cost of providing service to the customer and are thus fair to customers.

As a part of this study, RFC performed a cost of service analysis for the City's wastewater enterprise. The cost of service analysis for the wastewater enterprise was based on loading factors as well as the revenue requirements developed through the operating and cash flow analysis. The following section describes the methodology used to allocate operating and capital costs to Wastewater Flow, Total Suspended Solids (TSS) and Biochemical Oxygen Demand (BOD) parameters and the calculation of resulting rates.

The net cost of providing service is determined by the total revenue requirements of the enterprise. In a cost of service analysis, the total cost of service is proportionally allocated to customer classes based on services rendered, which takes into account the flow (Flow parameter) and strength of such wastewater (BOD and TSS parameters).

The design method of allocations process is the method used in determining percentage values for each parameter by which wastewater costs are assigned. This methodology involves breaking down O&M and capital expenditures by individual expenses, categorizing such expenses into functional cost categories and then allocating the functional cost categories.

In order to allocate costs of service to the different customer classes, unit costs of service were calculated for flow, strength parameters, and total Equivalent Dwelling Units (EDUs) for fixed costs. The unit costs of service are developed by dividing the total annual costs allocated to each parameter by the total annual loadings or number of accounts for the respective parameter (Discharge, BOD, TSS, and customer service). The allocations to each parameter as developed through this process are shown in Table 4-9 for the next five-years.

Table 4-9: Allocation Factors for WW O&M Expenses

		Base - Variable			Fixed
	Rate Revenue Required	Flow	BOD	TSS	Customer Account
		16.0%	16.0%	8.0%	60.0%
Fiscal Year		40.0%			60.0%
FYE 2014	$ 824,107	$ 131,880	$ 131,880	$ 65,940	$ 494,406
FYE 2015	$ 873,877	139,845	139,845	69,923	524,264
FYE 2016	$ 908,832	145,439	145,439	72,719	545,235
FYE 2017	$ 936,097	149,802	149,802	74,901	561,592
FYE 2018	$ 964,179	154,296	154,296	77,148	578,439

As wastewater usage (discharge) is not metered, an examination of seasonal water consumption (winter usage) is required to ensure calculated rates only consider discharge. RFC examined historical billing data provided by the City to appropriately allocate cost between customer classes based on their winter-quarter average water usage, which typically reflects indoor use (discharge). The separation of costs into the functional components identified above provides the means to further allocate costs between customer classes based upon their demand. Table 4-10 shows the costs of each functional component allocated to each Customer Class for FYE 2014.

Table 4-10: WW FYE 2014 Rates – Functional Costs by Customer Class

Residential		
Description		FY 2014
Flow Related Costs	$	124,161
Bio-Chemical Oxygen Demand (BOD) Costs		123,087
Suspendable Solids (SS) Costs		62,712
Customer Account Costs		476,526
Residential EDUs		4,666
Bi-Monthly Charge		**28.09**
Customer Accounts Charge (Non-Residential)		
Description		FY 2014
Annual Customer Accounts Allocation	$	27,574
Total Customer EDUs		270
Customer Account Charge (Bi-Monthly)	**$**	**17.02**
Commercial		
Description		FY 2014
Flow Related Costs	$	3,853
Bio-Chemical Oxygen Demand (BOD) Costs	$	6,628
Suspendable Solids (SS) Costs	$	2,659
Projected Discharge		20,884
Cost per Unit of Flow	**$**	**0.63**
Institutional		
Description		FY 2014
Flow Related Costs	$	6,452
Bio-Chemical Oxygen Demand (BOD) Costs	$	4,752
Suspendable Solids (SS) Costs	$	1,862
Projected Discharge		34,969
Cost per Unit of Flow	**$**	**0.37**
* For FYE 2014 cost were annualized to calcuate Rates		

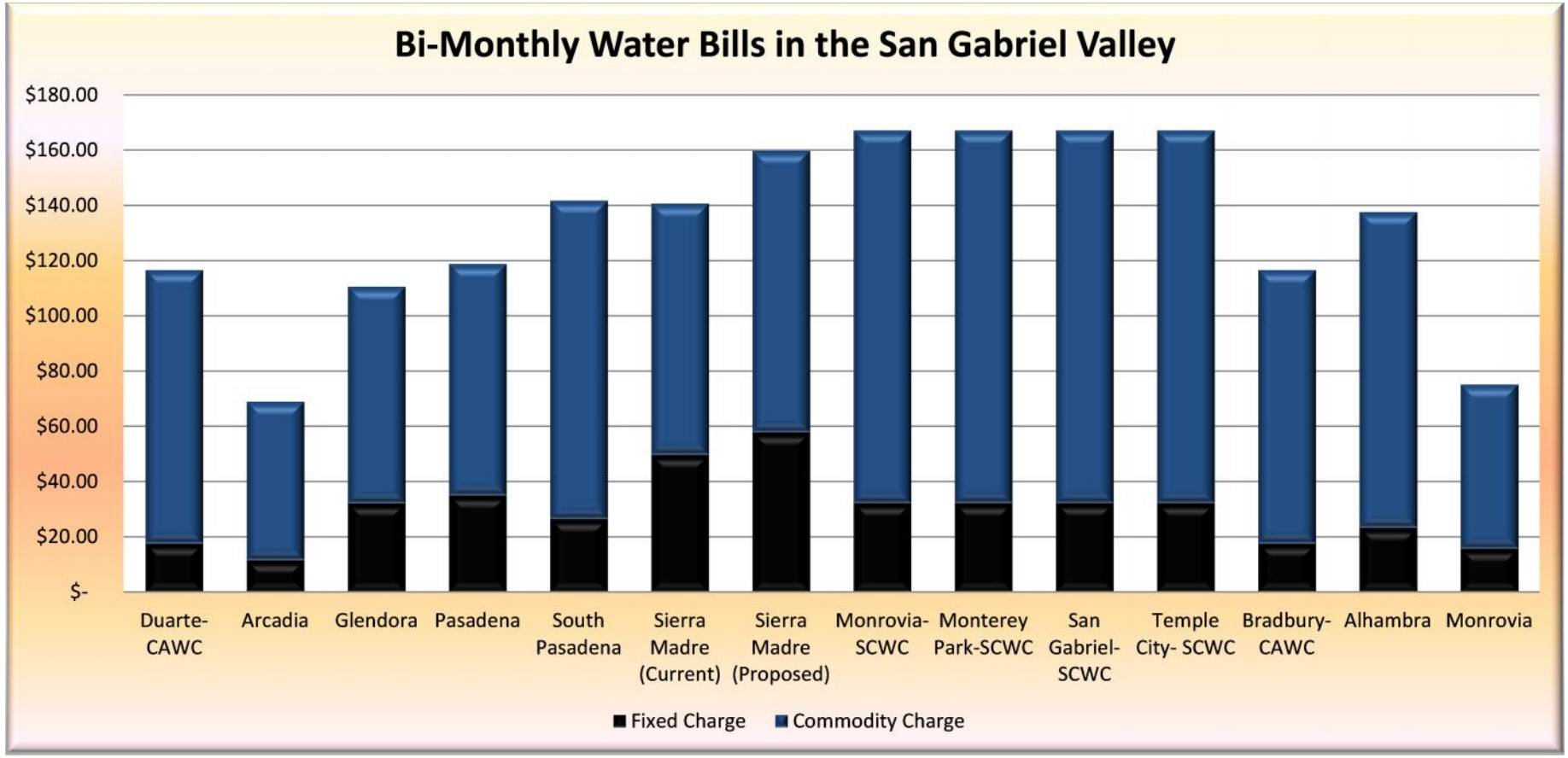
4.2.2 Proposed WW Rates

The proposed monthly service and commodity charges for residential and non-residential are as shown in Table 4-11, below. For non-residential customers, the proposed rate structure eliminates the high flat bi-monthly charge and incorporates a discharge rate. All rates are proposed for implementation in January 2014 with subsequent-year adjustments incorporated in July of those years. A rate comparison of the City's Sewer Rates is also attached as Exhibit B.

Table 4-10: Proposed Bi-Monthly Wastewater Rates

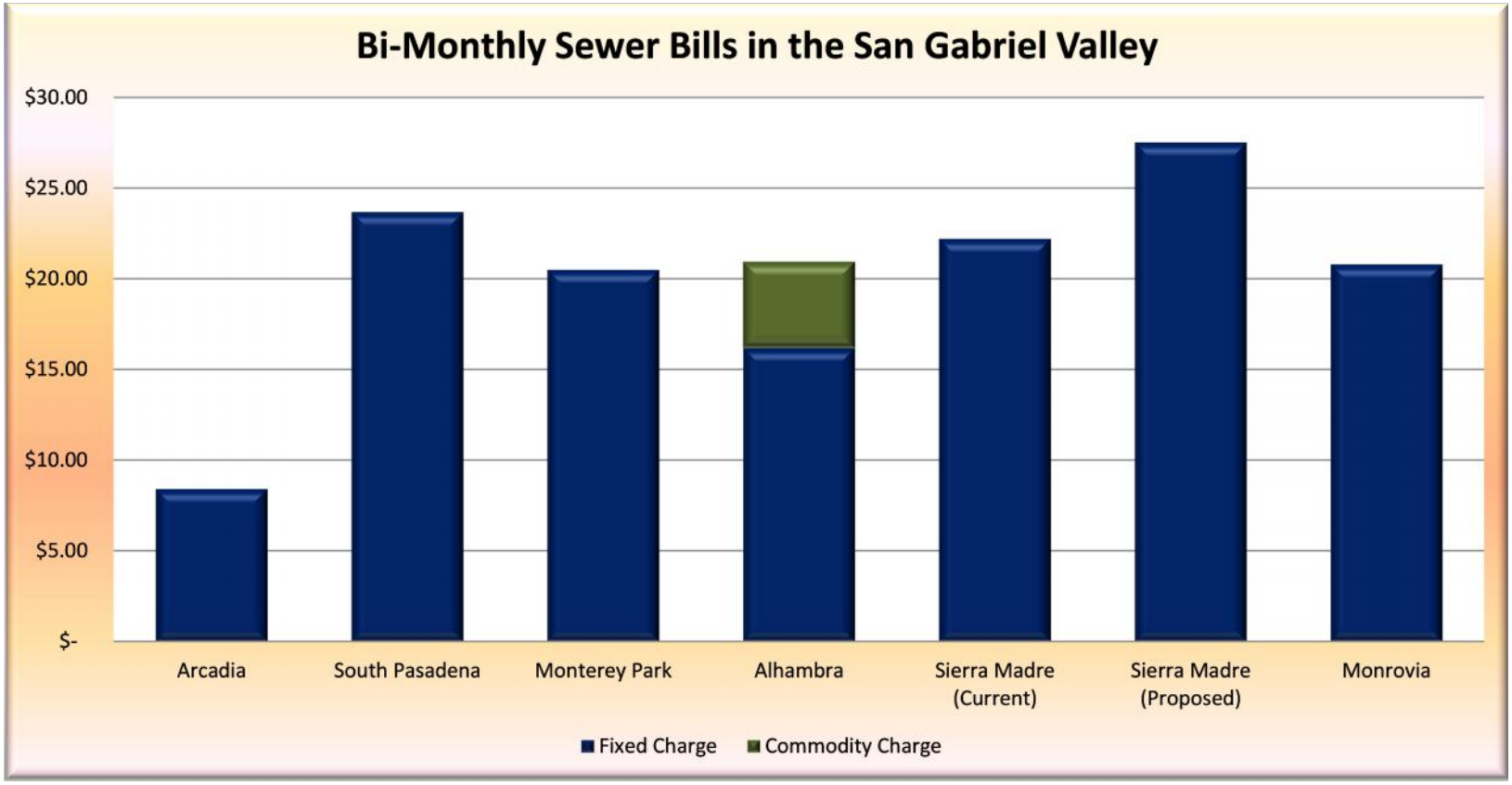
			Effective January 1, 2014	July 1, 2014	July 1, 2015	July 1, 2016	July 1, 2017
Customer Class	Description	Existing	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**
Residential	Bi-Monthly Charge	$ 22.20, $ 27.30	$ 28.09	$ 29.22	$ 30.39	$ 31.30	$ 32.24
Non-Residential							
Commercial & Institutional	Bi-Monthly Charge	$ 105.00	$ 17.02	$ 17.70	$ 18.41	$ 18.96	$ 19.53
Commercial	Cost per CCF		$ 0.63	$ 0.65	$ 0.68	$ 0.70	$ 0.72
Institutional	Cost per CCF		$ 0.37	$ 0.39	$ 0.40	$ 0.42	$ 0.43

EXHIBIT A – RESIDENTIAL WATER RATE COMPARISON



The bi-monthly comparison is based on the City's annual bi-monthly average equal to 41 CCF.

EXHIBIT B – RESIDENTIAL WASTEWATER RATE COMPARISON



* For Alhambra, 12 CCF was assumed for their variable component.

Appendix "A"

Public Hydrant / Private Fire Line Cost Allocation

Connection Size	Demand Factor (^2.63)	Unit Counts	Fire Equivalent Conenctions	Percent Allocation	Hydrants/Private Fire Lines	Private Fire Line Bi-Monthly Charge
FYE 2014 Cost					**$222,952**	
Public Hydrants				99.22%	$221,206	
6"	111.31	449	49,979			
Private Lines						
2"	6.19	8	50	0.10%	$219	$4.57
4"	38.32	9	345	0.68%	$1,526	$28.27
6"	111.31	-	-			
8"	237.21	-	-			
10"	426.58	-	-			
Total			**50,373**	**100.00%**	**$222,952**	