



City of Chowchilla Water Rate Study

January 2012

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January 5, 2012

Mr. Wayne Padilla
Assistant City Administrator
City of Chowchilla
130 So. Second Street
Chowchilla, CA 93610

Subject: Water Rate Study Report

Dear Mr. Padilla:

Raftelis Financial Consultants (RFC) is pleased to present this report on the water cost of service rate study (Study) to the City of Chowchilla (City). The Study involved a comprehensive review of the City's financial plan and rate structures. The assumptions and recommendations are described in details in this report. The various tables describing the calculations of the rates are also included.

It has been a pleasure working with you and we wish to express our thanks to other staff members of the City for the support and cooperation extended throughout the Study. If you have any questions, please call me at (626) 583-1895.

Sincerely,

A handwritten signature in black ink, appearing to read 'Steve Vuoso', written over a light blue rectangular background.

Steve Vuoso
Senior Consultant

A handwritten signature in black ink, appearing to read 'Sudhir Pardiwala', written over a light blue rectangular background.

Sudhir Pardiwala
Vice-President

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SECTION 1: EXECUTIVE SUMMARY

The City of Chowchilla (City) is situated in Madera County, covering approximately seven square miles with a population of 11,000. Approximately 480 acres in the City is zoned for light and heavy industry. Another 880 acres adjacent to the City limits are industrially zoned. The City's water supply is solely groundwater from wells.

There are several key issues driving this water rate study. The City last conducted a study more than five years ago and the rates have not been updated in many years. The City recently experienced a decline in population due to home foreclosures, although it appears modest growth has resumed. The City's water enterprise fund is also facing challenges from increasing operating costs and planned capital expenditures. The existing water rates are not adequate to support the operating and capital expenditures of the enterprise fund. Additionally, the City wishes to have a rate structure that is easier for customers to understand and easier to administer. As a result, the City engaged RFC to review existing rates, develop a financial plan, and perform a water cost of service rate study that accomplishes the following objectives:

- ◆ Review the future operating and capital financing requirements of the City's water enterprise;
- ◆ Determine the cost to provide service to the City's customers;
- ◆ Develop a rate structure that generates adequate revenues to meet the requirements of the water enterprise and provides equitable cost recovery from the different customer classes; and
- ◆ Provide a user-friendly rate model in Microsoft Excel® to assist the City in future planning.

This section of the Executive Summary provides a brief description of the water system, a review of revenue requirements, an analysis of cost of service, and the design of water rates.

BACKGROUND

The City operates 7 City-owned water wells, 37 miles of main distribution lines, 243 water meters, 199 backflow prevention devices, 750 fire hydrants, and related equipment. The water quality is closely monitored by several State of California regulatory agencies to guarantee compliance with Federal and State mandates.

The City also manages a City-wide water conservation program that runs on a year-round basis.

CURRENT RATE STRUCTURE

Currently, the City's water rate structure for residential non-metered customers includes both a monthly fixed charge and a uniform variable rate tied to lot size. Non-residential customers are charged a monthly fixed charge that varies by establishment type. The rate structure for metered customers includes a monthly fixed charge based on meter size and a uniform commodity rate measured in hundred cubic feet (hcf). Outside city customers are charged an additional fifty percent of all rates that inside city customers pay. Summaries of the current rate structures are shown in Tables ES-1 and ES-2.

**TABLE ES - 1– CURRENT WATER RATE STRUCTURE –
NON-METERED CUSTOMERS**

Description	(effective 7/1/08)
Single family residence on lots 50 feet x 140 feet (7,000 sq.ft.) Or less: Minimum	\$ 21.26
Plus per square feet for each sq ft. that a lot exceeds 7,000	\$ 0.001570
each additional residence on the same premises.	\$ 11.71
each additional housekeeping apartment or unit on the same residence	\$ 11.71
Multiple Family per apartment	\$ 11.71
per apartment	\$ 11.71
Lodging and Boarding Houses - not to exceed five rooms	\$ 25.26
each plumbed room in excess of five	\$ 1.73
Restaurants	\$ 89.55
Restaurants open all night	\$ 109.69
Luncheon Counters	\$ 51.47
Soft drink and hard drink establishments	\$ 25.35
Barbershops or Beauty Shops	\$ 21.06
for each chair in excess of one	\$ 1.97
Lodge Rooms or Churches	\$ 31.13
Warehouses	\$ 31.13
Grocery Stores, Bowling alleys, Pool Rooms, Skating Rinks	\$ 111.90
Bakeries: For each oven	\$ 29.16
Theaters: seating capacity 700 persons or less	\$ 33.58
Retail Commercial: Up to 25 feet frontage	\$ 24.92
Over 25 feet frontage	\$ 38.69
Manufacture of cement products:	
Cement Pipe, Blocks & Batch Mixing	\$ 42.52
Schools :	
Chowchilla Union High School	\$ 899.04
Wilson Elementary School	\$ 360.11
Fuller Elementary School	\$ 360.11
Stephens Elementary School	\$ 120.76
Circuses, Menageries or Street Shows per day	\$ 42.52
Hospitals	\$ 494.29
Convalescent Hospitals, Retirement Homes	\$ 248.65
Medical & Professional Offices	\$ 50.35

**TABLE ES - 2– CURRENT WATER RATE STRUCTURE –
METERED CUSTOMERS**

Description	Fees
Inside City Customer Rates	
(effective 7/1/2008)	
Rate for metered water service (per 100 cubic feet of water used)	\$ 0.64
for 1" meter	\$ 23.31
for 1 1/2" meter	\$ 25.52
for 2" meter	\$ 27.80
for 3" meter	\$ 30.01
for 4" meter	\$ 59.72
for 6" meter	\$ 164.45
Charge for temporary water service for construction of residence of less than five rooms	\$ 9.42
each additional room over five rooms:	\$ 1.51
Water delivered in bulk by tank and for the initial filling of swimming pools (per 1,000 gals)	\$ 1.51
Single Family	\$ 21.26
each additional unit	\$ 11.71
Fountains and/or fish ponds:	
Using a one-sixteenth inch jet	\$ 9.79
Using a one eight jet or larger	\$ 19.12
Outside City Customer Rates	
Rate for metered water service (per 100 cubic feet of water used)	\$ 0.96
for 1" meter	\$ 34.96
for 1 1/2" meter	\$ 38.27
for 2" meter	\$ 41.70
for 3" meter	\$ 45.02
for 4" meter	\$ 89.59
for 6" meter	\$ 246.67
All connections, except public institutions outside the city limits, will be charged an additional 50% of the rate.	

REVIEW OF REVENUE REQUIREMENTS

The City provided a number of forward looking assumptions in order to facilitate projections and assess the practicality of revenue adjustments.

Revenue requirements include annual operating and maintenance (O&M) costs, capital improvement program (CIP) expenses, and debt service payments. The City’s principal source of operating revenues is revenues from water rates.

The City estimates overall annual water O&M expenditures to increase from approximately \$1.3 million to \$1.7 million during the study period from FY 2012 through FY 2021. The existing annual debt service payment of approximately \$80,000 is for the 1999 United States Department of Agriculture (USDA) Water Bond. RFC recommends that the City issue a 30-year term bond of \$4.6 million in FY 2013 and another \$1.6 million in FY 2016 to cover future capital projects.

Additionally, the water utility will borrow \$1.2 million from the City’s general fund to fund operating and capital expenses.

COST OF SERVICE

The cost of service allocations in this study are based on the Base-Extra Capacity method endorsed by the American Water Works Association (AWWA), a nationally recognized industry group. Under the Base-Extra Capacity method, revenue requirements are allocated to different user classes proportionately to their use of the water system. Allocations are based on average day (Base) usage, maximum day peak (Max Day) usage, maximum hour peak (Max Hour) usage, meter services, and billing and collection.

RECOMMENDATIONS AND PROPOSED CHANGES

This section of the Executive Summary outlines RFC’s recommendations that will enhance equity in the recovery of costs and will ensure that all revenue requirements are met.

Revenue Adjustments

Revenue requirements for the planning period were projected off the City’s FY 2012 budget information. Our projections indicate that the City needs multiple revenue adjustments over the next few years. The proposed revenue adjustments in FY 2012 will be effective in May. Beginning in FY 2013, the rates will go into effect on January 1st of each year. To ensure financial sufficiency, RFC proposes the following revenue adjustments:

FY 2012	FY 2013 – FY 2021
19%	7% each year

Since the increase for FY 2012 will only produce two months of revenue, the City does not meet debt coverage requirements in FY 2012. However, the City will meet coverage requirements in future years with the recommended revenue adjustments. It should also be noted that revenue adjustments are not necessarily the same as rate increases for each customer. Some customers may experience bill impacts higher than the overall revenue adjustment while other customers may experience lower bill impacts.

Recommended Rate Structure

RFC recommends the following rate structures for different classes of customers:

Non-Metered Single Family Residence (SFR): RFC recommends that the City retain the use of a fixed monthly charge for single family residences which includes an irrigation allowance of up to 7,000 sq. ft. of total lot size. SFR accounts that have a lot size in excess of 7,000 sq. ft. will be assessed an irrigation rate for each additional 100 sq. ft.

Non-Metered Multiple Family Residence (MFR): Non-metered MFR accounts will be assessed a flat monthly charge per apartment. Duplex and triplex accounts will pay a rate in between the SFR and MFR rates. This is to reflect the lower density than found in SFR accounts and higher irrigation needs than MFR accounts.

Table ES – 3 shows the proposed rates for non-metered residential customers.

Non-Metered Commercial Customers: RFC recommends that the City simplify the non-metered commercial classes. Non-metered commercial users, under the proposed rate structure, will be classified into six classes and a variable charge based on number of parameters will be applied. Additionally, an external irrigation charge will be levied on non-metered commercial customers per 100 square feet. On top of the variable charge, we also recommend a fixed monthly charge for billing and customer service.

Table ES – 4 shows the proposed rates for non-metered commercial customers.

Metered Customers: RFC recommends that the City continue to utilize a monthly service charge varying with meter size and a variable rate structure based on hundred cubic feet (hcf) units of water usage. For single family residences, we recommend a tiered rate structure to promote conservation.

Table ES – 5 shows the proposed rates for the metered customers.

Meter Installs and Retrofit Charges: As indicated earlier, the City will be installing meters and retrofitting existing meters over the next three years. The City's policy is that customers receiving the meters or retrofits would bear the costs directly. As such, RFC developed fixed monthly charges to recover the costs of meter installs and retrofits over a twelve year period. The City expects to install 1,700 new meters in FY 2013 at a cost of \$883 per meter. These costs will be recovered over a 12 year period beginning in FY 2014. The meter install charge to recover the cost of new meter installations is \$6.51 per month. The monthly charge includes a 1% interest rate, as the City will have to pay for the meter installs up front and customers will repay them over time. Similarly, the City expects to retrofit 1,500 meters during FY 2014 and FY 2015. These customers will be charged a monthly fee of \$2.44 during the first fiscal year after the retrofit is complete.

**TABLE ES - 3– PROPOSED WATER RATE STRUCTURE –
NON-METERED RESIDENTIAL CUSTOMERS**

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Single Family for 7,000 sq. ft.	\$29.07	\$31.11	\$33.29	\$35.62	\$38.11	\$40.78	\$43.63	\$46.68	\$49.95	\$53.45
Plus per 100 square feet	\$ 0.23	\$ 0.25	\$ 0.26	\$ 0.28	\$ 0.30	\$ 0.32	\$ 0.35	\$ 0.37	\$ 0.40	\$ 0.42
Each additional unit	\$16.46	\$17.62	\$18.85	\$20.17	\$21.58	\$23.09	\$24.71	\$26.44	\$28.29	\$30.27
Multi Family - Each unit	\$16.46	\$17.62	\$18.85	\$20.17	\$21.58	\$23.09	\$24.71	\$26.44	\$28.29	\$30.27
Duplexes & Triplexes (per dwelling unit)	\$21.97	\$23.51	\$25.16	\$26.92	\$28.80	\$30.82	\$32.98	\$35.28	\$37.75	\$40.40

**TABLE ES - 4– PROPOSED WATER RATE STRUCTURE –
NON-METERED COMMERCIAL CUSTOMERS**

Commercial Customers	Parameter	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015	Proposed FY 2016	Proposed FY 2017	Proposed FY 2018	Proposed FY 2019	Proposed FY 2020	Proposed FY 2021
Monthly Fixed Service Charge		\$ 11.98	\$ 12.82	\$ 13.72	\$ 14.68	\$ 15.71	\$ 16.81	\$ 17.98	\$ 19.24	\$ 20.59	\$ 22.03
Commercial External Rate (per mo.)	100 Sq. Ft	\$ 0.23	\$ 0.25	\$ 0.26	\$ 0.28	\$ 0.30	\$ 0.32	\$ 0.35	\$ 0.37	\$ 0.40	\$ 0.42
Variable Charge per parameter											
Commercial	1000 Sq. Ft.	\$ 3.08	\$ 3.29	\$ 3.52	\$ 3.77	\$ 4.03	\$ 4.31	\$ 4.62	\$ 4.94	\$ 5.29	\$ 5.65
Church	1000 Sq. Ft.	\$ 1.54	\$ 1.65	\$ 1.76	\$ 1.88	\$ 2.02	\$ 2.16	\$ 2.31	\$ 2.47	\$ 2.64	\$ 2.83
Restaurants - Dine In	# of seats	\$ 0.92	\$ 0.99	\$ 1.06	\$ 1.13	\$ 1.21	\$ 1.29	\$ 1.38	\$ 1.48	\$ 1.59	\$ 1.70
Schools :											
High School	# of students	\$ 0.37	\$ 0.39	\$ 0.42	\$ 0.45	\$ 0.48	\$ 0.52	\$ 0.55	\$ 0.59	\$ 0.63	\$ 0.68
Elementary School	# of students	\$ 0.25	\$ 0.26	\$ 0.28	\$ 0.30	\$ 0.32	\$ 0.35	\$ 0.37	\$ 0.40	\$ 0.42	\$ 0.45
Hospitals/Clinics	1000 Sq. Ft.	\$ 9.23	\$ 9.87	\$ 10.56	\$ 11.30	\$ 12.10	\$ 12.94	\$ 13.85	\$ 14.82	\$ 15.86	\$ 16.96

**TABLE ES - 5– PROPOSED WATER RATE STRUCTURE –
METERED CUSTOMERS**

Water Rates	Proposed FY 2012	Proposed FY 2013	Proposed FY 2014	Proposed FY 2015	Proposed FY 2016	Proposed FY 2017	Proposed FY 2018	Proposed FY 2019	Proposed FY 2020	Proposed FY 2021
Metered Customers										
Commodity Rate: (hcf)										
SFR										
Tier										
18	\$ 0.55	\$ 0.59	\$ 0.64	\$ 0.69	\$ 0.74	\$ 0.79	\$ 0.85	\$ 0.91	\$ 0.97	\$ 1.04
>18	\$ 0.71	\$ 0.76	\$ 0.82	\$ 0.88	\$ 0.95	\$ 1.02	\$ 1.09	\$ 1.16	\$ 1.25	\$ 1.33
Non-SFR	\$ 0.61	\$ 0.65	\$ 0.69	\$ 0.74	\$ 0.79	\$ 0.85	\$ 0.91	\$ 0.97	\$ 1.04	\$ 1.11
Meter Charges:										
for 1" meter	\$ 11.98	\$ 12.82	\$ 13.72	\$ 14.68	\$ 15.71	\$ 16.81	\$ 17.98	\$ 19.24	\$ 20.59	\$ 22.03
for 1 1/2" meter	\$ 17.48	\$ 18.70	\$ 20.01	\$ 21.41	\$ 22.91	\$ 24.51	\$ 26.23	\$ 28.06	\$ 30.03	\$ 32.13
for 2" meter	\$ 24.07	\$ 25.76	\$ 27.56	\$ 29.49	\$ 31.55	\$ 33.76	\$ 36.12	\$ 38.65	\$ 41.36	\$ 44.25
for 3" meter	\$ 44.95	\$ 48.10	\$ 51.46	\$ 55.07	\$ 58.92	\$ 63.04	\$ 67.46	\$ 72.18	\$ 77.23	\$ 82.64
for 4" meter	\$ 75.72	\$ 81.02	\$ 86.69	\$ 92.76	\$ 99.25	\$ 106.20	\$ 113.63	\$ 121.59	\$ 130.10	\$ 139.21
for 6" meter	\$ 160.33	\$ 171.56	\$ 183.56	\$ 196.41	\$ 210.16	\$ 224.87	\$ 240.62	\$ 257.46	\$ 275.48	\$ 294.77

TABLE ES – 6 – METER INSTALLS AND RETROFIT CHARGES

Monthly Charges to Metered Customers	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
FY 13 Metered Customer Payments			\$6.51	\$6.51	\$6.51	\$6.51	\$6.51	\$6.51	\$6.51	\$6.51
FY 14 Retrofitted Customer Payments				\$2.44	\$2.44	\$2.44	\$2.44	\$2.44	\$2.44	\$2.44
FY 15 Retrofitted Customer Payments					\$2.44	\$2.44	\$2.44	\$2.44	\$2.44	\$2.44

Reserves

Prudent business practice requires that the City maintain an operating reserve created from rate revenues. These reserves may be used to meet ongoing operating expenses as well as unexpected increases in costs. RFC recommends that the City maintain 25 percent, or roughly 90 days, of annual O&M expenses in its operating reserve to meet working capital requirements and unexpected

increases in costs during the forecast years. Fifty percent of average routine CIP expenses are recommended in the capital reserve fund. Under the proposed financial plan, reserves requirements are met by the end of the forecast period.

SECTION 2: INTRODUCTION

There are several key issues driving this water rate study. The City last conducted a study more than five years ago and the rates have not been updated in many years. The City also experienced a decline in population recently due to home foreclosures, although modest growth has resumed. The City's water enterprise fund is also facing challenges from increasing operating costs and planned capital expenditures. The existing water rates are not adequate to support the operating and capital expenditures. As a result, the City engaged Raftelis Financial Consultants, Inc. (RFC) to review existing rates, develop a financial plan, perform a water cost of service analysis, and develop a rate structure that is easier to administer and understand.

BACKGROUND

The water division of the City of Chowchilla provides water service to a population of about 11,000. The City's water supply is strictly from groundwater. The City operates 7 City-owned water wells, 37 miles of main distribution lines, 243 water meters, 199 backflow prevention devices, 750 fire hydrants, and related equipment. The water quality is closely monitored by several State of California regulatory agencies to guarantee compliance with Federal and State mandates. The City also manages a water conservation program that runs on a year-round basis.

SCOPE OF STUDY

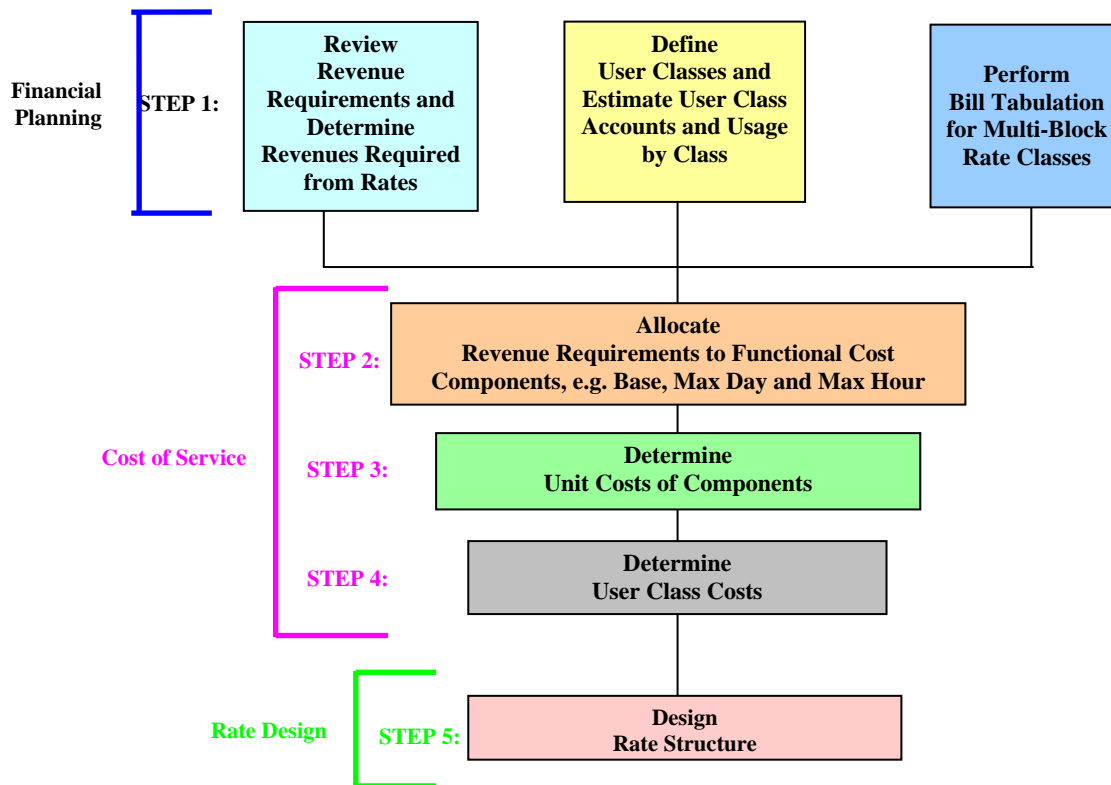
The scope of this study entails developing a financial plan and cost-based water user rates through a comprehensive cost of service and rate design study process. Figure 2-1 provides a graphical representation of the three major processes involved in this study. The three major processes are as follows and are executed by building a rate and financial planning model using Microsoft Excel® (Rate Model):

Financial Planning: Revenue requirements are projected for the forecast period from FY 2012 through FY 2021. Financial planning involves estimating annual O&M and capital expenses, annual debt service, bond coverage and reserve requirements, operating and capital revenue sources, and the determination of required annual user revenues from rates and charges.

Cost of Service Analysis: The cost of service analysis involves identifying and allocating annual revenue requirements to the relevant cost parameters and then allocating those costs to the customer classes in proportion to use.

Rate Design: The rate design involves the development of a rate structure that meets the City’s objective of providing a fair and equitable distribution of cost to the system’s users.

FIGURE 2 - 1- COST OF SERVICE/ RATE DESIGN PROCESS



EXISTING SYSTEM AND RATE STRUCTURES

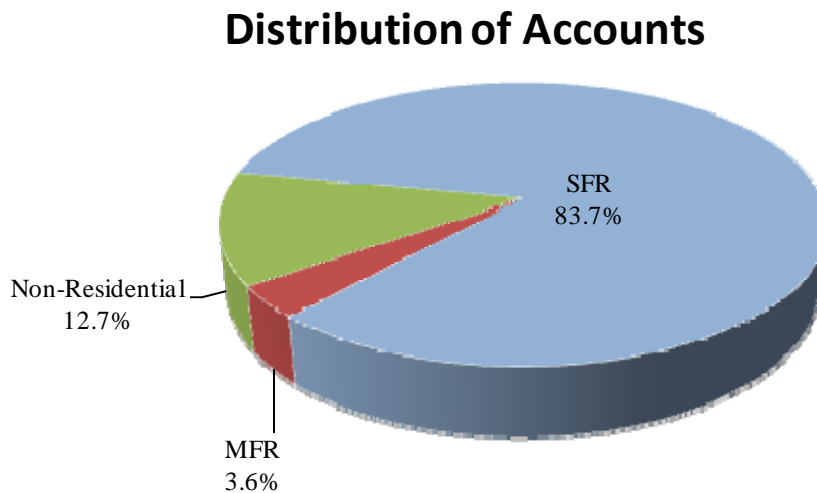
A review of the City’s existing utility billing system associated with customer accounts, user classifications, and rate structure provides the basis for modifying existing user classifications if necessary and for projecting future system requirements. This section of the report presents a review of the existing user classifications and rate structure.

Account Data

The City’s water enterprise has a mix of metered and non-metered residential and commercial users. Customer growth is estimated to resume in FY 2012 and beyond at a rate of 2 percent per year.

FY 2012 data indicates that the City has approximately 1,481 non-metered Single Family Residential (SFR) and Duplex units and approximately 1,730 metered SFR and Duplex accounts. The percentage distribution of the customer units is shown in Figure 2-2. Note that multifamily accounts are shown in terms of dwelling units.

FIGURE 2 - 2- DISTRIBUTION OF UNITS (FY 2012)



Tables 2-1 and 2-2 show the account data, parameter information, and flow data used in the study. Because the City has many unmetered accounts, it was necessary to estimate water consumption for many customer types. This was accomplished by utilizing wastewater flow estimates from Los Angeles County Sanitation District (LACSD) that can be converted to estimates of water usage.

**TABLE 2 - 1- SUMMARY OF ACCOUNTS AND FLOW DATA
- NON-METERED CUSTOMERS**

Customer Class (Non-Metered)	Parameter of Measure	# of Accounts	Total Parameter Value	Average Wastewater Flow per Parameter (gpd) (1)	Total # of Parameters
SFR	# of units	1,363			
Duplex	# of units	118			
MFR	# of apartments	136			
Commercial	1000 Sq. Ft.	72	197,446	100	197
Church	1000 Sq. Ft.	20	87,176	50	87
Restaurants	# of seats	7	502	30	502
Schools :					
High School	# of students	1	887	12	887
Elementary School	# of students	3	1,114	8	1,114
Hospitals/Clinics	1000 Sq. Ft.	8	47,641	300	48

(1) WW flow data from Los Angeles County Sanitation District (LACSD) and Los Angeles Charge Guide

TABLE 2 - 2- SUMMARY OF ACCOUNTS BY METER SIZE

Meter Sizes	# of meters
1"	1,880
1 1/2"	21
2"	149
3"	26
4"	16
6"	5

Existing Rate Structure

Most of the SFR units are non-metered and are billed on a flat rate plus a variable irrigation rate based on total lot sizes. All other non-metered units are billed on a flat rate. The non-metered commercial users are currently grouped into more than 20 different classes. The rate structure for metered customers includes a fixed charge based on meter sizes and a uniform commodity rate measured in hundred cubic feet (hcf). Outside city customers are charged an additional 50 percent of all rates charged to inside city customers. Summaries of the current rate structures are shown in Tables 2-3 and 2-4.

**TABLE 2 - 3-CURRENT WATER RATE STRUCTURE –
NON-METERED CUSTOMERS**

Description	(effective 7/1/08)
Single family residence on lots 50 feet x 140 feet (7,000 sq.ft.) Or less: Minimum	\$ 21.26
Plus per square feet for each sq ft. that a lot exceeds 7,000	\$ 0.001570
each additional residence on the same premises.	\$ 11.71
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Multiple Family per apartment	\$ 11.71
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Warehouses	\$ 31.13
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Bakeries: For each oven	\$ 29.16
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Retail Commercial: Up to 25 feet frontage	\$ 24.92
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Manufacture of cement products:	
Cement Pipe, Blocks & Batch Mixing	\$ 42.52
Schools :	
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Circuses, Menageries or Street Shows per day	\$ 42.52
Hospitals	\$ 494.29
Convalescent Hospitals, Retirement Homes	\$ 248.65
Medical & Professional Offices	\$ 50.35

**TABLE 2 - 4-CURRENT WATER RATE STRUCTURE –
METERED CUSTOMERS**

Description	Fees
Inside City Customer Rates	
(effective 7/1/2008)	
Rate for metered water service (per 100 cubic feet of water used)	\$ 0.64
for 1" meter	\$ 23.31
for 1 1/2" meter	\$ 25.52
for 2" meter	\$ 27.80
for 3" meter	\$ 30.01
for 4" meter	\$ 59.72
for 6" meter	\$ 164.45
Charge for temporary water service for construction of residence of less than five rooms	\$ 9.42
each additional room over five rooms:	\$ 1.51
Water delivered in bulk by tank and for the initial filling of swimming pools (per 1,000 gals)	\$ 1.51
Single Family	\$ 21.26
each additional unit	\$ 11.71
Fountains and/or fish ponds:	
Using a one-sixteenth inch jet	\$ 9.79
Using a one eighth jet or larger	\$ 19.12
Outside City Customer Rates	
Rate for metered water service (per 100 cubic feet of water used)	\$ 0.96
for 1" meter	\$ 34.96
for 1 1/2" meter	\$ 38.27
for 2" meter	\$ 41.70
for 3" meter	\$ 45.02
for 4" meter	\$ 89.59
for 6" meter	\$ 246.67
For all connections, excepting public institutions outside city limits, will be charged an additional 50% of the rates in this resolution.	

USAGE ESTIMATION

The City’s annual water production for FY 2009 is estimated to be 1.17 billion gallons (BG) or 1.57 million hcf. This production level is indicative of a typical year and reflects underlying demand in the City. In order to perform a cost of service analysis, water usage for each customer class is needed. Water usage for metered customers can be obtained from actual meter readings. Since water usage data is not available for the non-metered users, their water usage must be estimated based on certain assumptions described in the next section.

Non-Metered Residential Class

Water usage for the residential classes consist of domestic (internal) usage and irrigation (external) usage.

Domestic Usage: The City’s monthly domestic usage is determined by the number of residents per dwelling unit (DU) (or household size – “Size”) and the estimated water usage per resident (gallon per capita per day – “GPCD”) and the days of service (in this case, monthly or 30 days).

$$\text{Domestic Water Usage} = (\text{GPCD} * \text{Size} * \text{Days of Service})$$

GPCD is based on available wastewater flow data. Wastewater flow is considered an appropriate measure for estimating domestic water usage because the domestic water used basically returns to the sewer as wastewater. Based on RFC’s extensive experience with water and wastewater utilities and guideline from State Water Resource Control Board (SWRCB), 80 gpcd is used as an appropriate estimate for domestic per capita per day water usage. Household size is determined based on Census or State annual demographic data. RFC has used 2.94¹ persons per household. This amounts to 9.6 hcf per month.

Irrigation Usage: The City’s monthly irrigation usage is determined by taking into account irrigation area (in lot size), the weather factor and the plant factor.

$$\text{Irrigation Water Usage} = \text{Irrigation Area} * \text{Weather Factor} * \text{Plant Factor}$$

In this study, RFC has used 0.42 ft/ month² as the average weather factor and 90 percent for the plant factor³ assuming majority of plant is turf grass. For a 7,000 square foot lot, with an irrigation area of 4,910 this amounts to 18.7 hcf per month.

Non-Metered Commercial Class

The water usage for each non-metered commercial class is estimated based on typical wastewater flow data available from LACSD. The flow data are defined for different parameters. Table 2-1 above shows the defined parameters and the average wastewater flow for each non-metered commercial class. Since in the case of commercial users, not all the water used is returned to the sewer, a return factor of 80 percent is applied to the

¹ Source: State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2009, with 2000 Benchmark. Sacramento, California, May 2009.

² Source: California Irrigation Management Information System (CIMIS)

³ AB 1881 – Landscape Ordinance or California Code of Regulations Title 23 Section 490 – 495

wastewater flow to derive the water usage per parameter per day for each non-metered commercial class.

Metered Class

Water usage for the metered customers is determined from the actual metered water consumption data obtained from the City.

Table 2-5 shows the summary of metered water usage and estimated unmetered usage.

TABLE 2 - 5-SUMMARY OF WATER USAGE ESTIMATION

(In hundred cubic feet, hcf)	Estimated
Single Family Residential (SFR) - Non-Metered	1,068,754
Multiple Family Residential DU (MFR) - Non-Metered	12,085
Non-Metered Commercial Class	44,534
Metered Customers - Inside City	339,816
Metered Customers - Outside City	2,579
Total Estimated Water Usage	1,467,768

The difference between the water usage of 1.47 million hcf and water production of 1.57 million hcf is approximately 7 percent, which is within the range of industry averages for unaccounted water production.

SECTION 3: REVENUE REQUIREMENTS

A review of the City’s revenue requirements is a key first step in the rate design process. The review involves an analysis of annual operating revenues under existing rates, O&M expenses, capital expenditures, transfers among funds, and reserve requirements. This section of the report provides a discussion of the City’s financial plan, including the projected revenues, O&M expenses, capital improvements program (CIP), as well as debt service requirements.

OPERATING AND MAINTENANCE (O&M) EXPENSES

The City’s FY 2012 water budget was entered into the Rate Model and used as the base year for projecting O&M costs. In order to project O&M expenses for future years, RFC assumed a general escalation factor of four percent per year. Table 3 – 1 shows the O&M budget and projected O&M costs for water.

TABLE 3 - 1- WATER O&M EXPENSES

	Budget FY 2012	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
Administration										
Salary and Benefits	\$ 164,445	\$ 171,023	\$ 177,864	\$ 184,978	\$ 192,377	\$ 200,072	\$ 208,075	\$ 216,398	\$ 225,054	\$ 234,057
Billing and Collections										
Salary and Benefits	\$ 77,526	\$ 80,627	\$ 83,852	\$ 87,206	\$ 90,694	\$ 94,322	\$ 98,095	\$ 102,019	\$ 106,100	\$ 110,344
Operating Costs	\$ 41,387	\$ 43,042	\$ 44,764	\$ 46,555	\$ 48,417	\$ 50,354	\$ 52,368	\$ 54,462	\$ 56,641	\$ 58,907
Operations										
Salary and Benefits	\$ 234,009	\$ 243,369	\$ 253,104	\$ 263,228	\$ 273,757	\$ 284,708	\$ 296,096	\$ 307,940	\$ 320,257	\$ 333,068
Operating Costs	\$ 485,985	\$ 333,498	\$ 343,911	\$ 350,853	\$ 368,152	\$ 384,953	\$ 367,034	\$ 548,417	\$ 569,934	\$ 592,731
Maintenance										
Salary and Benefits	\$ 100,290	\$ 104,302	\$ 108,474	\$ 112,813	\$ 117,325	\$ 122,018	\$ 126,899	\$ 131,975	\$ 137,254	\$ 142,744
Operating Costs	\$ 208,279	\$ 290,805	\$ 304,698	\$ 316,885	\$ 325,876	\$ 336,417	\$ 382,771	\$ 227,011	\$ 236,092	\$ 236,092
Total O&M Expenses	\$1,311,921	\$1,266,667	\$1,316,667	\$1,362,518	\$1,416,600	\$1,472,844	\$1,531,338	\$1,588,223	\$1,651,332	\$1,707,942

CAPITAL IMPROVEMENT PROGRAM (CIP)

The City has developed a water CIP to address future water system needs, including the state mandate requiring the placement of water meters at locations where no meter currently exists. The total estimated water CIP for the study period of FY 2012 to FY 2021 is approximately \$8.1 million. The CIP provided by the City has been inflated to reflect projected material price increases and is shown in Table 3- 2.

TABLE 3 - 2- CAPITAL IMPROVEMENT PROGRAM – INFLATED

Regular CIP	Estimated FY 2012	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
System Improvements										
Install meters City wide (***)	\$ -	\$ 1,501,000	\$ 247,500	\$ 247,500						
SCADA System Installation-8 wells	\$ 25,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
Completion of Well 14 & Improvements		\$ -				\$ 1,096,000				
Leak Detection Equipment	\$ 50,000									
Fire hydrants & valve maintenance	\$ 37,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000
Service Line Replacement Equip/ Boring	\$ 9,000									
Various locations	\$ 250,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000
Well Maintenance										
Well #3	\$ 50,000									
Well #5a				\$ 105,000						
Well #6			\$ 50,000							
Well #10		\$ 105,000								
Well #11					\$ 100,000					
Install 2 million gallon storage tank	\$ 100,000	\$ 900,000								
Pressure sustaining systems	\$ -	\$ 135,000								
Vehicles										
Meter reading vehicle		\$ 25,000								
Water system utility vehicle				\$ 55,000						
Total CIP	\$ 521,000	\$ 3,006,000	\$ 637,500	\$ 747,500	\$ 440,000	\$ 1,436,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000

RESERVES UNDER CURRENT RATE STRUCTURE

Table 3-3 displays the pro forma of the City’s water enterprise fund reserves under current rates over the forecast period. All the projections in this table are based on current rate structure.

TABLE 3 - 3- WATER FUNDS RESERVES UNDER CURRENT RATES

	Estimated	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
1 Existing Revenue from Rate	\$ 1,214,000	\$ 1,238,280	\$ 1,263,046	\$ 1,288,307	\$ 1,314,073	\$ 1,340,354	\$ 1,367,161	\$ 1,394,504	\$ 1,422,394	\$ 1,450,842
2 Additional Revenue from Rate	-	-	-	-	-	-	-	-	-	-
3 Other Revenue	107,161	114,305	245,240	263,314	283,082	283,082	283,082	283,082	283,082	283,082
4 Total Revenue	\$ 1,321,161	\$ 1,352,585	\$ 1,508,286	\$ 1,551,621	\$ 1,597,155	\$ 1,623,436	\$ 1,650,243	\$ 1,677,586	\$ 1,705,477	\$ 1,733,924
5 Total O&M Expenses	\$ 1,311,921	\$ 1,266,667	\$ 1,316,667	\$ 1,362,518	\$ 1,416,600	\$ 1,472,844	\$ 1,531,338	\$ 1,588,223	\$ 1,651,332	\$ 1,707,942
6 Net Revenue	\$ 9,240	\$ 85,919	\$ 191,619	\$ 189,102	\$ 180,555	\$ 150,592	\$ 118,905	\$ 89,364	\$ 54,145	\$ 25,983
7 Total Bond Issued	\$ -	\$ 4,687,409	\$ -	\$ -	\$ 1,962,171	\$ -	\$ -	\$ -	\$ -	\$ -
8 Internal Loan	\$ 1,200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9 Issuance Expense & Reserve	\$ -	\$ 387,409	\$ -	\$ -	\$ 162,171	\$ -	\$ -	\$ -	\$ -	\$ -
10 Amount available for CIP	\$ -	\$ 4,300,000	\$ -	\$ -	\$ 1,800,000	\$ -	\$ -	\$ -	\$ -	\$ -
11 CFD Contribution	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12 CIP Financing										
13 Cash CIP	\$ 521,000	\$ -	\$ -	\$ 91,000	\$ -	\$ 76,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000
14 Debt CIP	\$ -	\$ 3,006,000	\$ 637,500	\$ 656,500	\$ 440,000	\$ 1,360,000	\$ -	\$ -	\$ -	\$ -
15 Existing Debt Service	83,903	81,797	84,281	81,656	79,030	81,297	78,453	75,609	77,656	77,656
16 New Debt Service	-	170,268	340,535	340,535	483,085	483,085	483,085	483,085	483,085	483,085
17 Internal Loan Repayment	-	84,884	92,854	92,854	92,854	92,854	92,854	92,854	92,854	92,854
18 Total Debt Service	\$ 83,903	\$ 336,948	\$ 517,670	\$ 515,045	\$ 654,969	\$ 657,236	\$ 654,392	\$ 651,548	\$ 653,595	\$ 653,595
19 Net Cash Balance	\$ 604,337	\$ 1,042,970	\$ (963,551)	\$ (1,073,443)	\$ 885,586	\$ (1,942,644)	\$ (875,487)	\$ (902,184)	\$ (939,450)	\$ (967,612)
20 Beginning Reserve Level	\$ 91,767	\$ 696,104	\$ 1,739,074	\$ 775,524	\$ (297,920)	\$ 587,667	\$ (1,354,977)	\$ (2,230,464)	\$ (3,132,649)	\$ (4,072,099)
21 Ending Total Reserve Level	\$ 696,104	\$ 1,739,074	\$ 775,524	\$ (297,920)	\$ 587,667	\$ (1,354,977)	\$ (2,230,464)	\$ (3,132,649)	\$ (4,072,099)	\$ (5,039,711)
22 Ending Reserve Level (less bonds)	\$ 696,104	\$ 445,074	\$ 119,024	\$ (297,920)	\$ (772,333)	\$ (1,354,977)	\$ (2,230,464)	\$ (3,132,649)	\$ (4,072,099)	\$ (5,039,711)
23 Target Reserve Level	\$ 727,314	\$ 716,000	\$ 728,500	\$ 739,963	\$ 753,483	\$ 767,544	\$ 782,168	\$ 796,389	\$ 812,166	\$ 826,319
24 Coverage Ratio	11%	34%	45%	45%	32%	27%	21%	16%	10%	5%

The previous table shows that the City’s current rates and capital financing plan are not sufficient to meet revenue requirements. Debt coverage requirements are not being met and reserve balances are negative.

OPERATING FINANCIAL PLAN

Proposed Revenue Adjustments

The projections indicated that the City needs revenue adjustments over the next few years. The first rate adjustment will be implemented in May 2012. The subsequent rate increases are anticipated to take place in January of each fiscal year. RFC proposes the following adjustments.

FY 2012	FY 2013 – FY 2021
19%	7% each year

Since the increase for FY 2012 will only produce two months of revenue, the City does not meet debt coverage requirements in FY 2012. However, the City will meet coverage requirements in future years with the recommended revenue adjustments. It should be noted that revenue adjustments are not necessarily the same as rate increases. Some customers may face bill impacts higher than the overall revenue adjustment while other customers may face lower bill impacts.

Operating Reserve

Prudent business practice dictates that the City should maintain an operating reserve fund created from rate revenues. This reserve may be used to meet ongoing operating expenses as well as unexpected increases in costs. RFC recommends that the City maintain 25 percent or 90 days of O&M expenses in its operating reserve to meet working capital requirements and unexpected increases in costs during the year.

CAPITAL FINANCIAL PLAN

Existing and Proposed Debt Service Requirements and Coverage

Debt service requirements consist of both principal and interest payments. In 2001, \$1.1 million Certificates of Participation (COPs) were issued by the United States Department of Agriculture-Rural Development (USDA) for the purpose of financing the acquisition and construction of certain modifications, improvements, and additions to the City's water treatment storage and distribution facilities systems. The original amount of the note is secured by the pledge of user fees collected by the Water Enterprise Fund.

The City is planning for a significant amount of capital projects during the forecast period. RFC recommends that the City issue 30-year term debt at 6 percent interest during FY 2013 for \$4.6 million and at the beginning of FY 2016 for \$1.9 million to fund the capital projects in order to mitigate rate increases. Debt covenants typically require a specific debt coverage level that is to be met each year, which means that the City's Net Revenues (revenues less operating expenses) should amount to approximately 125 percent of the annual debt payments to meet the required debt coverage amount.

Capital Reserve

The City currently has a capital reserve to fund capital expenses. RFC recommends that the City maintain a capital reserve with a target of 50 percent of average annual routine capital expenses over the planning period.

RESERVES UNDER PROPOSED RATE STRUCTURE

With the proposed revenue adjustments and proposed debt, the City will have the following reserves level as shown in Table 3-4. The table indicates that the City will meet its proposed debt coverage over the forecast period and target reserves level by the end of the forecast period with the proposed adjustments and recommendations.

Line 5 shows the O&M expenses. Line 13 and 14 show the total CIP expenses, separated by cash and debt funded. Line 22 shows the target reserve level, including both operating and capital reserves targets. Line 23 shows that the City will meet its target reserve level by FY 2013. Line 24 shows that although the debt coverage is not met in the current fiscal year, the City will meet its proposed debt coverage of 125 percent in all the remaining years.

TABLE 3 - 1- WATER FUNDS RESERVES UNDER PROPOSED RATES

	Estimated	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
1 Existing Revenue from Rate	\$ 1,214,000	\$ 1,238,280	\$ 1,263,046	\$ 1,288,307	\$ 1,314,073	\$ 1,340,354	\$ 1,367,161	\$ 1,394,504	\$ 1,422,394	\$ 1,450,842
2 Additional Revenue from Rate	38,443	286,848	401,479	528,355	668,632	823,570	994,545	1,183,062	1,390,762	1,619,436
3 Other Revenue	107,355	116,135	250,548	273,347	297,495	300,541	302,531	304,739	308,636	314,436
4 Total Revenue	\$ 1,359,798	\$ 1,641,263	\$ 1,915,072	\$ 2,090,009	\$ 2,280,200	\$ 2,464,465	\$ 2,664,237	\$ 2,882,305	\$ 3,121,792	\$ 3,384,714
5 Total O&M Expenses	\$ 1,311,921	\$ 1,266,667	\$ 1,316,667	\$ 1,362,518	\$ 1,416,600	\$ 1,472,844	\$ 1,531,338	\$ 1,588,223	\$ 1,651,332	\$ 1,707,942
6 Net Revenue	\$ 47,877	\$ 374,596	\$ 598,405	\$ 727,490	\$ 863,600	\$ 991,621	\$ 1,132,899	\$ 1,294,082	\$ 1,470,460	\$ 1,676,773
7 Total Bond Issued	\$ -	\$ 4,687,409	\$ -	\$ -	\$ 1,962,171	\$ -	\$ -	\$ -	\$ -	\$ -
8 Internal Loan	\$ 1,200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9 Issuance Expense & Reserve	\$ -	\$ 387,409	\$ -	\$ -	\$ 162,171	\$ -	\$ -	\$ -	\$ -	\$ -
10 Amount available for CIP	\$ -	\$ 4,300,000	\$ -	\$ -	\$ 1,800,000	\$ -	\$ -	\$ -	\$ -	\$ -
11 CFD Contribution	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12 CIP Financing										
13 Cash CIP	\$ 521,000	\$ -	\$ -	\$ 91,000	\$ -	\$ 76,000	\$ 340,000	\$ 340,000	\$ 340,000	\$ 340,000
14 Debt CIP	\$ -	\$ 3,006,000	\$ 637,500	\$ 656,500	\$ 440,000	\$ 1,360,000	\$ -	\$ -	\$ -	\$ -
15 Existing Debt Service	83,903	81,797	84,281	81,656	79,030	81,297	78,453	75,609	77,656	77,656
16 New Debt Service	-	170,268	340,535	340,535	483,085	483,085	483,085	483,085	483,085	483,085
17 Internal Loan Repayment	-	84,884	92,854	92,854	92,854	92,854	92,854	92,854	92,854	92,854
18 Total Debt Service	\$ 83,903	\$ 336,948	\$ 517,670	\$ 515,045	\$ 654,969	\$ 657,236	\$ 654,392	\$ 651,548	\$ 653,595	\$ 653,595
19 Net Cash Balance	\$ 642,974	\$ 1,331,648	\$ (556,765)	\$ (535,055)	\$ 1,568,631	\$ (1,101,615)	\$ 138,507	\$ 302,534	\$ 476,865	\$ 683,178
20 Beginning Reserve Level	\$ 91,767	\$ 734,741	\$ 2,066,388	\$ 1,509,623	\$ 974,568	\$ 2,543,199	\$ 1,441,585	\$ 1,580,091	\$ 1,882,626	\$ 2,359,490
21 Ending Total Reserve Level	\$ 734,741	\$ 2,066,388	\$ 1,509,623	\$ 974,568	\$ 2,543,199	\$ 1,441,585	\$ 1,580,091	\$ 1,882,626	\$ 2,359,490	\$ 3,042,668
22 Ending Reserve Level (less bonds)	\$ 734,741	\$ 772,388	\$ 853,123	\$ 974,568	\$ 1,183,199	\$ 1,441,585	\$ 1,580,091	\$ 1,882,626	\$ 2,359,490	\$ 3,042,668
23 Target Reserve Level	\$ 727,314	\$ 716,000	\$ 728,500	\$ 739,963	\$ 753,483	\$ 767,544	\$ 782,168	\$ 796,389	\$ 812,166	\$ 826,319
24 Coverage Ratio	57%	149%	141%	172%	154%	176%	202%	232%	262%	299%

SECTION 4: COST OF SERVICE

The City's revenue requirements discussed in the previous section of the report provide the basis for performing the cost of service analysis. This section of the report discusses the allocation of operating and capital costs and the determination of costs for different classes.

Cost of Service Analysis

The cost of service analysis is based upon the premise of generating revenues sufficient to meet the estimated annual revenue requirements and allocating the revenue requirements to the customers in proportion to the service they receive. Revenue requirements include operating costs and rate funded capital costs, annual debt service, and reserve requirements. Deductions from revenue requirements include miscellaneous operating revenues, interest revenues and reserve funding. Adjustments for fund balances and mid-year rate increases ensure that rates are not set higher than needed to recover the necessary revenue requirements.

The total costs of the water enterprise are allocated to water system parameters in accordance with the Base-Extra Capacity method endorsed by the American Water Works Association (AWWA), a nationally recognized industry group. For this analysis, the functionalized water utility costs are allocated to three parameters, or cost centers, including base costs, extra capacity costs, and customer service related costs.

Base costs are those operating and capital costs of the water system associated with serving customers under average conditions. Extra capacity costs represent those operating costs incurred to meet customer peak demands for water in excess of average day usage, plus those capital costs for extra plant and system capacity beyond what is required to supply water at the average rate of use. Total extra capacity costs are subdivided into costs associated with maximum day and maximum hour demands. Customer service costs include meter servicing and reading and customer service.

Costs of Service for Different Classes

In order to allocate costs of service to the different user classes, unit costs of service need to be developed for each cost parameter. The unit costs of service are developed by dividing the total annual costs allocated to each parameter by the total annual units of the respective cost parameter.

Different units are used for the different cost parameters. The volume related costs parameters are based on volumetric units of one hundred cubic feet, or "hcf" (about 748 gallons). The extra capacity parameters of Max Day and Max Hour are based on a rate of usage so they are calculated in hcf per day. Customer related cost parameters are based on equivalent meters or bills. The unit cost will then be used to derive the cost of

service for each user class by multiplying corresponding units in each parameter. The cost of service for different customer classes will then be used for the calculation of rates.

SECTION 5: PROPOSED RATE STRUCTURE

Rate design is the process of developing rate schedules for each user class which will recover, in an equitable manner, the annual cost of service from the members of that class. Rate structures should be designed to ensure that users pay only their proportionate share of costs. In addition, rate structures should be easy to understand, simple to administer, and comply with regulatory requirements.

The City plans to aggressively convert non-metered accounts to metered accounts from FY 2013 to FY 2015 in accordance with the state mandate requiring all properties to be metered by January 1, 2016.

After careful review of the City's revenue requirements and cost of service, RFC recommends the following rate structures for different classes.

Non-Metered Single Family Residence (SFR): RFC recommends that the City retain the use of a fixed monthly charge for single family residences which includes an irrigation allowance of up to 7,000 sq. ft. of total lot size. SFR accounts that have a lot size in excess of 7,000 sq. ft. will be assessed an irrigation rate for every additional 100 square feet of lot size.

Non-Metered Multiple Family Residence (MFR): Non-metered MFR accounts will be assessed a per apartment charge. Duplex and triplex accounts will pay a rate in between the SFR and MFR rates. This is to reflect the lower density than found in SFR accounts and higher irrigation needs than MFR accounts.

Table 5-1 shows the proposed rates for the non-metered residential customers.

Non-Metered Commercial Customers: RFC recommends that the City simplify the non-metered commercial classes. Non-metered commercial users, under the proposed rate structure, will be classified into six classes and a variable charge based on number of parameters will be applied. On top of the variable charge, we also recommend a fixed monthly charge for billing and customer service. Additionally, an external irrigation charge will be levied on non-metered commercial customers per 100 square feet.

Table 5-2 shows the proposed rates for the non-metered commercial customers.

Metered Customers: RFC recommends that the City continue to utilize a monthly service charge varying with meter size and a uniform commodity rate based on hundred cubic feet of water usage for all metered customers. For single family residences, we recommend a tiered rate structure

Table 5-3 shows the proposed rates for the metered customers.

Meter Installs and Retrofit Charges: As indicated earlier, the City will be installing meters and retrofitting existing meters over the next three years. The City's policy is that customers receiving the meters or retrofits would bear the costs directly. As such,

RFC developed fixed monthly charges to recover the costs of meter installs and retrofits over a twelve year period. The City expects to install 1,700 new meters in FY 2013 at a cost of \$883 per meter. These costs will be recovered over a 12 year period beginning in FY 2014. The meter install charge is \$6.51 per month. The monthly charge includes a 1% interest rate, as the City will have to pay for the meter installs up front and customers will repay them over time. Similarly, the City expects to retrofit 1,500 meters during FY 2014 and FY 2015. These customers will be charged a monthly fee of \$2.44 during the first fiscal year after the retrofit is complete.

**TABLE 5 - 1- PROPOSED WATER RATE STRUCTURE –
NON-METERED RESIDENTIAL CUSTOMERS**

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Single Family for 7,000 sq. ft.	\$29.07	\$31.11	\$33.29	\$35.62	\$38.11	\$40.78	\$43.63	\$46.68	\$49.95	\$53.45
Plus per 100 square feet	\$ 0.23	\$ 0.25	\$ 0.26	\$ 0.28	\$ 0.30	\$ 0.32	\$ 0.35	\$ 0.37	\$ 0.40	\$ 0.42
Each additional unit	\$16.46	\$17.62	\$18.85	\$20.17	\$21.58	\$23.09	\$24.71	\$26.44	\$28.29	\$30.27
Multi Family - Each unit	\$16.46	\$17.62	\$18.85	\$20.17	\$21.58	\$23.09	\$24.71	\$26.44	\$28.29	\$30.27
Duplexes & Triplexes (per dwelling unit)	\$21.97	\$23.51	\$25.16	\$26.92	\$28.80	\$30.82	\$32.98	\$35.28	\$37.75	\$40.40

**TABLE 5 - 2- PROPOSED WATER RATE STRUCTURE –
NON-METERED COMMERCIAL CUSTOMERS**

Commercial Customers	Parameter	Proposed	Proposed	Proposed	Proposed	Proposed	Proposed	Proposed	Proposed	Proposed	Proposed
		FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Monthly Fixed Service Charge		\$ 11.98	\$ 12.82	\$ 13.72	\$ 14.68	\$ 15.71	\$ 16.81	\$ 17.98	\$ 19.24	\$ 20.59	\$ 22.03
Commercial External Rate (per mo.)	100 Sq. Ft.	\$ 0.23	\$ 0.25	\$ 0.26	\$ 0.28	\$ 0.30	\$ 0.32	\$ 0.35	\$ 0.37	\$ 0.40	\$ 0.42
Variable Charge per parameter											
Commercial	1000 Sq. Ft.	\$ 3.08	\$ 3.29	\$ 3.52	\$ 3.77	\$ 4.03	\$ 4.31	\$ 4.62	\$ 4.94	\$ 5.29	\$ 5.65
Church	1000 Sq. Ft.	\$ 1.54	\$ 1.65	\$ 1.76	\$ 1.88	\$ 2.02	\$ 2.16	\$ 2.31	\$ 2.47	\$ 2.64	\$ 2.83
Restaurants - Dine In	# of seats	\$ 0.92	\$ 0.99	\$ 1.06	\$ 1.13	\$ 1.21	\$ 1.29	\$ 1.38	\$ 1.48	\$ 1.59	\$ 1.70
Schools :											
High School	# of students	\$ 0.37	\$ 0.39	\$ 0.42	\$ 0.45	\$ 0.48	\$ 0.52	\$ 0.55	\$ 0.59	\$ 0.63	\$ 0.68
Elementary School	# of students	\$ 0.25	\$ 0.26	\$ 0.28	\$ 0.30	\$ 0.32	\$ 0.35	\$ 0.37	\$ 0.40	\$ 0.42	\$ 0.45
Hospitals/Clinics	1000 Sq. Ft.	\$ 9.23	\$ 9.87	\$ 10.56	\$ 11.30	\$ 12.10	\$ 12.94	\$ 13.85	\$ 14.82	\$ 15.86	\$ 16.96

**TABLE 5 - 3- PROPOSED WATER RATE STRUCTURE –
METERED CUSTOMERS**

Water Rates	Proposed	Proposed	Proposed	Proposed	Proposed	Proposed	Proposed	Proposed	Proposed	Proposed
Metered Customers	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Commodity Rate: (hcf)										
SFR										
Tier										
18	\$ 0.55	\$ 0.59	\$ 0.64	\$ 0.69	\$ 0.74	\$ 0.79	\$ 0.85	\$ 0.91	\$ 0.97	\$ 1.04
>18	\$ 0.71	\$ 0.76	\$ 0.82	\$ 0.88	\$ 0.95	\$ 1.02	\$ 1.09	\$ 1.16	\$ 1.25	\$ 1.33
Non-SFR	\$ 0.61	\$ 0.65	\$ 0.69	\$ 0.74	\$ 0.79	\$ 0.85	\$ 0.91	\$ 0.97	\$ 1.04	\$ 1.11
Meter Charges:										
for 1" meter	\$ 11.98	\$ 12.82	\$ 13.72	\$ 14.68	\$ 15.71	\$ 16.81	\$ 17.98	\$ 19.24	\$ 20.59	\$ 22.03
for 1 1/2" meter	\$ 17.48	\$ 18.70	\$ 20.01	\$ 21.41	\$ 22.91	\$ 24.51	\$ 26.23	\$ 28.06	\$ 30.03	\$ 32.13
for 2" meter	\$ 24.07	\$ 25.76	\$ 27.56	\$ 29.49	\$ 31.55	\$ 33.76	\$ 36.12	\$ 38.65	\$ 41.36	\$ 44.25
for 3" meter	\$ 44.95	\$ 48.10	\$ 51.46	\$ 55.07	\$ 58.92	\$ 63.04	\$ 67.46	\$ 72.18	\$ 77.23	\$ 82.64
for 4" meter	\$ 75.72	\$ 81.02	\$ 86.69	\$ 92.76	\$ 99.25	\$ 106.20	\$ 113.63	\$ 121.59	\$ 130.10	\$ 139.21
for 6" meter	\$ 160.33	\$ 171.56	\$ 183.56	\$ 196.41	\$ 210.16	\$ 224.87	\$ 240.62	\$ 257.46	\$ 275.48	\$ 294.77

TABLE 5 - 4 – METER INSTALLS AND RETROFIT CHARGES

Monthly Charges to Metered Customers	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
FY 13 Metered Customer Payments			\$ 6.51	\$ 6.51	\$ 6.51	\$ 6.51	\$ 6.51	\$ 6.51	\$ 6.51	\$ 6.51
FY 14 Retrofitted Customer Payments				\$ 2.44	\$ 2.44	\$ 2.44	\$ 2.44	\$ 2.44	\$ 2.44	\$ 2.44
FY 15 Retrofitted Customer Payments					\$ 2.44	\$ 2.44	\$ 2.44	\$ 2.44	\$ 2.44	\$ 2.44

CUSTOMER RATE IMPACTS

Before implementing any rate structure recommendations, it is important to understand how the proposed rate structure would impact utility customers. RFC worked closely with City Staff to ensure that the new rate structure would recover the necessary revenue requirements while at the same time maintaining manageable customer impacts.

RFC believes it will be more meaningful to compare the total utility bills, including water and wastewater rates. Therefore, Table 5-5 compares bills under the current rate structure and bills under the proposed rate structure for a sample group of customers. Table 5-6 shows changes between the existing and proposed rate structures in percentage and dollar terms for the same sample customers. Table 5-7 shows an expanded version of the water impacts for commercial customers.

TABLE 5 - 5 – TOTAL UTILITY BILL IMPACTS

	Current			Proposed FY 2012			
	Water Rate	Sewer Rate	Combined	Parameter	Water Rate	Sewer Rate	Combined
Non-Metered Residential Customers							
SF (7,000 Sq. Ft. Lot)	\$ 21.26	\$ 27.41	\$ 48.67		\$ 29.07	\$ 22.74	\$ 51.81
SF (8,500 Sq. Ft. Lot)	\$ 23.62	\$ 27.41	\$ 51.03		\$ 32.52	\$ 22.74	\$ 55.27
MF (Per Unit)	\$ 11.71	\$ 21.71	\$ 33.42		\$ 16.46	\$ 17.16	\$ 33.63
Non-Metered Commercial Customers (measurements are for sample calculation purposes only)							
Commercial (2,500 Sq. Ft.)	\$ 24.92	\$ 23.99	\$ 48.91	1,000 Sq. Ft.	\$ 19.67	\$ 21.04	\$ 40.72
Church (5,500 Sq. Ft.)	\$ 31.13	\$ 23.99	\$ 55.12	1,000 Sq. Ft.	\$ 20.44	\$ 23.15	\$ 43.59
Restaurants (45 seats)	\$ 89.55	\$ 33.12	\$ 122.67	# of seats	\$ 53.51	\$ 289.15	\$ 342.65
High School (900 students)*	\$ 899.04	\$ 545.73	\$ 1,444.77	# of students	\$ 344.18	\$ 828.56	\$ 1,172.74
Elementary School (400 students)*	\$ 360.11	\$ 172.35	\$ 532.46	# of students	\$ 110.41	\$ 245.50	\$ 355.91
Hospitals (12,000 Sq. Ft.)	\$ 494.29	\$ 319.76	\$ 814.05	1,000 Sq. Ft.	\$ 122.72	\$ 316.71	\$ 439.43
Clinics (3,000 Sq. Ft.)	\$ 50.35	\$ 23.99	\$ 74.34	1,000 Sq. Ft.	\$ 39.67	\$ 79.18	\$ 118.84
Metered Residential Customers							
1" meter, 22 hcf	\$ 23.31	\$ 27.41	\$ 50.72	hcf	\$ 24.72	\$ 22.74	\$ 47.47
* Schools will be moved to meter rate							

TABLE 5 - 6 – PERCENTAGE AND DOLLAR IMPACTS BETWEEN EXISTING AND PROPOSED RATE STRUCTURES ON CUSTOMER BILLS

	FY2012 Change in Bill - %			FY2012 Change in Bill - \$		
	Water Rate	Sewer Rate	Combined	Water Rate	Sewer Rate	Combined
Non-Metered Residential Customers						
SF (7,000 Sq. Ft. Lot)	37%	-17%	6%	\$7.81	-\$4.67	\$3.14
SF (8,500 Sq. Ft. Lot)	38%	-17%	8%	\$8.91	-\$4.67	\$4.24
MF (Per Unit)	41%	-21%	1%	\$4.75	-\$4.55	\$0.21
Non-Metered Commercial Customers (measurements are for sample calculation purposes only)						
Commercial (2,500 Sq. Ft.)	-21%	-12%	-17%	-\$5.25	-\$2.95	-\$8.19
Church (5,500 Sq. Ft.)	-34%	-4%	-21%	-\$10.69	-\$0.84	-\$11.53
Restaurants (45 seats)	-40%	773%	179%	-\$36.04	\$256.03	\$219.98
High School (900 students)*	-62%	52%	-19%	-\$554.86	\$282.83	-\$272.03
Elementary School (400 students)*	-69%	42%	-33%	-\$249.70	\$73.15	-\$176.55
Hospitals (12,000 Sq. Ft.)	-75%	-1%	-46%	-\$371.57	-\$3.05	-\$374.62
Clinics (3,000 Sq. Ft.)	-21%	230%	60%	-\$10.68	\$55.19	\$44.50
Metered Residential Customers						
1" meter, 22 hcf	6%	-17%	-6%	\$1.41	-\$4.67	-\$3.25
* Schools will be moved to meter rate						

TABLE 5 - 7 – WATER UTILITY BILL IMPACTS – EXPANDED CALCULATIONS FOR COMMERCIAL

Non-Metered	Current Rate	Proposed Rate	Sample Bill Impacts			
			Parameter	Parameter	Monthly Bills	% Increase
Monthly Charge						
Commercial	24.92	\$ 3.08	1000 Sq. Ft.	2,500	\$ 19.67	-21%
				5,000	\$ 27.36	10%
				10,000	\$ 42.74	72%
Church	31.13	\$ 1.54	1000 Sq. Ft.	2,000	\$ 15.06	-52%
				5,500	\$ 20.44	-34%
				10,000	\$ 27.36	-12%
Restaurants	89.55	\$ 0.92	# of seats	20	\$ 30.44	-66%
				45	\$ 53.51	-40%
				100	\$ 104.26	16%
High School	899.04	\$ 0.37	# of students	900	\$ 344.18	-62%
Elementary School	360.11	\$ 0.25	# of students	400	\$ 110.41	-69%
Hospitals/Clinics	494.29	\$ 9.23	1000 Sq. Ft.	3,000	\$ 39.67	-92%
				5,000	\$ 58.12	-88%
				12,000	\$ 122.72	-75%

RATE SURVEY

Figure 5-1 shows the monthly water charge comparison among different agencies. From the figure, it shows that the City’s charges remain comparable with neighboring utilities, even with the proposed increases. In order to provide a meaningful comparison, all bills are calculated on a monthly basis for a 1” meter and the median usage of 22 hcf per month. This median usage is based on a sample of residential accounts that have a meter.

FIGURE 5 - 1-MONTHLY WATER CHARGES COMPARISON

